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1879
(May-June)

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WEATHER BUREAU

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY, 1 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

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National Oceanic & Atmospheric Administration
U.S. Dept of Commerce

STATIONS.	Barometer, Corrected for instrum'tal error and temperature. Inches.	Barometer, Corrected for instrum'tal error and temperature. Millimeters.	Barometer, Reduced to sea-level. Inches.	Barometer, Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	
Mogador, Marocco																			
Nemours			30.09	764.3	70.2	21.2	65	NW			1		2			0	0	Fair	Kesxuche.
Algiers			30.01	762.2	65.1	18.4	42	WNW			3		0			0	0	Clear	Tourilliere.
La Calle			30.05	763.2	62.6	17.0	72	NW			4		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.16	766.0															Gau.
Saida			30.10	764.5	68.0	20.0	26	S			3		0			0	0	Clear	Herbin.
Tebessa			30.11	764.7	59.9	15.5	29	W			1		5			0	0	Cloudy	Watrin.
Geriville			30.09	764.3	54.9	12.7	47	N			1		0			0	0	Clear	Brugniaux.
Laghouat			30.10	764.6	66.6	19.2	35	W			3		0			0	0	Clear	Bertrand.
Biskra			30.10	764.4	73.2	22.9	27	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.43	747.6	29.98	761.6	54.1	12.3	53						10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	741.0	29.95	760.8	45.0	7.2	64	WSW			2		10			0.276	7.0		Dr. Wierzbiski.
Eperies	29.03	737.3	29.91	759.8	47.5	8.6	76	Calm			0		10s			0.012	0.30		Julius Mikolik.
Gratz	28.72	729.4	29.97	761.3	52.2	11.2	44	S			3		7			0	0		Andreas Rospini.
Hermannstadt	28.49	723.7	29.94	760.4	48.6	9.2	76	NW			2		10			0.018	0.45		Prof. A. Gottschling.
Kremsmünster	28.63	727.3	30.01	762.3	40.1	4.5	55	WNW			3		5			0.051	1.3		Prof. C. Wagner.
Lemberg	28.87	733.2	29.87	758.7	44.6	7.0	74	NW			1		10						Dr. T. Stanecki.
Pola	29.81	757.1	29.92	759.9	55.8	13.2	38	E			5		6			0	0		I.R. Hydrographic Office
Szathmar	29.52	749.8	29.99	761.8	49.6	9.8	74	SW			2		10			0.161	4.1		Julius Csics, S. J.
Szegedin	29.66	753.3	29.94	760.4	58.3	14.6	47	NW			1		10			0	0		Karl Stancel.
Trieste	29.85	758.1	29.95	760.7	57.2	14.0	42	ENE			2		3			0	0	Almost clear	P. Busin.
Vienna	29.28	743.6	30.00	762.1	48.9	9.4	39	WNW			2		9			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 0:1, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

U.S. WEATHER BUREAU

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	30.24	768.1	30.34	770.6	42.2	5.7		E	10	4.5			2			0	0	Blue sky	W. Boswell.
Ardrossan	30.24	765.1	30.36	771.1	51	10.6		ENE			3		6					D. clouds	William McNeil.
Armagh, Observatory			30.26	768.6	48.5	9.2		E	11	4.9			10					Overcast	S. Call.
Bidston, (Liverpool Obs)			30.21	767.3	44.0	6.7		E	10	4.5			8					Threatening	John Hartnup.
Bolton, (Sharples)			30.20	767.1	43.0	6.1		ENE	12	5.4			6					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.82	757.4	30.22	767.6	42.5	5.8		N			5		4			0.12	3.0	D. clouds	J. McLandsborough.
Bridgetown, (Barbadoes)	29.96	761.0	29.99	761.7	82.5	28.1		NE			2		6					Gloomy	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory			30.15	765.8	47.0	8.3		E			1		10					Hail & rain	H. Todd.
Cardington			30.15	765.8	45.0	7.2		NE			2		9					Overcast	John McLaren.
Chatham, School M. E.	30.01	762.2	30.15	765.8	47.0	8.3		Calm			0		8					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	30.25	768.3	30.30	769.6	50	10.0		ENE			4		3					D. clouds	J. Mac Gowan.
Dover	30.10	764.5	30.13	765.3	45	7.2		NE			3		3					¾ clouded	J. Costello.
Falmouth, Observatory	29.87	758.7	30.11	764.8	49.0	9.4		ESE			1		8					Overcast	The Staff.
Fort Napier, (Natal)	27.76	705.1	30.07	763.8	69.0	20.6		SE			3		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	83	28.3		NE			1		3					D. clouds	
Galway, Queen's college			30.15	765.8	53	11.7		ENE			3		6					D. clouds	Prof. A. Curtis.
Gibraltar, (Mediterranean.)	30.04	763.0	30.10	764.5	62.6	17.0		E			2		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	30.07	763.8	30.27	767.8	44.9	7.2		NE			4		8					Gloomy	D. G. Maclean.
Great Yarmouth	30.14	765.5	30.14	765.5	46	7.8		NNE			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.96	761.0	30.14	765.5	49.4	9.7		NE			1		8					D. clouds	The staff, for G.B. Airy.
Guernsey	29.83	757.7	30.05	763.3	49.5	9.7		ENE			2		7					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.20	767.1	30.33	770.4	55	12.8		E			1		2c			0	0	Fine	M. P. Moyle.
Holyhead	30.19	766.8	30.23	767.8	46	7.8		ENE			5		3					D. clouds	John Tilston.
Jersey	29.77	756.1	30.07	763.8	49.2	9.6		E			2		6					D. clouds	J. Fisher.
Kew, Observatory	30.11	764.8	30.15	765.8	46.6	8.1		NE	14	6.3			10					Threatening	The Meteorological Of.
Leicester, Museum	29.83	757.7	30.19	766.8	42.1	5.6		NE			2		10					Drizzling	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	64	17.8		SW			2		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.20	767.1	30.29	769.4	48	8.9		Calm			0		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.00	762.0	79.2	26.2		NE			1		4			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.02	762.5	30.22	767.6	44.6	7.0		NNE			3		9k;d		NE	0.002	0.05	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.65	753.1	30.19	766.8	44.6	7.0		NNE			2		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.16	766.1	47	8.3		E			2		8					Overcast	H. E. Bellamy.
Plymouth	30.00	762.0	30.08	764.0	50.6	10.3		SE			1		10					Overcast	John Merrifield.
Prince Town	28.63	727.2	30.13	765.3	44.0	6.7		SE			4		6					Fine	W. H. Tocker.
*Roche's Point	30.10	764.5	30.20	767.1	52	11.1		SE			3		5					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.96	761.0	30.13	765.3	43	6.1		Calm			0		7					Raining	John C. Walker.
Sandwick Manse, (Orkneys)			30.33	770.4	45.1	7.3		W	3	1.3			7					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.77	756.1	29.83	757.7	68.0	20.0		S			1		9			Blank	Blank	Gloomy	W. H.Lyne.
Sheffield	29.94	760.5	30.22	767.6	45.2	7.3		NE			1		5			Blank	Blank	D. clouds	W. F. Cooper.
Silloth Rectory	30.24	768.1	30.27	768.8	50.8	10.4	50	SE			4		6			0.030	0.76	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.82	757.4	30.22	767.6	42.9	6.1		NE			1		10			Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.93	760.2	30.16	766.1	41.3	5.2		N			1		10					Rain & snow	C. H. Griffith, F. M. S.
Truro, Royal Institution	30.08	764.0	30.12	765.0	54	12.2		NE			4		7					Gloomy	W. Newcombe.
Valencia, Observatory	30.18	766.6	30.20	767.1	52.9	11.6		E	11	4.9			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.91	759.7	29.94	760.5	77.2	25.1	47	SSE	19	8.5		8	8			0.290	7.37	Showery	The Staff, for D. Gill.
Hobart Town, (Tasmania)			29.95	760.7	50.0	10.0	87	S			2		10kn			0.04	1.0	Covered	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			30.31	769.9	44.0	6.7		NE			3	0	0			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.85	758.2	30.04	763.0	77.7	25.4	74	E	18.5	8.3		1	2		ESE	0.26	6.6	Squally	C. Meldrum.
Melbourne, Observatory	29.99	761.7	30.08	764.0	51.0	10.6	92	W	10	4.5			10			0.29	7.4	Showery	R. L. J. Ellery.
MonachLt-house,(Hebrides)			30.31	769.9	49	9.4		S			3	0	0			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.31	769.9	41	5.0		SW			2	10	2	Calm					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
Brig Alliance																			Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore, N. 39° 50′, W. 56° 55′			30.11	764.8	64	17.8		SSW			6		6			4	S	D. clouds	Capt. J. W. Thorne.
—— City of Agra,																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole																			Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. †Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7	29.93	760.2	69.8	21.0	95	SE			1		9ks			Inap.	Inap.		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.03	762.7	30.08	763.9	45.5	7.5	49	NNE			4		8						
Fanöe	30.09	764.3	30.11	764.8	45.9	7.7	65	W			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)																			
Thorshavn, (Faröe)	30.19	766.9	30.23	767.8	44.8	7.1	78	SW			4		10						
Vestervig	30.00	762.0	30.17	766.3	45.3	7.4	48	NE			4		7						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.53	750.1	30.08	764.1	46.8	8.2	80	S			1		10			0.20	5.	Raining	Collignon, Director.
Amiens, Normal School	30.03	762.8	30.15	765.7	51.1	10.6	37	NE			1		5		E	0	0	Cloudy.	Bonvallet, Director.
Avignon, Normal School	29.90	759.5	29.98	761.5	61.7	16.5	47	N			3		5			0	0	Cloudy	Giraud, Director
Bar-sur-Seine	29.48	748.9	30.05	763.3	48.6	9.2	43	NE			1		8kn		NE	0.008	0.2	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.81	757.2	30.08	764.0	48.7	9.3	45	NE			2		5		N	0	0	Cloudy	Frere Eugene Marie, Dr
Besançon, Normal School	29.18	741.2	30.09	764.3	46.0	7.8	81	N			2		5		SW	0.012	0.3	Cloudy.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.08	764.1	50.9	10.5	62	NE			1		5ck	E	NE	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.52	749.8	30.09	764.2	43.9	6.6	97	NE			1		10	NE	NE	0.091	2.3	Covered	A. Waquet, Director
Brest, Naval Observatory	29.73	755.2	29.97	761.3	54.3	12.4	57	N			1				NE	0.020	0.50		De Kermaree, Director
Carcassonne, Normal School	29.64	752.8	30.06	763.4	55.8	13.2	55	WNW			3		10	WNW	WNW	0	0	Covered	September, Director.
Caen, Normal School	30.01	762.2	30.08	764.1	46.0	7.8	86	SE			1		10			0	0	Covered.	Lair, Director.
Chartres, Normal School	29.47	748.5	30.04	763.1	50.0	10	89	E			1		10	SE	S	0.075	1.9	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.5	30.07	763.7	47.8	8.8	60	W			2		5	NW	NW			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.48	722.6	30.03	762.7	46.0	7.8	80	NNE			1		10		N	0.012	0.3		Alluard, Director.
Commercy, Normal School.	29.17	740.9	30.05	763.2	43.2	6.2	65	NW			1		5c;kn		NW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.82	732.0	29.96	761.0	58.1	14.5	42	NW			2		5		NW	0	0	½ covered	L. Kina, Director.
Grenoble, Normal School	29.25	742.9	30.02	762.4	54.5	12.5	44	NW			1		cs;k		N	0	0		Ablard, Director
La Roche-sur-Yon, N. School	29.80	756.9	30.02	762.4	55.8	13.2	68	WNW			1		10			0.209	5.3	Light rain	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.06	763.4	47.1	8.4	83	SE			4		8		SE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.3	30.08	763.9	47.1	8.4	52	N			2		5ck	W	W	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.93	760.2	30.03	762.7	52.2	11.2	82	ENE			2				W	0	0		Lt T. Carré, Director
Mâcon, Normal School																			Galzin, Director
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.96	735.5	29.98	761.5	44.6	7.0	67	SSE			1		2k		NNW	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.79	756.6	29.99	761.7	62.2	16.8	30	N			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.92	734.6	29.98	761.5	57.6	14.2	57	N			3		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.01	635.3			28.8	— 1.8	100	W			2					0.079	2.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.99	761.7	30.02	762.5	55.9	13.3	74	WNW			1		10	WNW	WNW	0.020	5.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.00	762.0	30.09	764.2	52.9	11.6	27	ENE			2		2		NW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.6	30.02	762.4	54.0	12.2	63	E			2		5	NE	NE	0.142	3.60	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.91	759.7	30.08	763.9	48.7	9.3	44	NE			1-2		5	WNW	N	0	0	Cloudy	E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.23	767.9	44.6	7	71	W			2		10			0.16	4.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.37	746.1	30.10	764.5	47.5	8.6	90	W			2		9			0.886	22.5	Raining	Mercadier Juller.
Versailles Observatory	29.57	751.0	30.06	763.5	48.6	9.2	36	NE			2					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.3	30.02	762.6	52.7	11.5	86	ENE			1		10		N	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	78.8	26										0.20	5.		L'Abbé Marcl ésl.
Lyons Obs'y, (Park Station)	29.40	746.7	30.02	762.4	52.3	11.3	54	NNE			1		8			0	0	Almost cov'd	Mr. Jays.
Mont-Louis	24.78	629.5	30.10	764.5	39.6	4.2	43	WSW	24.2	10.8			9		N	0	0		M. Cave.
Nice			29.96	761.0	54.3	12.4	74	NW			1		10			0.039	1.0	Raining	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.79	756.6			48.7	9.3	44	NE			3		7		NNE	0.024	0.6		Marié Davy, Director.
Perpignan	29.93	760.3	30.04	763.0	57.9	14.4	41	N	1.8	0.8			10			0.409	10.4	Raining	Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.40	568.9			29.1	— 1.6		NW			3		10			0.094	2.38	Snowy	Gen'l de Nansouty.
Tours	29.83	757.7	30.03	762.7	50.4	10.2	74	E			1		10		E	0.169	4.3		Cousn-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.00	736.7	29.82	757.3	64.4	18.0	99	SE	0.7	0.3		5c	0	W		0.016	0.4	Cloudy	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Greasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from. The rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bamberg	29.17	740.8	30.01	762.2	47.7	8.7	38	N			4		5	N		0	0		Prof. Dr. Hoh.
Berlin	29.90	759.4	30.08	763.9	47.1	8.4	50	NE			1		8			0	0		Prof. Arndt.
Breslau	29.47	748.4	30.00	761.9	47.5	8.6	44	WNW			4		8	NW		0	0		Royal University Obs'y
Carlsruhe	29.58	751.2	30.01	762.2	47.8	8.8	65	SW			2		5	SW		0	0		Albert Senz.
Cassel	29.45	748.0	30.07	763.7	48.6	9.2	41	NNE			2		5	NNE		0	0		Dr. H. Möhl.
Crefeld	29.89	759.1	30.04	763.1	46.4	8.0	72	E			2		9					Raining	Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.68	753.8	30.04	763.1	47.3	8.5		SW			1		7			0.256	6.5		Physical Society.
Freienwalde on the Oder	30.03	762.7	30.07	763.7	41.4	5.2	89	NNW			4		10ks	NNW		Inap.	Inap.		Assmann., M. D.
Friedrichshafen	28.56	725.4	30.01	762.3	47.7	8.7	56	SSW			1		3	SW		0	0		M. Wilhelm.
Hamburg	30.04	762.9	30.11	764.7	46.2	7.9	59	NE			1		10cs	NW		0.012	0.3		Captain F. Hegeman.
Kiel	30.10	764.4	30.11	764.8	45.5	7.5	41	N			3		8			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.70	754.4	29.78	756.5	39.4	4.1	90	N			5		8			0.047	1.2		Prof. E. Luther.
Köslin			29.95	760.8	41.7	5.4		N			4		3			0.079	2.0		H. Müller.
Leipsic, Observatory	29.63	752.5	30.05	763.3	46.4	8.0	44	N			1		7	NW		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.74	755.4	29.79	756.6	39.0	3.9	84	NNE			6		10n					Squally	Skalweit.
Neufahrwasser	29.89	759.3	29.91	759.7	37.4	3.0	85	N			4		10			0.213	5.4		A. Lothes.
Posen	29.71	754.5	30.00	762.0	42.6	5.9	85	NW			6		10			0.083	2.1		Dr. Magener.
Strassburg (in Alsace)	29.49	749.0	30.05	763.2	47.8	8.8	46	Calm			0		9	S		0.025	0.63		Imp. University Observatory.
Stuttgart	29.04	737.5	29.99	761.8	46.0	7.8	59	W			1		10					Light rain	Prof. Schoder.
Treves (Trier)	29.45	748.1	29.98	761.4	44.2	6.8	72	NW			3		10			0.205	5.21		Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.5	30.02	762.5	45.5	7.5	45	SW	2	1			7ck		WNW	0	0		Dr. Van Bebber.
Wustrow, Naval School	30.09	764.1	30.11	764.7	39.4	4.1	73	NE			2		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.3	29.92	760.0	72.3	22.4		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.0	29.70	754.2	93.4	34.1	26	WNW					0			0	0	Blue sky	
Deesa					103.7	39.8	12	W	9.0	4.0			0			0	0	Blue sky	
Bombay	29.71	754.6	29.75	755.6	84.8	29.3	81	WNW	13.0	5.8			5	WSW	W	0	0	D. clouds	
Poona	27.76	705.2	29.70	754.3	95.0	35.0	28	NW					8	E	NW	0	0	D clouds	
Lahore	28.89	733.9	29.62	752.3	91.1	32.8	28	Calm	2.2	1.0			0			0	0	Blue sky	
Belgaum	27.29	693.2	29.79	756.6	84.2	29.0	80	W	10.0	4.5			5	E	E	0.11	2.8	Thunder-storm.	
Roorkee	28.73	729.8	29.60	751.7	97.5	36.4	9	NW	4.0	1.8			0			0	0		
Agra	29.09	738.8	29.63	752.5	102.6	38.9	9	NW					0			0	0		
Nagpur	28.59	726.1	29.58	751.2	104.4	40.2	12	E	3.1	1.4			5		SE	0	0	D. clouds	
Lucknow	29.23	742.5	29.59	751.5	105.0	40.6	23	WNW	3.7	1.6			0			0	0	Blue sky	
Allahabad	29.30	744.1	29.59	751.6	103.1	39.5	15	Calm	2.9	1.3			0			0	0	Blue sky	
Patna	29.37	745.9	29.54	750.3	100.2	37.9	26	E	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.64	701.9	29.59	751.5	96.8	36.0	12	W	7.7	3.4			0			0	0	Blue sky	
Cuttack	29.55	750.6	29.63	752.7	90.4	32.4		S	10.0	4.5			0			0	0		
Calcutta (Alipore)	29.64	752.9	29.66	753.4	87.5	30.8	69	S	11.0	4.9			4	SW	SW	0	0	D. clouds	
Goalpara	29.38	746.1	29.77	756.1	74.1	23.4	74	ESE	8.0	3.6			0			1.17	29.7	Blue sky	
Chittagong	29.66	753.4	29.75	755.7	82.7	28.2	75	Calm	5.2	2.3			3			0	0	Misty	
Sibsagar	29.43	747.6	29.77	756.2	76.8	24.9	92	SW	1.7	0.8			10	W	W	0.21	5.3	D. clouds	
Jubbulpore	28.28	718.4	29.58	751.4	102.9	39.4	12	Calm	2.7	1.2			0			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,357 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.4	29.95	760.8	56.3	13.5	39	E	4.3	1.9			8			0	0		Prof. Giovanni Clodig.
Milan	29.44	747.7	29.96	760.9	54.3	12.4	51	SE			4		7	SE		0	0		Prof. Schiaparelli.
Padua	29.85	758.1	29.95	760.8	54.0	12.2	36	ENE	13.0	5.8			10	E		0.016	0.4		Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.4	29.94	760.4	48.6	9.2	73	E	0	0			10	N		0.189	4.8		Prof. P. F. Denza.
Genoa	29.71	754.7	29.90	759.5	59.0	15.0	31	N	7.4	3.3			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.00	711.1	29.91	759.7	52.2	11.2	37	NE			2		3	W		0	0		Prof. D. C. Bruno.
Pesaro	29.87	758.7	29.92	760.0	50.9	10.5	83	N	4.3	1.9			10	E		0.079	2.0		Prof. Luigi Guidi.
Florence	29.63	752.6	29.89	759.1	53.6	12.0	65	E			2		9			0	0		Cav. F. Meucci
Leghorn	29.78	756.5	29.87	758.6	58.3	14.6	56	SW			4		9	S		0.224	5.7		Prof. P. Monte.
Rome	29.71	754.5	29.88	759.0	62.4	16.9	57	W	15.4	6.9			9			0	0		Prof. P. S. Ferrari.
Lecce	29.63	752.7	29.89	759.1	61.7	16.5	58	WNW	7.4	3.3			8	W		0.024	0.6		Prof. C. De Giorgi.
Cosenza	29.02	737.0	29.90	759.5	56.1	13.4	73	NW	0	0			10			0.461	11.7		Prof. D. Conti.
Cagliari	29.78	756.3	29.97	761.2	59.0	15.0	47	NW			4		10	N		0.177	4.5		Prof. A. Pacinotti.
Palermo	29.69	754.1	29.94	760.5	59.5	15.3	56	W	19.2	8.6			10	W		0.134	3.4		Prof. G. Cacciatore.
Syracuse	29.94	760.4	30.01	762.3	65.7	18.7	33	WSW	13.7	6.1			6	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.0	29.93	760.1	57.2	14.0	67	SW	3.8	1.7			8			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.00	762.0	64.9	18.3	85	SW	2.1	0.9			9cs;s		SSW	0.060	1.52	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.95	760.7	66.0	18.9	87	E	1.6	0.7			10s			0.250	6.35	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	30.08	764.0	30.14	765.5	63.3	17.4	86	SE	7.3	3.3			10s;ks		S	0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.7	30.05	763.2	56.3	13.5	52	Calm			0	2	0	Calm		0	0	Clear	Prof. L. Perez.
Leon	24.43	620.4	30.03	762.7	65.1	18.4	62	N			1	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.3	30.11	764.7	52.7	11.5	50	Calm	0	0		0	1s			0	0	Light haze	The Staff.
Pabellon, (Aguascalientes)					57.2	14.0	45	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.93	760.2	29.94	760.5	73.2	22.9	83	S			2	0	1		SW	0	0	Light fog	M. M. Chazaro.
San Luis Potosi	24.17	614.0	30.10	764.6	60.1	15.6	35	E			1	4	0	W		0	0	Hazy	G. Barroeta, M. D
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.5	30.06	763.5	63.1	17.3	41	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla, (Catholic Institute)	23.41	594.5	30.17	766.3	46.2	7.9	53	NE	2.7	1.2		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.36	720.4	30.02	762.4	74.1	23.4	38	NE			2	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.11	764.8	30.11	764.8	47.1	8.4		NNW								0.079	2.0		
Groningen	30.03	762.8	30.09	764.2	46.9	8.3		E			2					0.016	0.4		
Helder	30.08	764.0	30.08	764.0	42.4	5.8		SE			1					0.315	8.0		
Hellevoetsluis	30.08	764.0	30.08	764.0	50.0	10.0	59	N			2					0.12	0.3		
Utrecht	30.04	762.9	30.08	764.1	49.8	9.9	39	NNE			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	30.20	767.1	30.26	768.5	46.0	7.8	61	NNW	12.3	5.5			3			0	0		
Brönø	30.17	766.2	30.21	767.2	41.0	5.0	39	SSW	18	8			2			0.236	6.0		
Christiania	30.06	763.4	30.21	767.2	51.3	10.7	38	Calm	0	0			8			0	0		
Tromsö	30.01	762.3	30.06	763.4	39.2	4.0	70	SW	25	11			10			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.90	759.4	30.09	764.2	65.3	18.5	86	W	2.5	1.1			7			0.079	2.0		Dr. J. A. Sampaio.
Campo Major	29.14	740.1	30.14	765.6	72.1	22.3	30	SW	2.5	1.1			6			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	762.9	30.12	765.1	69.4	20.8	51	SW	6.3	2.8			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	757.9	30.19	766.9	66.7	19.3	46	SSW	6.3	2.8			2	W.		0	0		The Staff.
Ponta Delgada (Azores)	30.04	763.0	30.11	764.8	69.8	21.0	75	S	8.7	3.9			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd.t.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Porto de Bulama, Senegambia			29.98	761.5	83.3	28.5		Calm			0		10			1		D. clouds	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, S. 7° 45′ 34,″ E. 12° 11′			29.86	758.5	83.3	28.5		SSE			1		4		SW	1	SW	D. clouds	A.J.de Mattos, Com'd't.
Rio Douro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.89	759.2	84.2	29.0		Calm			0		6			1		D. clouds	A. Ferreira, 2d Lt
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.84	758.0	81.1	27.3		S			3		4		S	1	S	D. clouds	J. M. T. Guimarães, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.41	746.9	29.84	757.8	45.9	7.7	72	W	18	8			10ks						Astronomical Obs.
Wilna	29.18	741.1	29.60	751.7	50.5	10.3	72	SSE	7	3			10					Raining	Astronomical Obs.
Dorpat	29.72	754.9	29.97	761.2	41.0	5.0	75	ENE	20	9			10m					Light rain	Prof. Dr. Weihrauch.
St. Petersburg	30.06	763.6	30.08	764.0	44.1	6.7	41	ENE	16	7			8us						Central Physical Obs.
Kieff	29.14	740.1	29.76	755.9	59.9	15.5	51	W	9	4			10k;ks;cs]						Physical Cabinet.
Nikolaiev	29.76	755.8	29.83	757.6	79.4	26.5	35	SW	4	2			0						Kurdakof.
Kertch	29.85	758.3	29.87	758.8	68.7	20.4	80	SE	4	2			0						Lagorio.
Moscow	29.40	746.8	29.96	760.9	45.0	7.2	91	SE	13	6			10s						Meteorological Obs.
Lugan	29.60	751.9	29.80	756.8	83.5	28.6	30	SSE	13	6			0						Meteorological Obs.
Archangel	30.19	766.8	30.21	767.3	33.6	0.9	80	WNW	9	4			5ks						Capt. Sseliwerstow.
Tiflis	28.60	726.5	29.94	760.5	87.1	30.6	35	Calm	0	0			0						Physical Observatory.
Astrakhan	30.14	765.5	30.06	763.4	78.6	25.9	32	ESE	9	4			2cs						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.89	759.2	30.17	766.2	52.0	11.1	43	Calm	0	0			1						Physical Cabinet.
Ekaterinburg	29.01	736.8	29.98	761.4	45.7	7.6	35	N	18	8			1k						Meteorological Obs.
Nukuss	29.86	758.5	30.08	764.1	83.5	28.6	46	NNW	18	8			0						
Tashkend	28.42	721.9	29.91	759.8	79.5	26.4	42	N	4	2			2						Teich, A. M.
Barnaul	29.17	740.9	29.66	753.4	47.7	8.7	95	NW	0	0			10					Light clouds	Meteorological Obs.
Yeniseisk	29.67	753.5	29.96	761.0	44.2	6.8	59	ENE	4	2			2						Marks.
Irkutsk																			
Peking (China)	29.65	753.1	29.79	756.7	56.1	13.4	78	Calm	0	0			4k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.85	758.3	29.95	760.8	33.8	1.0	96	SE	22	10			10n					Raining	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.91	759.8	30.02	762.5	60.8	16	52	S	3.9	1.75			10			0	0	Almost cov'd	Antonio Rave, Directo
Bilbao, Met. Obs'y	30.05	763.2	30.11	764.7	54.3	12.4	91	NW	2.2	0.99			10			0.075	1.9	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.1			59.0	15.0	45	SW	4.8	2.09			8			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.84	707.0			68.5	20.3	44	NW	19.4	8.67		1	2	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.04	763.1	79.2	26.2	31	NW	2.9	1.30		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.6	30.13	765.2	61.2	16.2	71	NW	7.4	3.3			10			0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.2	30.00	761.9	72.9	22.7	86	ESE	1.3	0.6		0	1k			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.71	754.7	29.77	756.1	86.0	30.0	76	S	18.6	8.3		2c	3k	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.05	763.2	30.15	765.7	70.0	21.1	49	ESE	6.3	2.8		3	4	WNW	W				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.89	759.1	29.98	761.4	80.6	27.0	82	SE	1.2	0.53		3s	2c	SE	SE	0.650	16.50	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	L w'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	30.17	766.4	30.21	767.4	38.3	3.5	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.20	767.0	30.25	768.3	45.7	7.6	59	W	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.17	766.3	30.22	767.6	44.6	7.0	61	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.98	761.4	30.15	765.9	43.2	6.2	26	NNE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.94	760.4	30.30	761.9	41.0	5.0	63	NE	.....	.....	6	.....	4	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.09	764.2	30.16	766.1	44.1	6.7	29	NE	15.7	7.0	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.3	29.99	761.8	50.9	10.5	39	NNW	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.37	720.5	30.03	762.8	45.5	7.5	70	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.8 mm.; Thermometer,—3.9 Cent.; Relative Humidity, —19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.2	73.0	22.8	51	S	7	3.0	.....	.....	10	.....	SW	0.598	15.2	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.20	767.0	89.6	32.0	.....	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	
Valona	.....	.....	29.95	760.7	63.9	17.7	.....	S	.....	.....	3	.....	2	.....	.....	0.71	18.	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.75	755.6	29.86	758.5	77.0	25.0	78	W	.....	.....	1	.....	4c	.....	.....	0	0	D. Clouds	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.46	748.3	29.53	750.0	40.2	9.6	95	SE	8	3.6	.....	.....	.....	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.50	749.3	29.82	757.4	36	2.2	.....	W	1	0.4	.....	.....	10n	.....	W	0.08	2.0	Light snow.	W. R. Bigg.
*Chatham, N. B	29.51	749.5	29.57	751.1	49	9.4	94	SE	2	0.9	.....	.....	10n	.....	SE	0.98	24.9	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.64	752.8	29.68	753.9	51	10.6	94	SE	.....	.....	.....	.....	10n	.....	.....	0.345	8.77	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.49	749.0	29.69	754.1	37.2	2.9	92	W	.....	.....	1	.....	10s	.....	.....	0.06	1.5	Overcast	James Smith, M. A.
Dalhousie, N. B	29.35	745.5	29.52	749.8	43	6.1	.....	E	.....	.....	5	.....	10n	.....	.....	1.97	50.0	Raining	H. A. Johnson.
Esquimault, B. C	29.75	755.6	29.79	756.7	50.3	10.2	93	Calm	0	0	.....	.....	10	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.45	748.0	29.47	748.5	39	3.9	95	NE	26	11.6	.....	.....	Fog	.....	NE	0.41	10.4	Foggy	J. McWilliams.
Fredericton, N. B	29.56	750.8	29.63	752.6	45.3	7.4	90	SW	6	2.7	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.45	748.0	30.29	769.4	42	5.6	83	SW	4	1.8	.....	5k	5ks	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.80	733.8	30.03	762.8	34	1.1	.....	N	.....	.....	1	1c	0	.....	.....	Inap.	Inap.	Fine	James Grant.
*Halifax, N. S	29.50	749.3	29.63	752.6	46	7.8	95	SE	8	3.6	.....	.....	Fog	.....	.....	1.149	29.19	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.64	752.8	30.02	762.5	37.7	3.2	75	NW	.....	.....	2	10k	0	NW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.84	757.9	35	1.7	91	SW	6	2.7	.....	.....	10n	.....	.....	0.33	8.4	Heavy snow	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	50.6	10.3	91	S	12	5.4	.....	4k	4s	S	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	30.12	765.0	30.15	765.8	29.0	— 1.7	93	NW	.....	.....	4	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
*Montreal, Quebec	29.45	748.0	29.66	753.4	41	5.0	91	W	16	7.2	.....	.....	10ks	.....	.....	0.03	0.8	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.28	743.7	30.00	762.0	31	— 0.6	84	N	12	5.4	.....	.....	10ks	.....	N	0.03	0.8	Cloudy	Rev. R. Mosly.
Peterboro, Ontario	29.12	739.6	29.89	759.2	36.7	2.6	69	N	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	30.01	762.2	35	1.7	80	NW	9	4.0	.....	5k	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.78	756.4	44.3	6.8	.....	SE	7	3.1	.....	.....	.....	.....	.....	0.20	5.1	Raining	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.05	763.3	35	1.7	86	W	10	4.5	.....	5k	2s	NW	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.24	742.7	29.56	750.8	41	5.0	96	NW	.....	.....	3	Haze	Fog	.....	.....	0.127	3.2	Clearing	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.44	747.8	29.91	759.7	36	2.2	65	NW	5	2.2	.....	.....	5s	.....	.....	Inap.	Inap.	Fair	W. H. McIntyre.
St. Andrews, N. B	29.55	750.6	29.60	751.8	44	6.7	97	SW	.....	.....	2	.....	Fog	.....	.....	0.147	3.7	Foggy	Dr. Gove.
St. John, N. B	29.50	749.3	29.66	753.4	42	5.6	100	S	7	3.1	.....	.....	Fog	.....	.....	0.12	3.0	Dense fog	G. Murdock, C. E.
*Saugeen, Ontario	29.29	744.0	30.03	762.8	32	0.0	91	N	20	8.9	.....	.....	10s	.....	.....	Inap.	Inap.	Light snow	K. Stewart.
Stayner, Ontario	29.19	741.4	30.00	762.0	32	0.0	90	N	16	7.2	.....	.....	10n	.....	NW	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.69	728.7	30.02	762.5	32.6	0.3	85	NW	16	7.2	.....	0	10ks,s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	758.7	29.91	759.7	54	12.2	77	SE	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.98	761.5	36	2.2	70	NW	22	9.8	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy	Magnetic Observatory.
Windsor, N. S	29.54	750.3	29.64	752.8	49.5	9.7	96	SE	11	4.9	.....	.....	10n	.....	.....	0.85	21.6	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.94	760.5	30.20	767.1	45.0	7.2	92	E	.....	.....	.....	0	0	.....	.....	0	0	Fine	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.79	756.7	42	5.6	66	NW	18	8.0			10s		W	0	0	Cloudy	
Alpena, Michigan	29.42	747.2	30.09	764.3	32	0.0	79	NW	10	4.5			8s		NW	0	0	Cloudy	
Atlanta, Georgia	28.76	730.5	29.87	758.7	65	18.3	58	W	5	2.2		2k	8s	W	W	0	0	Cloudy	
Atlantic City, New Jersey	29.89	759.2	29.90	759.4	47	8.3	92	NW	12	5.4		2c	0	W		0	0	Clear	
Augusta, Georgia	29.74	755.4	29.91	759.7	68	20.0	74	SW	1	0.4			10ks		SW	0	0	Cloudy	
Baltimore, Maryland	29.89	759.2	29.94	760.5	49	9.4	51	N	10	4.5		5k	2s	NW	NW	0	0	Fair	
Barnegat, New Jersey	29.82	757.4	29.84	757.9	51	10.6	53	NW	18	8.0		2c	0	NW		0	0	Clear	
Bismarck, Dakota	28.41	721.6	30.26	768.6	46	7.8	69	NE	10	4.5		0	0			0	0	Clear	
Boerne, Texas	28.46	722.9	29.74	755.4	66	18.9	84	E	4	1.8			10s		Calm	0	0	Cloudy	
Boise City, Idaho	27.04	686.8	30.00	762.0	55	12.8	50	SE	4	1.8		2k	5s	Calm	W	0	0	Fair	
Boston, Massachusetts	29.53	750.0	29.68	753.9	52	11.1	73	W	10	4.5		5k	0	W		0.23	5.8	Fair	
Brackettville, Texas	28.85	732.8	29.85	758.2	72	22.2	80	SE	12	5.4		0	0			0	0	Clear	
Breckenridge, Minnesota	29.21	741.9	30.24	768.1	38	3.3	63	NE	6	2.7		1cs	0	Calm		0	0	Clear	
Brownsville, Texas	29.84	757.9	29.88	758.9	76	24.4	69	SE	12	5.4		2k	0	Calm		0	0	Clear	
Buffalo, New York	29.24	742.7	29.95	760.7	36	2.2	66	W	7	3.1			10c		W	0.01	0.3	Cloudy	
Burkes, Arizona					72	22.2	19	Calm				0	0			0	0	Clear	
Burlington, Vermont	29.41	747.0	29.70	754.4	42	5.6	74	NW	7	3.1			10s		Calm	0.06	1.5	Cloudy	
Cairo, Illinois	29.75	755.6	30.15	765.8	51	10.6	40	N	10	4.5		2c	2s	NW	N	0.08	2.0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	63	17.2	11	N	4	1.8		5k	0	Calm		0	0	Fair	
Camp Verde, Arizona	26.79	680.4	30.18	766.6	50	10.0	32	NW			1	0	0			0	0	Clear	
Campo, California	27.40	696.0	29.97	761.2	32	0.0	79	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.93	760.2	29.93	760.2	56	13.3	69	NE	24	10.7			10s		Calm	0	0	Cloudy	
Cape Henry, Virginia	29.95	760.7	29.97	761.2	53	11.7	54	NW	32	14.3		2ck	5ks	W	W	0.04	1.0	Cloudy	
Cape Lookout, N. Carolina	29.89	759.2	29.91	759.7	61	16.1	77	NE	32	14.3			10ks		W	0	0	Cloudy	
Cape May, New Jersey	29.85	758.2	29.88	758.9	47	8.3	55	NW	32	14.3		10ck	0	NW		0	0	Cloudy	
Castroville, Texas	29.12	739.6	29.80	756.9	68	20.0	84	SE	7	3.1			10s		SE	0	0	Cloudy	
Charleston, South Carolina	29.86	758.4	29.92	760.0	72	22.2	71	SW	9	4.0		4ck	Fog	W	Calm	0	0	Fair	
Cheyenne, Wyoming	24.16	613.6	30.10	764.5	35	1.7	90	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.47	748.5	30.18	766.6	41	5.0	65	N	7	3.1		0	0			0	0	Clear	
Cincinnati, Ohio	29.45	748.0	30.12	765.0	46	7.8	40	N	7	3.1		0	0			0	0	Clear	
Cleveland, Ohio	29.32	744.7	30.07	763.8	39	3.9	64	N	5	2.2		0	0			0	0	Clear	
Coleman City, Texas	28.14	714.7	29.76	755.9	65	18.3	89	N	14	6.3			10s		N	0	0	Cloudy	
Columbus, Ohio	29.23	742.4	30.08	764.0	44	6.7	60	NE	5	2.2		0	0			0	0	Clear	
Concho, Texas	28.05	712.5	29.68	753.9	65	18.3	89	N	12	5.4			10s		N	0	0	Cloudy	
Corsicana, Texas	29.48	748.8	29.94	760.5	67	19.4	89	S	2	0.9		5cs;k	2ks	W	E	0.05	1.3	Fair	
Davenport, Iowa	29.54	750.3	30.20	767.1	44	6.7	60	E	5	2.2		0	0			0	0	Clear	
Deadwood, Dakota	25.53	648.4			39	3.9	82	Calm	0	0		2k	0	Calm		0	0	Fair	
Decatur, Texas	28.82	732.0	29.96	761.0	65	18.3	84	NE	16	7.2			10s		E	0.05	1.3	Cloudy	
Denison, Texas	29.17	740.9	29.94	760.5	64	17.8	89	N	6	2.7			10s		N	0.03	0.8	Cloudy	
Denver, Colorado	24.92	633.0	30.14	765.5	46	7.8	84	N	1	0.4		0	0			0.08	2.0	Clear	
Des Moines, Iowa	29.31	744.5	30.22	767.6	41	5.0	74	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
Detroit, Michigan	29.38	746.2	30.07	763.8	36	2.2	80	NW	6	2.7		0	0			0	0	Clear	
Dodge City, Kansas	27.59	700.8	29.91	759.7	47	8.3	85	N	8	3.6		0	0			Inap.	Inap.	Clear	
Dubuque, Iowa	29.50	749.3	30.22	767.6	42	5.6	58	SE	3	1.3		0	Haze		Calm	0	0	Clear	
Duluth, Minnesota	29.55	750.6	30.25	768.3	39	3.9	64	W	1	0.4		0	0			0	0	Clear	
Eagle Pass, Texa	29.00	736.6	29.69	754.1	70	21.1	75	SE	5	2.2		1c	2s	SW	Calm	0	0	Fair	
Eastport, Maine	29.56	750.8	29.63	752.6	42	5.6	100	S	6	2.7			Fog			1.28	32.5	Foggy	
Edinburg, Texas					75	23.9	81	S			1	0	5s		S	0	0	Fair	
El Paso, Texas	26.26	667.0			62	16.7	61	SE	5	2.2		8cs	0	Calm		0	0	Fair	
Erie, Pennsylvania	29.29	744.0	30.02	762.5	37	2.8	71	NW	10	4.5		5k	0	NW		0	0	Fair	
Escanaba, Michigan	29.53	750.0	30.21	767.3	37	2.8	63	N	8	3.6		0	0			0	0	Clear	
Florence, Arizona	28.39	721.1	29.99	761.7	66	18.9	11	NE	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	28.16	715.3			43	6.1	75	E	5	2.2		1c	0	Calm		0	0	Clear	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.26	641.6	30.22	767.6	62	16.7	83	N	12	5.4		5k	0	NE		0	0	Fair	
Fort Gibson, Indian Ter	29.50	749.3	30.04	763.0	55	12.8	87	NE	12	5.4		10cs	0	N		1.28	32.5	Cloudy	
Fort Griffin, Texas	28.77	730.7	30.02	762.5	62	16.7	83	NE	12	5.4			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.54	699.5			48	8.9	77	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.68	703.1	29.53	750.0	67	19.4	79	N	12	5.4			10s		N	0	0	Cloudy	
Fort St. Michael, Alaska	28.94	735.1	28.97	735.8	17	— 8.3	100	SE	12	5.4			10s		Calm	0.04	1.0	Cloudy	
Fort Sill, Indian Territory	28.82	732.0	29.92	760.0	55	12.8	93	N	26	11.6			10s		Calm	0	0	Threatening	
Fort Stevenson, Dakota					42	5.6	65	E	1	0.4		1c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.32	719.3	29.68	753.9	74	23.3	63	S	1	0.4		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	73	22.8	85	SE	8	3.6		0	2ks		Calm	0	0	Clear	
Graham, Texas	28.94	735.1	29.98	761.5	60	15.6	94	N	8	3.6			10s		N	0.18	4.6	Cloudy	
Grand Haven, Michigan	29.49	749.0	30.16	766.1	38	3.3	72	N	12	5.4		0	0			0	0	Clear	
Indianapolis, Indiana	29.32	744.7	30.12	765.0	42	5.6	47	N	3	1.3		0	0			0	0	Clear	
Indianola, Texas	29.92	760.0	29.95	760.7	74	23.3	81	S	10	4.5		0	2s		S	0	0	Fair	
Jacksboro, Texas	28.86	733.0	30.02	762.5	61	16.1	82	N	12	5.4			10s		N	0.61	15.5	Cloudy	
Jacksonville, Florida	29.96	761.0	29.98	761.5	71	21.7	66	SW	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.54	750.3	30.16	766.1	50	10.0	58	SE	2	0.9		0	0			0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	78	25.6	78	NE	5	2.2		2k	0	NE		0	0	Clear	
Kittyhawk, North Carolina	29.89	759.2	29.92	760.0	54	12.2	67	NE	28	12.5			10s		NE	0	0	Cloudy	
Knoxville, Tennessee	29.00	736.6	29.99	761.7	54	12.2	84	NW	1	0.4			10s		Calm	0.06	1.5	Threatening	
La Crosse, Wisconsin	29.45	748.0	30.21	767.3	42	5.6	66	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	54	12.2	55	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.45	748.0	29.78	756.4	75	23.9	56	SE	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.32	744.7	30.18	766.6	47	8.3	77	N	1	0.4		0	Sm'e			0.10	2.5	Clear	
Los Angeles, California	29.61	752.1	29.96	761.0	49.0	9.4	89	NE	4	1.8			Fog		Calm	0	0	Foggy	
Louisville, Kentuckey	29.53	750.0	30.10	764.5	45	7.2	46	N	9	4.0		2cs	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.29	744.0	29.97	761.2	55	12.8	50	Calm	0	0		0	8ks		Calm	0	0	Cloudy	
Madison, Wisconsin	29.19	741.4	30.20	767.1	42	5.6	42	NE	2	0.9		0	0			0	0	Clear	
Marquette, Michigan	29.48	748.8	30.21	767.3	37	2.8	63	NW	11	4.9		0	0			0	0	Clear	
Mason, Texas	28.27	718.0	29.97	761.2	68	20.0	84	E	3	1.3		5cs	2s	N	E	0	0	Fair	
Memphis, Tennessee	29.72	754.9	30.03	762.8	54	12.2	93	NE	10	4.5			10s		NE	0.74	18.8	Cloudy	
Milwaukee, Wisconsin	29.44	747.8	30.20	767.1	38	3.3	54	N	6	2.7		0	0			0	0	Clear	
Mobile, Alabama	29.94	760.5	29.99	761.7	68	20.0	79	S	4	1.8		8ck	0	W		0	0	Fair	
Montgomery, Alabama	29.73	755.1	29.96	761.0	68	20.0	60	SW	3	1.3		5c	0	NW		0	0	Fair	
Morgantown, West Virginia	28.94	735.1	30.01	762.2	45	7.2	76	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.43	595.1	29.79	756.7	29	— 1.7	100	NW	18	8.0			Fog		NW	0.50	15.0	Foggy	
Nashville, Tennessee	29.46	749.0	30.02	762.5	55	12.8	68	N	4	1.8			10ks		N	0.19	4.8	Cloudy	
New Haven, Connecticut	29.64	752.8	29.75	755.6	52	11.1	60	NW	12	5.4		5k	0	NW		0	0	Fair	
New London, Connecticut	29.70	754.4	29.75	755.6	53	11.7	54	NW	8	3.6		2ck	0	SW		Inap.	Inap.	Clear	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	70	21.1	80	SW	4	1.8		5cs	0	Calm		0	0	Fair	
Newport, Rhode Island	29.67	753.6	29.72	754.9	52.5	11.4	60	W	8	3.6		5k	0	W		0.02	0.5	Fair	
New York, New York	29.64	752.8	29.82	757.4	48	8.9	49	NW	16	7.2		0	8ks		W	0.03	0.8	Fair	
Norfolk, Virginia	29.90	759.4	29.96	761.0	52	11.1	47	N	12	5.4		5ck	5s	Calm	W	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.27	692.6	29.86	758.4	47	8.3	96	NW	8	3.6			Fog		Calm	0.04	1.0	Foggy	
Olympia, Washington Ter.	29.78	756.4	29.82	757.4	51.2	10.7	96	SE	1	0.4			Fog		Calm	0.39	9.9	Foggy	
Omaha, Nebraska	29.04	737.6	30.14	765.5	50	10.0	72	Calm	0	0		5c	5s	NW	Calm	0	0	Cloudy	
Oswego, New York	29.56	750.8	29.89	759.2	37	2.8	81	W	14	6.3			10s			0.23	5.8	Cloudy	
Pembina, Dakota	29.44	747.8	30.28	769.1	39	3.9	82	SE	3	1.3			10s		NW	0	0	Cloudy	
Philadelphia, Pa	29.84	757.9	29.89	759.2	47	8.3	55	W	18	8.0		2cs	Haze	W	Calm	0	0	Fair	
Phœnix, Arizona	28.69	728.7	30.46	773.7	62	16.7	27	Calm	0	0		5c	0	W		0	0	Fair	
Pike's Peak, Colorado	17.90	454.6	30.10	764.5	21	— 6.1	43	NW	17	7.6		0	0			0.07	1.8	Clear	
Pioche, Nevada	24.04	610.6	29.81	757.2	50	10.0	20	Calm	0	0		0	2s		SW	0	0	Fair	
Pittsburg, Pennsylvania	29.22	742.2	30.05	763.3	35	1.7	80	NW	7	3.1			10s		NW	0	0	Cloudy	
Port Huron, Michigan	29.36	745.7	30.04	763.0	37	2.8	71	NW	10	4.5		0	0			0	0	Clear	
Portland, Maine	29.59	751.6	29.64	752.8	52	11.1	79	W	2	0.9		2k	0	NW		0.51	13.0	Fair	
Portland, Oregon	29.85	758.2	29.94	760.5	55.3	12.9	93	S	3	1.3			10n		SW	0.21	5.3	Light rain	
Prescott, Arizona	24.74	628.4	30.10	764.5	41	5.0	33	W	3	1.3		0	0			0	0	Clear	
Pilot Point, Texas	28.99	736.3	29.81	757.2	65	18.3	73	S	10	4.5		0	0			0.01	0.3	Clear	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	78	25.6	78	S	9	4.0		2k	0	S		0	0	Clear	
Red Bluff, California	29.55	753.1	30.00	762.0	62	16.7	72	S	13	5.8		10k	0	SW		0	0	Cloudy	
Rio Grande City, Texas	29.66	753.4	29.87	758.7	72	22.2	80	SE			1	0	0			0	0	Clear	
Rochester, New York	29.29	744.0	29.92	760.0	35	1.7	80	W	14	6.3			10s		W	0.06	1.5	Cloudy	
Roseburg, Oregon	29.38	746.2	29.95	760.7	49.0	9.4	93	Calm	0	0		0	5s		SW	0	0	Fair	
Sacramento, California	29.96	761.0	30.01	763.0	57	13.9	87	S	6	2.7			10s		SW	0	0	Cloudy	
St. Louis, Missouri	29.60	751.8	30.19	766.8	46	8.9	43	N	4	1.8		0	0			0	0	Clear	
St. Marks, Florida	29.98	761.5	30.00	762.0	65	18.3	89	SW	1	0.4		0	0			0	0	Clear	
St. Paul, Minnesota	29.29	744.0	30.14	765.5	43	6.1	66	E	1	0.4		0	0			0	0	Clear	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	50	10.0	52	S	4	1.8		8c	0	W		0	0	Fair	
San Antonio, Texas	29.21	741.9	29.78	756.4	67	19.4	89	NE	4	1.8		0	5ks		NE	0	0	Fair	
San Diego, California	29.90	759.4	29.98	761.5	57	13.9	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.41	747.0	30.10	764.5	41	5.0	65	N	10	4.5		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.78	756.4	29.82	757.4	53	11.7	48	W	20	8.9		1k	0	NW		0	0	Clear	
San Francisco, California	30.01	762.2	30.08	764.0	55.8	13.2	94	W	3	1.3			10s		Calm	Inap	Inap.	Cloudy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	53	11.7	54	SE	4	1.8		0	0			0	0	Clear	
Savannah, Georgia	29.85	758.2	29.94	760.5	71	21.7	62	SW	7	3.1			10s		SW	0	0	Cloudy	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	70	21.1	85	NE	4	1.8		0	8ks		SW	Inap	Inap.	Fair	
Silver City, New Mexico	24.35	618.5	30.48	774.2	51	10.6	46	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.90	759.4	29.93	760.2	67	19.4	95	W	1	0.4			10s		W	0	0	Cloudy	
Springfield, Massachusetts	29.61	752.1	29.74	755.4	49	9.4	57	NW	9	4.0		0	5ks		W	0.03	0.8	Fair	
Stockton, Texas	27.00	685.8	30.00	762.0	68	20.0	84	NE	20	8.9			10ks		NE	0	0	Cloudy	
Thatcher's Island, Mass	29.62	752.3	29.68	753.9	54	12.2	80	SW	2	0.9		0	0			1.07	27.2	Clear	
Toledo, Ohio	29.39	746.5	30.08	764.0	44	6.7	60	W	4	1.8		0	0			0	0	Clear	
Tucson, Arizona	27.47	697.7	30.02	762.5	61	16.1	25	S	3	1.3		5c	0	Calm		0	0	Fair	
Umatilla, Oregon	29.56	750.8	30.04	763.0	56.0	13.3	63	E	4	1.8			10n		E	0.01	0.3	Light rain	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.01	736.8	29.81	757.2	68	20.0	79	NE	5	2.2		0	2ck		W	0	0	Clear	
Vicksburg, Mississippi	29.72	754.9	29.98	761.5	69	20.6	80	NW	8	3.6		0	5s		Calm	0	0	Fair	
Virginia City, Montana	24.27	616.4	29.75	755.6	48	8.9	49	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.66	753.4	30.02	762.5	56	13.3	79	NW	3	1.3		0	0			0	0	Clear	
Washington, D. C	29.84	757.9	29.96	761.0	48	8.9	49	W	8	3.6		10cs	0	W		Inap.	Inap.	Cloudy	
Wickenburg, Arizona					55	12.8	39	NW			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.82	757.4	29.90	759.4	63	17.2	62	NE	4	1.8			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	53	11.7	36	SW	4	1.8			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	29.64	752.8	29.68	753.9	50	10.0	78	SW	14	6.3		Haze	2ks			Inap.	Inap.	Hazy	
Yankton, Dakota	28.85	732.8	30.15	765.8	50	10.0	72	SE	4	1.8		10k	0	NW		0.03	0.8	Cloudy	
Yuma, Arizona	29.64	752.8	29.80	756.9	64	17.8	48	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.50	723.9	29.92	760.0	40	9.4	93												J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	74	23.3	76	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.24	641.1			65.5	18.6	90	Calm			0		10n			0.30	7.6		Thomas Herran.
Navassa, W. I	29.88	758.9	29.96	761.0	77	25.0		NE								0.55	14.0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	87	E			3	3c	0	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.20	767.1	30.25	768.3	34.0	1.1	95	E	8	3.6		2c	1s	NE	E	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,60 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.07‡	763.8‡			57	13.9	87	WSW	13	5.8			10		NW	0	0			Cloudy	
Navy Yard, Pensacola, Fla.	30.00‡	762.0‡			72	22.2	90	SW	7	3.1			2		W					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.12‡	765.0‡			62.5	16.9	88	Calm			0		3ck;hz		W	Slight	Slight			Fair	
Adams, Panama	29.89‡	759.2‡			81	27.2	91	SE			3		10		SE					Cloudy	
Alaska, N. 56° 21′, W. 135° 07′	29.63‡	752.6‡			42	5.6	83	NNW			3		8		SE	0.225	5.72	Long	NW	D. clouds	
Alliance, Aethusia, (?) Sicily	30.04‡	763.0‡			59	15.0	59	NW			3–6		4		N;W			Light	N;W	Pleasant	
Ashuelot, Hong-Kong, China	29.82‡	757.4‡			75	23.9	95	Calm			0		8		Calm			Smooth		Cloudy	
Canonicus, New Orleans, La	29.95‡	760.7‡			76	24.4	65	SW			4		8		SW					Fair	
Colorado, New York, N. Y	29.75‡	755.6‡			49	9.4	63	WNW	12	5.4			8		NNW	0	0			Cloudy	
Constitution N. 23° 14′, W. 41° 45′	30.16‡	766.1‡			73	22.8	90	NE			2		4		Calm			Smooth	NNE	Pleasant	
Despatch, Genoa, Italy	29.89‡	759.2‡			60	15.6	88	N			3		5		N	0	0	Smooth		Fair	
Enterprise, Gibraltar	30.18‡	766.6‡			64	17.8	78	SW			1		4		S			Smooth		D. clouds	
Franklin, Norfolk, Va	29.94‡	760.5‡			54	12.2	67	N	16.8	7.5			10		Calm	0	0			Cloudy	
Hartford, Colonia, Uruguay *.	29.98‡	761.5‡			61	16.1	71	SW			2		0			0	0			Clear	
Michigan, Erie, Pa					38	3.3	90	WNW			4		5		WNW					Cloudy	
Monongahela Yokohama, Japan	30.11‡	764.8‡			65	18.3	84	SW			1		ck			0	0			Blue sky	
New Hampshire, Port Royal, S. C	29.93‡	760.2‡			71	21.7	71	SW	11	4.9			5		SW	0	0			Misty	
Onward, Callao, Peru †*.	30.04‡	763.0‡			63	17.2	91	SSE			2		10					Long	W	Misty	
Palos, Shanghai, China	29.80‡	756.9‡			66	18.9	79	Calm			0		2		S					Clear	
Passaic, Washington, D. C					51	10.6	93	W			3		5		ESE					Fair	
Pensacola. Callao, Peru	29.93‡	760.2‡			63	17.2	94	SE	6	2.7			10			0	0	Smooth		Foggy	
Portsmouth, Lynn Haven Bay, Va.	29.97‡	761.2‡			52	11.1	60	N			5		8		NNW	0	0	Mod'ate	NNW	Cloudy	
Powhatan, Norfolk, Va	29.97‡	761.2‡			56	13.3	87	N			3		5		Calm	0	0			Threatening	
Quinnebaug, N 35° 08′, E. 18° 67′	29.97‡	761.2‡			68	20.0	70	W			4		10		W			Long	W	Cloudy	
Ranger. Amoy, China	29.82‡	757.4‡			75	23.9	90	SE			1–2		8		Calm			Smooth		D. clouds	
Richmond. Singapore, China	29.79‡	756.7‡			79	26.1	100	NW			1		0			0.8	20.	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.87‡	758.7‡			72	22.2	90	SE			2		1		S					Clear	
Santee, Annapolis, Md	29.90‡	759.4‡			56	13.3	41	W			2		8		NW	0	0			Cloudy	
Saratoga, Off Fayal, Azores	30.05‡	763.3‡			62	16.7	88	WSW			4		2		W	Heavy	Heavy	Mod'ate	W	D. clouds	
St. Louis, League Island, Pa	29.90‡	759.4‡			50	10.0	64	WNW	20	8.9			2		WNW	0	0			Clear	
Trenton Genoa, Italy	29.93‡	760.2‡			57	13.9	77	NNE			3		2		NNE	0	0	Smooth		Fair	
Tuscarora, Port Sacrificios, Mex	29.85‡	758.9‡			78	25.6	82	N			1		0			0	0	Smooth		Hazy	
Vandalia, Kingston, Jamaica W.I.	29.90‡	759.4‡			75	23.9	90	NW			1		10		NE			Smooth		Cloudy	
Wabash, Boston, Mass	29.67‡	753.6‡			52	11.1	86	W	2	0.9			8			0.05	1.3			Fair	
Wyoming, Piraeus, Greece	29.92‡	760.0‡			70	21.1	70	W			2–3		2		W			Smooth	W	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Anercid. *The error of the barometer is not known. ‡Reduced to sea-level—corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria, Capt. T. Roberts, N. 53° 31′, W. 8° 04′.... *		30.14	765.5	46	7.8		NE			1		8		E		Mod'ate	NW	Cloudy	M. C. Miles.
NOTE.—†Aneroid.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury N. 28° 10′, E. 128° 37′....		29.95‡	760.7‡	67	19.4		NE			3		18		W	0	Mod'ate	NE	Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, N. 46° 44′, W. 124° 50′...†.		29.82‡	757.4‡	54	12.2	87	SE			5		6		SE		Mod'ate	WSW	Raining	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		30.01‡	762.2‡				NW			2				W				Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 33° 29′, E. 174° 06′		30.10‡	764.5‡	65	18.3	100	S			4		3n			Light	Mod'ate	S	Showery	D. A. Joyce.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to distin 12; no ction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 30′, W. 19° 11′		30.14‡	765.5‡	67.0	19.4	64	SSW			1		2				Mod'ate	W	Clear	Capt. C. Undütsch.
S. S. Leipzig,																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 44′, E. 0° 13′		30.14‡	765.5‡				ESE			4		5		E		Smooth	ESE	Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		30.16‡	766.1‡	52	11.1	93	NE			5		2		NE	0	Smooth		Clear	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 37° 16′, W. 74° 20′		29.93‡	760.2‡	50	10.0	79	N	14	6.3			2c		NW	0	Rough	N	Clear	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 26° 09′, W. 67° 40′		29.82‡	757.4‡				NE	20	8.9			2		NE	0	Cross	SE	Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively by the letters c, k, s, n, d, f, p, hz., fg. and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY, 2 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.00	761.9	74.5	23.6	73	Calm			0		0			0	0	Clear	Kesxuche.
Nemours			29.93	760.2	70.5	21.4	36	WNW			3		0			0	0	Clear	Tourilliere.
Algiers			29.96	761.1	64.0	17.8	87	ENE			1		8			0	0	Very cloudy	Foufrede.
La Calle																			Jacques.
Tunis																			Gau.
Sfax			30.01	762.2															Herbin.
Saida			30.00	762.1	68.0	20.0	28	W			4		0			0	0	Clear	Herbin.
Tebessa			30.00	761.9	68.7	20.4	22	SW			7		2			0	0	Fair	Watrin.
Geriville			30.04	762.9	56.1	13.4	53	NW			1		2			0	0	Fair	Brugulaux.
Laghouat			30.01	762.3	81.3	27.4	26	SW			2		0			0	0	Clear.	Bertrand.
Biskra			29.93	760.3	82.0	27.8	26	SE			1		2			0	0	Fair	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.40	746.7	29.95	760.8	49.6	9.8	45	NE			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.27	743.4	30.05	763.3	45.9	7.7	69	NW			1		10			0	0		Dr. Wierzbiski.
Eperies	29.04	737.6	29.92	759.9	51.4	10.8	65	N			4		9s			0	0		Julius Mikollk.
Gratz	28.72	729.6	29.98	761.5	51.8	11.0	42	ENE			3		10			0	0		Andreas Rospini.
Hermannstadt	28.41	721.7	29.82	757.5	56.3	13.5	81	SE			2		10			0.156	3.95		Prof. A. Gottschling.
Kremsmünster	28.59	726.2	29.93	760.1	53.6	12.0	58	ENE			3		4			0	0		Prof. C. Wagner.
Lemberg	28.96	735.5	29.95	760.6	51.1	10.6	63	NE			1		7			0	0		Dr. T. Stanecki.
Pola	29.79	756.6	29.90	759.5	53.6	12.0	54	E			4		7			0	0		I.R.Hydrographic Office
Szathmar	29.41	746.9	29.86	758.5	60.1	15.6	59	NE			2		4			0.028	0.7		Julius Osles, S. J.
Szegedin	29.61	752.2	29.89	759.2	61.5	16.4	34	N			2		7			0.091	2.30		Karl Stancel.
Trieste	29.84	757.8	29.94	760.4	54.1	12.3	44	E			2		4			0	0	Almost clear	P. Busin.
Vienna	29.27	743.4	29.99	761.7	51.4	10.8	36	N			1		10			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 0:1, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.34	770.6	30.44	773.2	46.4	8.0		SSE	12	5.4			2			0	0	Blue sky	W. Boswell.
Ardrossan	30.41	772.4	30.43	772.9	48	8.9		SW			3		4					D. clouds	William McNeil.
Armagh, Observatory			30.46	773.7	51.8	11.0		SE	5	2.2			3					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.43	772.9	46.7	8.2		NW	15	6.7			8					Overcast	John Hartnup.
Bolton (Sharples)			30.42	772.6	48.0	8.9		ENE	18	8.0			6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	30.02	762.5	30.42	772.6	47.7	8.7		NW			5		4			0	0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	30.00	762.0	84	28.9		E			1		2					D. clouds	Pvt. G. Surgener, A. H.
Cambridge, Observatory			30.35	770.9	51.0	10.6		NE			2		7					D. clouds	H. Todd. [C.
Cardington			30.34	770.6	49.0	9.4		NE			3		10					Overcast	John McLaren.
Chatham, School M. E.	30.19	766.8	30.32	770.1	49.3	9.6		NE			2		1					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	30.43	772.9	30.47	773.9	51	10.6		SE			3		3					D. clouds	J. Mac Gowan.
Dover	30.26	768.6	30.29	769.4	48	8.9		NE			5		3					¾ clouded	J. Costello.
Falmouth, Observatory	30.15	765.8	30.39	771.9	48.2	9.0		ENE			3		4					D. clouds	The Staff.
Fort Napier (Natal)	27.71	703.8	30.02	762.5	71.0	21.7		NE			2		1					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4		E			1		3					D. clouds	
Galway, Queen's college			30.36	771.1	55	12.8		SSE			1		3					Blue sky	Prof. A. Curtis.
Gibraltar (Mediterranean.)	29.87	758.7	29.92	760.0	76.6	24.8		W			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	30.19	766.8	30.40	772.1	52.3	11.3		NE			2							Blue sky	D. G. Maclean. [C.
Great Yarmouth	30.34	770.6	30.35	770.9	46	7.8		NE			4		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.16	766.1	30.34	770.6	47.6	8.7		NE			4		10			Blank	Blank	Overcast	The staff, for G.B. Airy.
Guernsey	30.08	764.0	30.30	769.6	48	8.9		NE			4		3					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.50	774.7	30.62	777.7	56	13.3		E			4		8ck			0	0	Fine	M. P. Moyle.
Holyhead	30.43	772.9	30.46	773.7	46	7.8		N			3		0					Blue sky	John Tilston.
Jersey	30.01	762.2	30.31	769.9	46.5	8.1		NNE			5		4			Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	30.29	769.4	30.33	770.4	48.8	9.3		NE	20	8.9			10					Misty	The Meteorological Of.
Leicester, Museum.	30.12	765.0	30.38	771.6	47.0	8.3		NE			1		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.05	763.3	68	20.0		SW			2		3k			0.10	2.5	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.29	769.4	30.39	771.9	56	13.3		E			1		0					Clear	W. D. Penny.
Nassau (Bahamas)			30.00	762.0	78.0	25.6		N			1		7			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.22	767.6	30.42	772.6	48.1	8.9		NNE			5		8d		NE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.86	758.4	30.39	771.9	47.0	8.3		NNE			2		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.36	771.1	47	8.3		NE			5		10					Threatening	H. E. Bellamy.
Plymouth	30.28	769.1	30.36	771.1	49.6	9.8		NE			4		10					Overcast	John Merrifield.
Prince Town	28.90	734.0	30.44	773.2	37.0	2.8		E			3		4					Fine	W. H. Tooker.
*Roche's Point	30.38	771.6	30.48	774.2	50	10.0		SE			4		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	30.24	768.1	30.41	772.4	47	8.3		Calm			0		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			30.42	772.6	47	8.3		W	14	6.3			0					Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	66.0	18.9		SSW			1		6			Blank	Blank	D. clouds	W. H. Lyne.
Sheffield	30.14	765.5	30.43	772.9	48.9	9.4		NE			2		5			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.40	772.1	30.44	773.2	55.5	13.1	53	W			2		2			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	30.02	762.5	30.43	772.9	49.0	9.4		NE			1		6			Blank	Blank	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	30.11	764.8	30.33	770.4	50.6	10.3		NE			2-3		8					Squally	C. H. Griffith, F. M. S.
Truro, Royal Institution	30.37	771.4	30.41	772.4	55	12.8		S			4		5					D. clouds	W. Newcombe.
Valencia, Observatory	30.37	771.4	30.40	772.1	53.3	11.8		SE	27	12.1			7					Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.93	760.2	29.97	761.2	67.8	19.9	73	ESE	20	8.9		0	2			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.94	760.5	46.0	7.8	81	S			2		10k			0.07	1.8	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.47	773.9	52.0	11.1		E			2	0	0			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.82	757.4	30.01	762.2	77.1	25.1	73	E	12.0	5.4		8	2		E	0.03	0.8	Cloudy	C. Meldrum.
*Melbourne, Observatory	30.12	765.0	30.21	767.3	50.0	10.0	86	SSE	10	4.5			4			0.21	5.3	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.40	772.1	48	8.9		S			4	3	3	S		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.37	771.4	45	7.2		W			4	0	0						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
Brig Alliance																			
S. S. Amanda.																			Capt. W. Scott.
Barque Belle-Isle																			Capt. B. Boyes.
Ship British Commodore, N. 40° 50′. W. 52° 50′																			Capt. A. J. Brown.
—— City of Agra,			30.15	765.8	57	13.9		S			3		3			2	S	D. clouds	Capt. J. W. Thorne.
Barque Commewyne																			Capt. Thos. Young.
Barque Fedalma																			Capt. A. Buchan.
Barque Mertole.																			Capt. H. L. Fox.
S. S. Nizam																			Capt. E. W. Turner.
S. S. Strathleven																			Capt. Barlow.
S. S. Wyberton																			Capt. C. W. Pearson.
																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2	29.95	760.7	69.8	21.0	95	Calm			0	2ks	7s			Inap.	Inap.		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Copenhagen	30.08	764.1	30.13	765.3	48.4	9.1	86	N			4		5						
Fanöe	30.20	767.0	30.22	767.5	52.5	11.4	46	NNW			6		5						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.23	767.9	30.27	768.8	49.6	9.8	76	SW			4		10						
Vestervig	30.12	765.1	30.29	769.4	48.6	9.2	56	N			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Alençon, Normal School	29.04	752.8	30.19	766.8	45.0	7.2	77	NE			3		8	E	NE	0.020	0.5	Very cloudy	Collignon, Director.
Amiens, Normal School	30.07	763.7	30.18	766.5	54.7	12.6	70	NE			1		10			0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.77	756.2	29.85	758.2	47.8	8.8	76	N			2		10			0.378	9.6	Light rain	Giraud, Director.
Bar-sur-Seine	29.45	748.0	30.01	762.3	52.9	11.6	67	NE			1		8					Sprinkling	C. Saillard, Director.
Beauvais, Normal School	29.91	759.7	30.19	766.7	42.3	5.7	89	NE			2		10		ENE	0.006	0.15	Covered	Frere Eugene Marie, Dr
Besançon, Normal School	29.00	736.7	29.90	759.5	54.0	12.2	52	NE			3		2		NE	0.008	0.2	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.06	738.0	29.97	761.1	47.7	8.7	73	N			3		5ck	NE	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.52	749.9	30.09	764.3	44.2	6.8	91	N			1		2	N	N	0	0	Slightly cl'dy	A. Waquet, Director.
Brest, Naval Observatory	30.02	762.6	30.27	768.8	48.6	9.2	46	N			3		4k		N	0	0		De Rermaree, Director
Carcassonne, Normal School	29.54	750.3	29.96	761.0	49.6	9.8	79	NW			4		10	WNW	WNW	0.51	13.	Covered	September, Director.
Caen, Normal School	30.14	765.6	30.22	767.6	47.1	8.4	76	NE			8		5		NE	0.28	7.	Cloudy	Lair, Director.
Chartres, Normal School	29.57	751.1	30.15	765.8	46.8	8.2	94	E			1		9	S	W	0.031	0.8	Showery	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	756.0	30.08	764.1	54.3	12.4	50	E			2		5					Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.7	29.99	761.7	46.0	7.8	57	N			1		8		N	0.220	5.6		Alluard, Director.
Commercy, Normal School.	29.18	741.2	30.05	763.2	48.4	9.1	48	ESE			4		5kn		ESE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.68	728.4	29.82	757.4	40.5	4.7	93	N			1		10		NW	0.79	20.	Rainy	L. Kina, Director.
Grenoble, Normal School	29.11	739.3	29.89	759.1	45.3	7.4	80	NW			2		10n			1.142	3.60	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.97	761.2	30.19	766.8	50.7	10.4	62	N			4		8		N	0.398	10.1	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.86	758.4	30.17	766.4	47.7	8.7	57	NE			3		5	N	N	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.98	736.2	29.91	759.8	51.6	10.9	44	ENE			6		5cn	E	E	0.083	2.1	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.19	766.7	30.28	769.2	48.2	9.0	63	NE			3				NE	0.118	3.0		Lt T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.93	734.9	29.98	761.5	51.4	10.8	46	SSE			3		2k		NNW	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.64	752.9	29.85	758.2	51.8	11	60	NW			4		5		N	0.28	7.	Cloudy	Boyer, Director.
Privas, Normal School	28.77	730.8	29.85	758.1	48.2	9	73	N			3		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.98	634.6			25.2	— 3.8	100	N			1		10		N	1.322	33.6	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.14	765.6	30.17	766.4	55.4	13.0	55	NNE			1		8	NNE	NNE	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.11	764.8	30.20	767.0	53.1	11.7	45	ENE			4		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.24	768.0	30.26	768.6	49.6	9.8	69	NNE			4		2	NNE	NNE	0	0	Light clouds	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.95	760.6	30.11	764.8	51.3	10.7	55	NNE			3-4			E	NE	0.031	0.8		E. Renou, Director.
Tarbes, Normal School	29.05	737.8	30.16	766.0	42.8	6	70	S			2		2	WSW	SW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.32	744.6	30.04	763.0	49.6	9.8	61	NW			4		6			0.094	2.4		Mercadier Julier.
Versailles Observatory	29.63	752.6	30.12	765.1	45.7	7.6	66	NE			3					0.035	0.90		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.23	742.4	29.95	760.8	47.3	8.5	67	N			4		5		N	0.102	2.6	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.84	757.8	29.86	758.5	79.5	26.4										0.08	2.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.30	744.2	29.92	760.0	47.7	8.7	60	NNW			2		9		NW	0.047	1.2	Very cloudy	Mr. Jays.
Mont-Louis	24.63	625.7	29.95	760.7	31.1	— 0.5	74	N	28.0	12.5			10			0.228	5.8	Snowing	M. Cave.
Nice			29.79	756.6	49.6	9.8	84	N			1		10			0.772	19.6	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.83	757.7			49.5	9.7	60	NNE			4		3			0.031	0.8		Marié Davy, Director.
Perpignan	29.81	757.2	29.92	759.9	50.2	10.1	62	NW	22.4	10.0			5		NW	0.118	3.0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.31	566.8			26.2	— 3.2		W			1		10			0.269	6.83	Snowy	Gen'l de Nansouty.
Tours	29.91	759.0	30.10	764.6	50.2	10.1	62	NE			3		7		NNE	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.93	760.1	29.95	760.8	58.8	14.9	94	ENE	4.9	2.2		0	0			0	0	Clear.	MarcDeche vrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Greasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from. The rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; at Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grésque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.18	741.1	30.02	762.6	47.5	8.6	40	NE			6		1	E		0	0		Prof. Dr. Hoh.
Berlin	30.02	762.4	30.19	766.9	46.0	7.8	49	NE			1		9			0	0		Prof. Arndt.
Breslau	29.58	751.4	30.11	764.9	43.9	6.6	57	NNW			3		10	NW		0	0		Royal University Obs'y
Carlsruhe	29.58	751.3	30.01	762.2	54.0	12.2	40	NE			2		3	NE		0	0		Albert Senz.
Cassel	29.52	749.8	30.13	765.3	49.6	9.8	31	NNE			5		5	NNE		0	0		Dr. H. Möhl.
Crefeld	30.01	762.2	30.17	766.3	50.5	10.3	42	E			4		7k			0.04	1.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.82	757.5	30.20	767.0	52.3	11.3		NE			2		8			0	0		Physical Society.
Freienwalde on the Oder	30.15	765.8	30.19	766.8	44.2	6.8	85	N			5		10ks	NNW		0.004	0.1		Assmann., M. D.
Friedrichshafen	28.45	722.6	29.88	758.9	53.6	12.0	42	NE			8		3	NE		0	0		M. Wilhelm.
Hamburg	30.14	765.5	30.21	767.3	50.4	10.2	40	NE			3		7k	N		0	0	Cloudy	Captain F. Hegeman.
Kiel	30.21	767.2	30.22	767.6	49.8	9.9	34	NE			3		7			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.5	43.3	6.3	69	N			3		8			0.114	2.9		Prof. E. Luther.
Köslin			30.09	764.3	39.0	3.9		N			4		4			0.055	1.4		H. Müller.
Leipsic, Observatory	29.73	755.1	30.16	766.0	46.4	8.0	44	NE			3		9			0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.91	759.8	29.96	761.0	43.7	6.5	75	NW			3		10s						Skalweit.
Neufahrwasser	30.03	762.7	30.04	763.1	38.8	3.8	80	N			4		10			0.169	4.3		A. Lothes.
Posen	29.85	758.1	30.15	765.7	39.7	4.3	78	NW			5		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.46	748.2	30.01	762.2	54.9	12.7	38	NNE			5		3	NE		0	0		Imp. University Observatory.
Stuttgart	29.03	737.4	29.98	761.4	52.7	11.5	33	E			3		4	E		0	0		Prof. Schoder.
Treves (Trier)	29.54	750.3	30.06	763.6	52.7	11.5	37	NE			7		6			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.49	723.7	30.01	762.2	49.8	9.9	39	NE	11	5			7ck		ENE	0	0	Fair	Dr. Van Bebber
Wustrow, Naval School	30.17	766.2	30.19	766.8	43.7	6.5	58	N			2		6s			0	0		E. Schütz, Dir.
GERMAN NAVAL SERIES.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.95	760.8	67.6	19.8		SW			2.0							Clear.	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.2	29.70	754.4	90.9	32.7	39	WSW					0			0	0	Blue sky	
Deesa					102.3	39.1	10	WSW	9.6	4.3			0			0	0	Blue sky	
Bombay	29.72	754.8	29.76	755.8	85.4	29.7	75	WNW	11.0	4.9			0			0	0	Blue sky	
Poona	27.78	705.7	29.72	754.8	94.9	34.9	37	WNW					2			0	0	D. clouds	
Lahore	28.84	732.6	29.54	750.4	100.2	37.9	15	Calm	1.2	0.5			0			0	0	Blue sky	
Belgaum	27.26	692.3	29.75	755.6	84.7	29.3	78	W	15.0	6.7			2	E	E	0	0	D. clouds	
Roorkee	28.72	729.4	29.57	751.2	98.9	37.2	13	NW	1.8	0.8			0			0	0		
Agra	29.05	737.8	29.58	751.4	103.6	39.8	13	W					0			0	0		
Nagpur	28.62	726.8	29.61	752.0	103.7	39.8	12	W	4.6	2.1			6		E	0	0	D. clouds	
Lucknow	29.22	742.3	29.58	751.3	106.0	41.1	23	NNW	1.5	0.7			0			0	0	Blue sky	
Allahabad	29.32	744.7	29.62	752.3	99.6	37.6	19	Calm	1.2	0.5			0			0	0	Blue sky	
Patna	29.44	747.8	29.62	752.2	96.4	35.8	29	NW	1.9	0.8			4	NW	NW	0	0	D. clouds	
Hazaribagh	27.66	702.7	29.60	751.9	95.3	35.2	13	WNW	8.9	4.0			0			0	0	Blue sky	
Cuttack	29.57	751.1	29.65	753.2	89.3	31.8		SE	7.0	3.1			2			0	0		
Calcutta (Alipore)	29.64	752.9	29.66	753.5	87.9	31.1	64	SSW	8.0	3.6			0			0	0	Blue sky	
Goalpara	29.32	744.8	29.71	754.6	79.8	26.6	72	Calm	3.1	1.4			6	SW	SW	0	0	D. clouds	
Chittagong	29.66	753.2	29.75	755.5	83.7	28.7	77	SE	5.9	2.6			3			0	0	Misty	
Sibsagar	29.40	746.6	29.73	755.2	78.0	25.6	82	ENE	1.6	0.7			10	W	W	0	0	D. clouds	
Jubbulpore	28.32	719.2	29.62	752.4	100.9	38.3	14	NW	2.3	1.0			10		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.0	29.94	760.4	55.2	12.9	41	E	6.9	3.1			6			0	0		Prof. Giovanni Clodig.
Milan	29.37	745.9	29.89	759.1	55.6	13.1	49	ESE			2		9	SSE		0	0		Prof. Schiaparelli.
Padua	29.82	757.4	29.93	760.1	54.3	12.4	50	ENE	12.5	5.6			9	ENE		0.071	1.8		Prof. Dott. Lorenzoni.
Moncalieri	28.98	736.1	29.89	759.1	44.2	6.8	85	NNW	4.3	1.9			10			0.827	21.0		Prof. P. F. Denza.
Genoa	29.65	753.0	29.84	757.8	50.7	10.4	70	W	1.3	0.6			10	SE		0.031	0.8		Prof. G. M. Garibaldi
Mondovi	27.94	709.8	29.86	758.4	34.5	1.4	94	W			4		10			0.201	5.1		Prof. D. C. Bruno.
Pesaro	29.83	757.6	29.88	758.9	54.1	12.3	68	NW	6.3	2.8			10	SW		0.252	6.4		Prof. Luigi Guidi.
Florence	29.57	751.1	29.83	757.6	60.1	15.6	45	NE			2		10	SE		0	0		Cav. F. Meucci
Leghorn	29.73	755.2	29.82	757.4	56.1	13.4	58	E			4		10	S		0.504	12.8		Prof. P. Monte.
Rome	29.67	753.6	29.85	758.1	59.2	15.1	62	S	5.6	2.5			10			0.230	6.0		Prof. P. S. Ferrari
Lecce	29.69	754.2	29.95	760.6	57.9	14.4	63	ESE	4.9	2.2			7	W		0.008	0.2		Prof. C. De Giorgi.
Cosenza	29.08	738.7	29.97	761.2	57.7	14.3	75	SE	0.7	0.3			8			0.240	6.1		Prof. D. Conti.
Cagliari	29.61	752.1	29.80	757.0	59.9	15.5	74	SE			4		10	W		0	0		Prof. A. Pacinotti.
Palermo	29.70	754.3	29.95	760.7	61.0	16.1	59	WSW	1.8	0.8			10	WSW		0.031	0.8		Prof. G. Cacciatore.
Syracuse	29.91	759.8	29.99	761.7	67.3	19.6	48	S	13.7	6.1			8	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	56.8	13.8	76	NW	2.5	1.1			10			0.016	0.4		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.75	755.6	29.77	756.1	62.0	16.7	96	SSW	2.1	0.9		10s				0.276	7.01	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.62	752.3	29.82	757.4	60.6	15.9	87	SSE	1.1	0.5		1cs				0.030	0.76	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.88	758.9	29.94	760.5	63.7	17.6	84	S	7.7	3.4		10s				0.040	1.02	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.8	30.04	763.1	57.2	14.0	52	SE			1	0	1		Calm	0	0	Clear	Prof. L. Perez.
Leon	24.44	620.7	30.08	763.9	62.6	17.0	58	SW			1	0	0			0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.19	766.9	50.0	10.0	48	Calm	0	0		0	0			0	0	Very hazy	The Staff.
Pabellon, (Aguascalientes)					63.5	17.5	36	NNE			1	1cs	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.95	760.7	29.96	761.0	73.4	23.0	85	S			2	3	0	E		0	0	Clear	M. M. Chàzaro.
San Luis Potosi																			G. Barroeta, M. D.
Vera-Cruz	24.23	615.5	30.16	766.1	61.0	16.1	54	WSW			1	3	0	W		0	0	Hazy	Prof. J. Rossell.
Zacatecas	22.57	573.3	30.08	764.0	63.4	17.4	28	NE			1	0	0			0	0	Very clear	J. C. Castrillon.
Puebla, (Catholic Institute)	23.42	594.8	30.18	766.6	46.4	8.0	66	N	1.3	0.6		0	1s		Calm	0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.38	720.9	30.03	762.8	74.5	23.6	41	NNE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.26	768.6	30.26	768.6	48.9	9.4		NNE								0.020	0.5		
Groningen	30.19	766.7	30.24	768.1	49.6	9.8		N			4					0	0		
Helder	30.27	768.9	30.27	768.9	46.4	8.0		NNE			4					0	0		
Hellevoetsluis	30.24	768.2	30.24	768.2	47.5	8.6	60	NE			3					0	0		
Utrecht	30.20	767.0	30.24	768.2	50.9	10.5	53	ENE			5		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.26	768.7	30.32	770.1	47.5	8.6	60	NNW	17.7	7.9			4			0	0		
Brönø	30.04	763.1	30.08	764.1	41.4	5.2	81	SSW	18	8			8			0	0		
Christiania	30.08	764.0	30.23	767.8	51.3	10.7	34	NE	4	2			0			0	0		
Tromsö	29.78	756.3	29.82	757.4	39.2	4.0	70	SW	34	15			10			0.091	2.3		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper	Clouds. Direction. Lower	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Angra (Azores)	29.82	757.4	30.01	762.2	65.5	18.6	73	WSW	6.3	2.8			2			0	0		Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.02	762.5	70.9	21.6	49	W	4.9	2.2			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.92	759.9	30.00	762.1	72.7	22.6	31	SW	6.3	2.8			2			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.1	30.08	764.1	66.6	19.2	59	N	11.2	5.0			0			0	0		The Staff.
Ponta Delgada (Azores)	29.98	761.6	30.06	763.4	68.4	20.2	72	SSW	8.1	3.6			3			0.035	0.9		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper	Clouds. Direction. Lower	Sea or swell. Height scale 0-9	Sea or swell. Direction from —	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd.t.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Porto de Bulama, Senegambia			29.98	761.5	84.7	29.3		Calm			0		7			1		D clouds	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 29′ 32,″ E. 12° 22′54″			29.90	759.4	84.2	29.0		SSW			1		5		SW	1	SW	D. clouds	A.J.de Mattos, Com'd't.
Rio Douro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto de Bulama, Senegambia			29.95	760.8	82.8	28.2		Calm			0		9			1		Showery	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.85	758.2	81.7	27.6		S			2		3		S	1	S	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sâ da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper	Clouds. Direction. Lower	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Warsaw	29.61	752.1	30.04	763.1	40.1	4.5	74	W	9	4			10ks						Astronomical Obs.
Wilna	29.50	749.2	29.92	760.0	45.7	7.6	83	W	7	3			10					Heavy clouds	Astronomical Obs.
Dorpat	29.69	754.0	29.93	760.3	41.5	5.3	76	NE	13	6			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.95	760.8	29.97	761.2	38.5	3.6	83	E	13	6			10n					Raining	Central Physical Obs.
Kieff	29.28	743.7	29.91	759.6	59.7	15.4	61	SW	7	3			10cks						Physical Cabinet.
Nikolaiev	29.84	757.9	29.91	759.7	58.1	14.5	75	NNE	13	6			10n					Raining	Kurdakof.
Kertch	29.77	756.2	29.79	756.7	68.0	20.0	77	NNE	7	3			9						Lagorio.
Moscow	29.30	744.2	29.85	758.1	52.5	11.4	64	SE	11	5			8ks						Meteorological Obs.
Lugan	29.58	751.4	29.78	756.4	79.0	26.1	39	W	9	4			10						Meteorological Obs.
Archangel	30.11	764.9	30.13	765.4	45.9	7.7	68	Calm	0	0			2cs						Capt. Sseliwerstow.
Tiflis	28.62	726.8	29.95	760.6	89.2	31.8	33	S	4	2			0						Physical Observatory.
Astrakhan	30.04	763.0	29.96	760.9	82.9	28.3	29	SSE	18	8			2s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.49	749.0	29.76	755.9	49.8	9.9	87	Calm	0	0			10n						Physical Cabinet.
Ekaterinburg	29.14	740.2	30.12	765.0	45.3	7.4	32	S	4	2			10cs;ck						Meteorological Obs.
Nukuss	29.92	760.0	30.14	765.6	84.2	29.0	39	NNE	11	5			0						
Tashkend	28.50	723.9	30.01	762.2	75.9	24.4	49	Calm	0	0			4						Teich, A. M.
Barnaul	29.44	747.8	29.95	760.6	44.4	6.9	45	NW	13	6			10						Meteorological Obs.
Yeniseisk	29.41	747.1	29.71	754.7	33.3	0.7	82	NW	27	12			10					Rain & snow	Marks.
Irkutsk																			
Peking (China)	29.62	752.3	29.76	755.9	63.9	17.7	29	S	4	2			2c					Lunar corona	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.48	748.7	29.58	751.2	39.2	4.0	100	Calm	0	0			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper	Clouds. Direction. Lower	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.78	756.4	29.89	759.1	55.9	13.3	62	ESE	5.2	2.33			8			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.26	768.6	30.32	770.1	54.9	12.7	60	NW	4.4	1.95		3	2	SE		1.035	26.3	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.1			46.9	8.3	53	N	6.4	2.86			2			0.008	0.2	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.76	705.0			69.1	20.6	42	N	10.4	4.66		0	4			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.71	754.6	29.85	758.3	82.4	28.0	36	NW	9.4	4.20		2	4	E		0	0	Cloudy.	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.7	30.10	764.4	59.5	15.3	63	NNE	11.9	5.3			7			0.008	0.2	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.4	30.00	762.1	77.0	25.0	77	ENE	5.4	2.4		1c	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.74	755.4	29.79	756.7	86.2	30.1	74	SW	8.5	3.8			0			0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.3	30.03	762.7	69.3	20.7	59	WNW	9.8	4.4		0	4		W				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.1	29.98	761.4	79.9	26.6	82	SE	2.5	1.13		6s	3k	SE	SE	0	0	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	30.02	762.6	30.06	763.6	36.0	2.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.06	763.6	30.11	764.9	44.6	7.0	55	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.10	764.4	30.15	765.7	48.9	9.4	51	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.94	760.6	30.12	765.1	46.6	8.1	46	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Wisby	30.02	762.4	30.08	763.9	39.6	4.2	62	NNE	.....	.....	7	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.06	763.6	30.14	765.5	47.3	8.5	31	N	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.43	722.2	29.87	758.8	48.9	9.4	52	NNE	.....	.....	4	.....	8	.....	.....	0.039	1.0	Covered	The Observatory.
Zurich	28.26	717.8	29.90	759.5	52.2	11.2	48	NE	.....	.....	4	.....	3	.....	.....	0	0	Bright	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —2.3 mm.; Thermometer,—5.1 Cent.; Relative Humidity, —6 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.3	65.7	18.7	72	SW	7	3.0	.....	.....	7	.....	SW	0.394	10.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	86.0	30.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.99	761.7	63.7	17.6	.....	SW	.....	.....	3	.....	5	.....	.....	0.35	9.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.76	755.9	29.87	758.8	83.1	28.4	68	S	.....	.....	1	.....	7c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.58	751.3	29.64	752.8	45.9	7.7	100	SW	10	4.5	.....	.....	.....	.....	.....	0	0	Overcast	Hon. J Ferguson.
Brockville, Ontario	29.69	751.8	29.91	759.7	37	2.8	.....	W	4	1.8	.....	.....	8s	.....	W	0.11	2.8	Cloudy	W. R. Bigg.
*Chatham, N. B	29.62	752.3	29.69	754.1	44	6.7	73	SW	9	4.0	.....	2k	8ks	W	W	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.72	754.9	29.76	755.9	43	6.1	90	S	15	6.7	.....	0	5ks	.....	SW	0.315	8.00	Fair	H J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.84	757.9	37.0	2.8	70	NW	.....	.....	2	.....	10s	.....	.....	0.14	3.6	Overcast	James Smith, M. A.
Dalhousie, N. B	29.45	748.0	29.62	752.3	43	6.1	.....	W	.....	.....	1	0	5ks	.....	.....	1.90	48.3	Fair	H. A. Johnson.
Esquimault, B. C	29.73	755.1	29.78	756.4	45.3	7.4	75	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.56	750.8	29.58	751.3	40	4.4	77	SW	24	10.7	.....	5k	5ks	SW	SW	0.05	1.3	Cloudy	J. McWilliams.
Fredericton, N. B	29.73	755.1	29.80	756.9	44.1	6.7	68	SW	12	5.4	.....	0	3ks	.....	.....	0.08	2.0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	29.26	743.2	30.10	764.5	44	6.7	84	S	4	1.8	.....	5k	5ks	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.91	734.3	30.05	763.3	36	2.2	.....	N	.....	.....	2	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.66	753.4	29.80	756.9	48	8.9	70	W	8	3.6	.....	0	0	.....	.....	0.110	2.79	Clear	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.03	762.8	39.1	3.9	78	W	.....	.....	2	6ck	0	W	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.58	751.3	29.93	760.2	38	3.3	64	SW	9	4.0	.....	.....	10ks	.....	SW	0.15	3.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	47.1	8.4	100	S	6	2.7	.....	.....	Fog	.....	.....	0.59	15.0	Foggy	C. H. Rigby.
Moose Factory, Ontario	29.92	760.0	29.96	761.0	26.0	— 3.3	89	NW	.....	.....	5	.....	10	.....	.....	Inap.	Inap.	Cloudy	J. R. Nason.
*Montreal, Quebec	29.62	752.3	29.83	757.7	38	3.3	64	W	13	5.8	.....	.....	10ks	.....	.....	0.30	7.6	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.26	743.2	29.98	761.5	36	2.2	61	W	6	2.7	.....	2ck	0	NW	.....	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.18	741.2	29.94	760.5	37.7	3.2	69	W	.....	.....	1	0	6ks	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	30.03	762.8	34	1.1	89	NW	7	3.1	.....	10k	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	46.5	8.1	.....	W	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.05	763.3	35	1.7	80	W	16	7.2	.....	2k	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.44	747.8	29.77	756.1	38	3.3	86	NW	.....	.....	5	0	2ks	.....	NW	0.01	0.3	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.45	748.0	29.93	760.2	33	0.6	66	NW	8	3.6	.....	.....	8s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.74	755.4	29.79	756.7	45	7.2	76	W	.....	.....	1	0	0	.....	.....	0.05	1.3	Clear	Dr. Gove.
St. John, N. B	29.64	752.8	29.81	757.2	43	6.1	83	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.30	744.2	30.03	762.8	37	2.8	92	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.19	741.4	29.99	761.7	35	1.7	71	N	10	4.5	.....	10k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.03	762.8	33.6	0.9	83	NW	14	6.3	.....	.....	10ks;n	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.81	757.2	29.85	758.2	43	6.1	97	SW.	6	2.7	.....	.....	10n	.....	.....	0.47	11.9	Cloudy	T. C. Hill.
*Toronto, Ontario	29.60	751.8	29.99	761.7	39	3.9	62	NW	12	5.4	.....	0	5ks	.....	NW	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.70	754.4	29.80	756.9	49.0	9.4	78	SW	9	4.0	.....	2k	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.97	761.2	30.23	767.8	37.0	2.8	90	SE	.....	.....	.....	.....	.....	.....	.....	0	0	Overcast	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.95	760.7	40	4.4	73	NW	8	3.6			10s		NW	Inap.	Inap.	Cloudy	
Alpena, Michigan	29.42	747.2	30.09	764.3	38	3.3	54	NW	12	5.4		0	0			0	0	Clear	
Atlanta, Georgia	28.88	733.5	30.03	762.8	52	11.7	47	N	10	4.5		0	Haze		Calm	0.21	5.3	Clear	
Atlantic City, New Jersey	29.99	761.7	30.01	762.2	50	10.0	52	N	6	2.7		0	0			0	0	Clear	
Augusta, Georgia	29.84	757.9	30.02	762.5	59	15.0	82	N	4	1.8		5ck	Sm'e	N	Calm	0.07	1.8	Fair	
Baltimore, Maryland	29.97	761.2	30.02	762.5	50	10.0	45	NW	4	1.8		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	47	8.3	62	NW	6	2.7		0	0			0	0	Clear	
Bismarck, Dakota	28.14	714.7	30.00	762.0	47	8.3	69	E	6	2.7		5k	0	Calm		0	0	Fair	
Boerne, Texas	28.62	726.9	29.91	759.7	66	18.9	89	NE	5	2.2			10s		Calm	0	0	Cloudy	
Boise City, Idaho	26.87	682.5	29.83	757.7	52	11.1	60	SE	3	1.3		2cs	0	Calm		0	0	Fair	
Boston, Massachusetts	29.74	755.4	29.90	759.4	48	8.9	56	W	4	1.8		0	1s		Calm	0	0	Clear	
Brackettville, Texas	28.92	734.6	29.91	759.7	72	22.2	90	E	8	3.6			10ks		SW	0	0	Cloudy	
Breckenridge, Minnesota	29.06	738.1	30.10	764.5	32	0.0	69	SE	8	3.6		0	Sm'e			0	0	Smoky	
Brownsville, Texas	29.94	760.5	29.99	761.7	71	21.7	95	E	1	0.4		8k	0	SE		0	0	Fair	
Buffalo, New York	29.26	743.2	29.98	761.5	34.5	1.4	85	SW	7	3.1			10s		N	0	0	Cloudy	
Burkes, Arizona					72	22.2	19	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.59	751.6	29.88	758.9	39	3.9	64	W	7	3.1			10ks		NW	0.05	1.3	Cloudy	
Cairo, Illinois	29.80	756.9	30.19	766.8	57	13.9	58	Calm	0	0		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	65	18.3	14	W	12	5.4		0	0			0	0	Clear	
Camp Verde, Arizona	26.73	678.9	30.07	763.8	50	10.0	39	NW			1	0	0			0	0	Clear	
Campo, California	27.32	693.9	29.89	759.2	37	2.8	71	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.94	760.5	52	11.1	66	NE	20	8.9		1cs	9s	Calm	NE	0.25	6.3	Cloudy	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	55	12.8	68	N	15	6.7		0	0			0	0	Clear	
Cape Lookout, N. Carolina	29.94	760.5	29.95	760.7	55	12.8	74	N	24	10.7		5ck	5ks	W	W	0.12	3.0	Cloudy	
Cape May, New Jersey	29.93	760.2	29.96	761.0	49	9.4	50	N	6	2.7		0	0			0	0	Clear	
Castroville, Texas	29.28	743.7	29.96	761.0	72	22.2	76	SE	6	2.7			10s		E	0	0	Cloudy	
Charleston, South Carolina	29.93	760.2	29.98	761.5	60	15.6	77	NE	12	5.4			10ks		NE	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming																			
Chicago, Illinois	29.46	748.3	30.17	766.3	41	5.0	65	NE	7	3.1		0	0			0	0	Clear	
Cincinnati, Ohio	29.48	748.8	30.15	765.8	45	7.2	35	N	8	3.6		0	0			0	0	Clear	
Cleveland, Ohio	29.34	745.2	30.08	764.0	39	3.9	64	NE	3	1.3		0	0			0	0	Clear	
Coleman City, Texas	28.29	718.6	29.94	760.5	61	16.1	94	E	4	1.8			10s		SE	Inap.	Inap.	Cloudy	
Columbus, Ohio	29.22	742.2	30.07	763.8	43	6.1	59	NW	8	3.6		0	Sm'e		Calm	0	0	Clear	
Concho, Texas	28.15	715.0	29.84	757.9	60	15.6	88	E	4	1.8			10s		E	0	0	Cloudy	
Corsicana, Texas	29.62	752.3	30.08	764.0	61	16.1	88	E	4	1.8			10s		NE	0.02	0.5	Threatening	
Davenport, Iowa	29.48	748.8	30.13	765.3	43	6.1	59	E	12	5.4		0	0			0	0	Clear	
Deadwood, Dakota	25.21	640.3			46	7.8	77	SE	2	0.9		0	0			0	0	Clear	
Decatur, Texas	28.95	735.3	30.10	764.5	65	18.3	73	Calm	0	0		2ck	0	S		0	0	Fair	
Denison, Texas	29.33	745.0	30.12	765.0	61	16.1	88	E	2	0.9		0	0			0.02	0.5	Clear	
Denver, Colorado	24.66	626.4	29.88	758.9	50	10.0	65	S	4	1.8		8c	0	Calm		0	0	Fair	
Des Moines, Iowa	29.21	741.9	30.09	764.3	52	11.1	73	Calm	0	0			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.40	746.7	30.09	764.3	36	2.2	71	NW	5	2.2		0	0			0	0	Clear	
Dodge City, Kansas	27.45	697.2	29.72	754.9	52	11.1	73	S	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.45	748.0	30.17	766.3	41	5.0	41	NE	3	1.3		0	0			0	0	Clear	
Duluth, Minnesota	29.45	748.0	30.14	765.5	39	3.9	73	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.27	743.4	29.96	761.0	71	21.7	80	SE	4	1.8		0	2s		Calm	0	0	Fair	
Eastport, Maine	29.75	755.6	29.82	757.4	48	8.9	63	SW	6	2.7		0	0			0.04	1.0	Clear	
Edinburg, Texas					71	21.7	86	Calm			0	0	2s		S	0	0	Fair	
El Paso, Texas	26.25	666.7			59	15.0	64	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.31	744.5	30.04	763.0	38	3.3	72	W	4	1.8			10s		NW	0	0	Cloudy	
Escanaba, Michigan	29.50	749.3	30.17	766.3	40	4.4	48	N	4	1.8		0	0			0	0	Clear	
Florence, Arizona	28.38	720.8	29.98	761.5	65	18.3	6	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	27.77	705.4			51	10.6	65	SE	8	3.6		0	0			0	0	Clear	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.27	641.8	30.23	767.8	54	12.2	74	W	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.58	751.3	30.12	765.0	56	13.3	87	Calm	0	0		0	0			0	0	Clear	
Fort Griffin, Texas	28.83	732.3	30.09	764.3	63	17.2	83	NE	3	1.3			10ks		S	0	0	Cloudy	
Fort Keogh, Montana	27.14	689.3			55	12.8	68	NE	6	2.7		5c	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.81	706.4	29.69	754.1	63	17.2	83	E	4	1.8			10s		Calm	0	0	Cloudy	
Fort St. Michael, Alaska	29.63	752.6	29.66	753.4	9	—12.8	100	W	38	17.0			10s		Calm	0.05	1.3	Cloudy	
Fort Sill, Indian Territory	28.88	733.5	29.98	761.5	58	14.4	94	Calm	0	0		5ck	5s	S	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.09	713.5			47	8.3	51	E	6	2.7		4c	0	E		0	0	Fair	
Fredericksburg, Texas	28.08	713.2	29.56	750.8	73	22.8	81	S	8	3.6			10ks		Calm	0	0	Cloudy	
Galveston, Texas	30.01	762.2	30.05	763.3	72	22.2	85	W	4	1.8		2k	2s	Calm	Calm	0	0	Fair	
Graham, Texas	29.03	737.3	30.07	763.8	62	16.7	88	Calm	0	0			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.51	749.5	30.17	766.3	42	5.6	66	N	8	3.6		0	0			0	0	Clear	
Indianapolis, Indiana	29.33	745.0	30.12	765.0	44	6.7	52	NW	2	0.9		0	0			0	0	Clear	
Indianola, Texas	30.05	763.3	30.08	764.0	73	22.8	86	SE	1	0.4		1c	0	Calm		0	0	Clear	
Jacksboro, Texas	29.97	761.2	30.10	764.5	65	18.3	89	SE	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	29.96	761.0	29.98	761.5	70	21.1	66	NW	5	2.2		5k	0	NW		0	0	Clear	
Keokuk, Iowa	29.45	748.0	30.06	763.5	57	13.9	68	NW	2	0.9		2k	0	NW		0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	79	26.1	70	Calm	0	0		2ck	0	Calm		0	0	Clear	
Kittyhawk, North Carolina	29.93	760.2	29.95	760.7	52	11.1	86	NE	13	5.8		0	0			0.07	1.8	Clear	
Knoxville, Tennessee	29.10	739.1	30.12	765.0	50.5	10.3	43	NW	1	0.4		0	0			0.01	0.3	Clear	
La Crosse, Wisconsin	29.44	747.8	30.19	766.8	42	5.6	66	Calm	0	0		0	0			0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	58	14.4	70	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.93	760.2	75	23.9	68	E	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.24	742.7	30.09	764.3	50	10.0	79	Calm	0	0		10cs	Sm'e	NW		0	0	Cloudy	
Los Angeles, California	29.64	752.8	29.98	761.5	52.0	11.1	83	Calm	0	0		0	2s		Calm	0	0	Clear	
Louisville, Kentuckey	29.58	751.3	30.15	765.8	48	8.9	43	N	1	0.4		0	Sm'e		Calm	0	0	Smoky	
Lynchburg, Virginia	29.33	745.0	30.00	762.0	54	12.2	61	Calm	0	0		0	0			0	0	Clear	
Madison, Wisconsin	29.16	740.7	30.18	766.6	39	3.9	55	E	2	0.9		0	0			0	0	Clear	
Marquette, Michigan	29.41	747.0	30.13	765.3	40	4.4	65	NW	1	0.4		0	0			0	0	Clear	
Mason, Texas	28.46	722.9	30.20	767.1	64	17.8	83	E	5	2.2			10s		E	0	0	Cloudy	
Memphis, Tennessee	29.85	758.2	30.18	766.6	56	13.3	38	NE	4	1.8		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.42	747.2	30.18	766.6	38	3.3	54	N	4	1.8		0	Sm'e			0	0	Clear	
Mobile, Alabama	30.05	763.3	30.10	764.5	62	16.7	69	N	10	4.5			10s		NW	0	0	Cloudy	
Montgomery, Alabama	29.88	758.9	30.12	765.0	57	13.9	63	N	5	2.2		0	0			0.08	2.0	Clear	
Morgantown, West Virginia	28.93	734.8	29.99	761.7	45	7.2	68	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.46	595.9	29.82	757.4	19	— 7.2	100	NW	60	26.8			Fog		NW	0	0	Foggy	
Nashville, Tennessee	29.62	752.3	30.16	766.1	53	11.7	54	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.82	757.4	29.93	760.2	53	11.7	73	NW	1	0.4		0	2s		NW	0	0	Clear	
New London, Connecticut	29.88	758.9	29.93	760.2	48	8.9	63	NW	4	1.8		0	0			0	0	Clear	
New Orleans, Louisiana	30.01	762.2	30.06	763.5	69	20.6	70	NE	8	3.6			10s		W	0	0	Cloudy	
Newport, Rhode Island	29.88	758.9	29.93	760.2	47	8.3	59	W	5	2.2		0	0			0	0	Clear	
New York, New York	29.79	756.7	29.97	761.2	44	6.7	60	NW	6	2.7		0	2ks		Calm	0	0	Fair	
Norfolk, Virginia	29.93	760.2	29.99	761.7	55	12.8	67	NE	8	3.6		0	Haze		Calm	Inap.	Inap.	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
North Platte, Nebraska	27.02	686.3	29.54	750.3	53	11.7	67	S	28	12.5		0	0			0	0	Clear	
Olympia, Washington Ter.	29.79	756.7	29.83	757.7	44.3	6.8	84	S	8	3.6			10n		SW	0.37	9.4	Light rain	
Omaha, Nebraska	29.90	759.4	29.98	761.5	56	13.3	75	SE	3	1.3			10s		NW	0.03	0.8	Cloudy	
Oswego, New York	29.64	752.8	29.96	761.0	40	4.4	73	W	6	2.7			10s			0	0	Cloudy	
Pembina, Dakota	29.25	742.9	30.10	764.5	37	2.8	90	SE	5	2.2		0	Haze			0	0	Clear	
Philadelphia, Pa	29.94	760.5	29.99	761.7	46	7.8	62	NW	10	4.5		2k	0	NW		0	0	Fair	
Phœnix, Arizona	28.68	728.5	30.44	773.2	64	17.8	30	E	2	0.9		0	0			0	0	Clear	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	27	— 2.8	19	W	30	13.4		5ck	0	W		0	0	Fair	
Ploche, Nevada	23.90	607.0	29.67	753.6	58	14.4	12	S	12	5.4		2c	0	SW		0	0	Fair	
Pittsburg, Pennsylvania	29.21	741.9	30.04	763.0	38	3.3	72	NW	5	2.2		0	0			0	0	Clear	
Port Huron, Michigan	29.38	746.2	30.05	763.3	39	3.9	64	N	11	4.9		0	0			0	0	Clear	
Portland, Maine	29.78	756.4	29.83	757.7	47	8.3	70	W	8	3.6		0	0			0.15	3.8	Clear	
Portland, Oregon	29.84	757.9	29.94	760.5	45.3	7.4	86	SW	6	2.7			10n		SW	0.34	8.6	Light rain	
Prescott, Arizona	24.70	627.4	30.06	763.5	43	6.1	21	W	6	2.7		0	0			0	0	Clear	
Pilot Point, Texas	28.99	736.3	29.82	757.4	69	20.6	90	SE	13	5.8		0	0			0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.03	762.8	78	25.6	61	W	9	4.0		0	0			0	0	Clear	
Red Bluff, California	29.69	754.1	30.05	763.3	53	11.7	54	NW	11	4.9		5k	0	SW		0	0	Fair	
Rio Grande City, Texas	29.84	757.9	30.05	763.3	69	20.6	85	E			1	0	0			0	0	Clear	
Rochester, New York	29.33	745.0	29.96	761.0	38	3.3	72	W	8	3.6		9ck	1s	W	Calm	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.47	748.5	30.05	763.3	42.0	5.6	87	S	3	1.3			10n		SW	0.26	6.6	Light rain	
Sacramento, California	30.04	763.0	30.13	765.3	55	12.8	74	S	5	2.2		0	5s		SW	0	0	Fair	
St. Louis, Missouri	29.56	750.8	30.14	765.5	54	12.2	43	S	6	2.7		2ck	0	NW		0	0	Fair	
St. Marks, Florida	30.02	762.5	30.04	763.0	62	16.7	77	N	6	2.7		0	9s		N	0	0	Cloudy	
St. Paul, Minnesota	29.27	743.4	30.11	764.8	42	5.6	42	SE	4	1.8		0	0			0	0	Clear	
Salt Lake City, Utah	25.38	644.6	29.71	754.6	60	15.6	40	SE	12	5.4		7c	0	W		0	0	Fair	
San Antonio, Texas	29.38	746.2	29.94	760.5	69	20.6	95	NE	4	1.8			10s		NE	0	0	Cloudy	
San Diego, California	29.95	760.7	30.02	762.5	59	15.0	88	S	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.42	747.2	30.10	764.5	44	6.7	60	NE	2	0.9		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.93	760.2	29.96	761.0	51	10.6	53	N	14	6.3		0	0			0	0	Clear	
San Francisco, California	30.11	764.8	30.18	766.6	53	11.7	73	NW	8	3.6		0	5ks		NW	0	0	Fair	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	47	8.3	55	NE	2	0.9		2cs	0	Calm		0	0	Clear	
Savannah, Georgia	29.90	759.4	29.99	761.7	62	16.7	77	NW	11	4.9			10s		NW	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	29.89	759.2	30.11	764.8	62	16.7	83	NE	4	1.8		0	0			Inap.	Inap.	Clear	
Silver City, New Mexico	24.36	618.7	30.51	774.9	49	9.4	57	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.95	760.7	29.99	761.7	55	12.8	81	N	10	4.5		5ck	2s	W	N	0.27	6.9	Cloudy	
Springfield, Massachusetts	29.80	756.9	29.93	760.2	45	7.2	61	N	4	1.8		0	8ks		W	0	0	Cloudy	
Stockton, Texas	27.03	686.6	30.03	762.8	60	15.6	60	SE	3	1.3		0	0			0	0	Clear	
Thatcher's Island, Mass	29.83	757.7	29.88	758.9	49	9.4	78	SW	8	3.6		0	0			0	0	Clear	
Toledo, Ohio	29.39	746.5	30.09	764.3	41	5.0	57	N	8	3.6		0	0			0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	61	16.1	30	Calm	0	0		0	0			0	0	Clear	
Umatilla, Oregon	29.41	747.0	29.89	759.2	49.0	9.4	85	SW	12	5.4			10n		SW	0.35	8.9	Heavy rain	
Unalaska, Aleutian Islands																			
Uvalde, Texas	29.17	740.9	29.97	761.2	70	21.1	75	NE	2	0.9			10s		NE	0	0	Cloudy	
Vicksburg, Mississippi	29.90	759.4	30.16	766.1	59	15.0	48	E	6	2.7		2k	0	Calm		0.31	7.9	Clear	
Virginia City, Montana	23.10	586.7	29.48	748.8	52	11.1	35	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.72	754.9	30.09	764.3	55.3	12.9	59	NW	8	3.6		0	0			0	0	Clear	
Washington, D. C.	29.90	759.4	30.02	762.5	49	9.4	51	NW	2	0.9		0	Haze		Calm	0	0	Clear	
Wickenburg, Arizona					53	11.7	42	Calm			0	0	0			0	0	Clear	
Wilmington, N. Carolina	29.89	759.2	29.97	761.2	53	11.7	86	N	10	4.5		10k		N		0.48	12.2	Cloudy	
Winnemucca, Nevada	25.44	646.2	29.80	756.9	51	10.6	22	SW	16	7.2		0	2s		S	0	0	Fair	
Wood's Holl, Mass	29.89	759.2	29.93	760.2	45	7.2	68	W	4	1.8		0	2ks			0	0	Clear	
Yankton, Dakota	28.73	729.7	30.01	762.2	51	10.6	72	SE	8	3.6		0	0			0.01	0.3	Clear	
Yuma, Arizona	29.64	752.8	29.80	756.9	64	17.8	48	W	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.56	725.4	29.99	761.7	49	9.4	77												J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	79	26.1	74	NE	1.2	0.5		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.23	640.8			67.8	19.9	83	Calm			0	4cs	4ks			0.03	0.8		Thomas Herran.
Navassa, W. I.	29.87	758.7	29.95	760.7	78	25.6		NE								0.44	11.2	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	83	28.3	79	E			3	3c	5k	E	E	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.18	766.6	30.23	767.8	26.0	— 3.3	94	NE	9	4.0		0	0			0	0	Clear	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.0 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp, Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.14	765.5			51	10.6	86	NW	27	12.1			8		NW	0	0			Cloudy	
Navy Yard, Pensacola, Fla.	30.08‡	764.0‡			65	18.3	100	NE	7	3.1			10		NW					Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.97‡	761.2‡			64	17.8	83	SW			3		10s		SW	0	0			Gloomy	
Adams, Panama	29.90‡	759.4‡			81	27.2	91	S			1		10		S					Cloudy	
Alaska, Sitka, Alaska	29.44‡	747.8‡			41	5.0	67	E			2		10		NW	0.025	0.64			Overcast	
Alliance, N. 37° 56′ 30″, E. 12° 14′ 30″	29.96‡	761.0‡			60	15.6	82	SW			2–4		4					Light	S;W	Showery	
Ashuelot, Hong-Kong, China	29.82‡	757.4‡			77	25.0	91	Calm			0		2		Calm			Smooth		Fair	
Canonicus, New Orleans, La	30.07‡	763.8‡			65	18.3	100	NE			3		5		NE					Fair	
Colorado, New York, N. Y	29.95‡	760.7‡			47	8.3	62	WSW	5	2.2			2		NW	0	0			Clear	
Constitution, N. 23° 15′, W. 43° 20′	30.13‡	765.3‡			77	25.0	91	ESE			2		5?		Calm			Smooth	N	Clear?	
Despatch, Genoa, Italy	29.88‡	758.9‡			52	11.1	79	NNW			2		10		NW	0.7	18.	Smooth		Rainy	
Enterprise, N. 36° 36′, W. 7° 47′	30.06‡	764.0‡			64	17.8	73	NW			1–2		1		N;W			Smooth		Blue sky	
Franklin, Norfolk, Va	29.97‡	761.2‡			56	13.3	75	N	15.6	7.0			0			0	0			Clear	
Hartford, Colonia, Uruguay *	29.98‡	761.5‡			61	16.1	61	NW			4		0			0	0			Clear	
Michigan, Erie, Pa					37.5	3.1	96	W			4		10		W	0	0			Cloudy	
Monongahela, Yokohama, Japan	29.95‡	760.7‡			66	18.9	79	S			2		10ck			0	0			Overcast	
New Hampshire, Port Royal, S. C	29.97‡	761.2‡			62	16.7	88	N	15	6.7			10		N	0	0			Overcast	
Onward, Callao, Peru †*	30.05‡	763.3‡			64	17.5	89	SSW			1		5					Long	W	Misty	
Palos, Shanghai, China	29.94‡	760.5‡			59	15.0	100	E			2		0							Clear	
Passaic, Washington, D. C					50	10.0	93	WNW			1		2							Clear	
Pensacola, Callao, Peru	29.97‡	761.2‡			65	18.3	89	S	2	0.9			8			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va	29.98‡	761.5‡			57	13.9	94	NNE			5		0			0	0	Mod'ate	N	Clear	
Powhatan, Norfolk, Va	29.99‡	761.7‡			58	14.4	64	NNE			3		0			0	0			Clear	
Quinnebaug, N. 34° 08′, E. 21° 07′	30.08‡	764.0‡			69	20.6	65	WNW			4		2		W			Long	W	Fair	
Range, Amoy, China	29.88‡	758.9‡			77	25.0	77	SE			1		5		Calm			Smooth		D. clouds	
Richmond, Singapore, China	29.81‡	757.2‡			80	26.7	96	NW			1–2		5		NW	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡			73	22.8	100	SE			1		8		SE					Fair	
Santee, Annapolis, Md	30.02‡	762.5‡			65	18.3	51	NW			0–1		2							Clear	
Saratoga, N. 36° 55′, W. 27° 56′	30.05‡	763.3‡			64	17.5	78	WNW			3		2		NW	0	0	Mod'ate	W	D. clouds	
St. Louis, League Island, Pa	30.03‡	762.8‡			49	9.4	71	NW	8	3.6			2		NW	0	0			Clear	
Trenton, Genoa, Italy	29.89‡	759.2‡			51	10.6	86	NW			2		10		NNE			Smooth		Drizzling	
Tuscarora, Port Sacrificios, Mex	29.91‡	759.7‡			77	25.0	65	Calm			0		2		Calm	0	0	Smooth		Hazy	
Vandalia, Kingston, Jamaica, W.I.	29.96‡	761.0‡			76	24.4	91	NW			1		10			Blank	Blank			Cloudy	
Wabash, Boston, Mass	29.89‡	759.2‡			42	5.6	75	W	1	0.4			0			0	0			Clear	
Wyoming, N. 36° 22′, E. 22° 36′	30.04‡	763.0‡			63	17.2	89	NW			3–4		2		NW			Mod'ate	NW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S. S. Samaria, Capt. T. Roberts, Liverpool, Eng.		30.32	770.1	60	15.6		E			1		8		E				Cloudy	M. C. Miles.
NOTE.—†Aneroid.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 25° 04′, E. 119° 44′		29.92‡	760.0‡	67	19.4		NE			2		10		NW	0	Mod'ate	NE	Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. H. G. Morse, N. 42° 34′, W. 124° 40′		30.04‡	763.0‡	55	12.8	62	SW			3		1		NW		Mod'ate	NW	Clear	B. Lawless.
S. S. Georgia																			Capt. Connolly
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.95‡	760.7‡				W			2		10		W				Heavy rain.	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 39° 19′, E. 166° 23′		29.88‡	758.0‡	67	19.4	79	NE			3		4n			Light	Smooth		Showery	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 48° 36′, W. 27° 59′		29.95‡	760.7‡	63.0	17.2	72	S			2		10				Smooth	W	Foggy	Capt. C. Undütsch.
S. S. Leipzig, N. 37° 01′, W. 75° 23′		30.10‡	764.5‡	52.0	11.1	90	NNE			3		2		NW		Smooth	NNW	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 14′, E. 4° 13′		30.30‡	769.6‡				NE			5		2		NE		Rough	NE	Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
American S. S. Co. Marine Series.																			
Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 14,' W. 16° 54'		30.15‡	765.8‡	53	11.7	80	SE			8		8		SE	0	Mod'ate	SE	Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series.																			
Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series.																			
Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.)																			
Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 36° 19,' W. 74° 41'		29.98‡	761.5‡	51	10.6	79	NE	6	2.7			10s		E	0	Smooth		Overcast	Capt. James Jorgenson.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 25° 22', W. 67° 29'		29.82‡	757.4‡				E	1	0.4			0			0	Long	SE	Clear	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively by the letters c, k, s, n, d, f, p, hz., fg. and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 3, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.03	762.8	64.9	18.3	75	E			3		5			0	0	Cloudy	Kesxuche.
Algiers			30.03	762.8	58.3	14.6	61	WNW			2		10			0	0	Covered	Tourilière.
La Calle			30.02	762.5	61.2	16.2	76	NNW			4		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.03	762.7															Gau.
Saida			30.00	762.1	68.4	20.2	22	N			5		0			0	0	Clear	Herbin.
Tebessa			30.04	763.1	63.0	17.2	49	N			1		5			0	0	Cloudy	Watrin.
Geriville			30.02	762.6	52.7	11.5	71	N			2		2			0	0	Fair	Brugnaux.
Laghouat			30.00	762.1	78.4	25.8	31	W			4		0			0	0	Clear	Bertrand.
Biskra			29.98	761.4	79.5	26.4	19	WNW			4		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,083? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.39	746.4	29.94	760.5	47.5	8.6	84	NE			4		10			1.417	36.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.41	747.0	30.19	766.8	50.4	10.2	60	NNE			1		10			0	0		Dr. Wierzbiski.
Eperies	29.18	741.1	30.06	763.6	50.7	10.4	69	N			2		9ks		S	0	0		Julius Mikolik.
Gratz	28.78	731.1	30.04	762.9	53.1	11.7	50	E			3		10			0	0		Andreas Rospini.
Hermannstadt	28.55	725.2	29.95	760.7	64.8	18.2	57	E			2		4			0	0		Prof. A. Gottschling.
Kremsmünster	28.75	730.3	30.11	764.8	47.8	8.8	68	ENE			2		10			0	0		Prof. C. Wagner.
Lemberg	29.10	739.0	30.10	764.4	49.3	9.6	60	SE			1		8						Dr. T. Stanecki.
Pola	29.66	753.3	29.77	756.1	50.9	10.5	68	E			7		10			0.157	4.0		I.R. Hydrographic Office
Szathmar	29.60	751.7	30.06	763.4	59.0	15.0	68	SW			2		5			0.126	3.2		Julius Csics, S. J.
Szegedin	29.67	753.6	29.95	760.6	59.2	15.1	47	E			2		8			0.171	4.35		Karl Stancel.
Trieste	29.72	755.0	29.83	757.6	51.4	10.8	61	ENE			6		10			Inap.	Inap.	Cloudy	P. Busin.
Vienna	29.39	746.4	30.11	764.7	50.9	10.5	45	N			2		10			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 0:1, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.34	770.6	30.44	773.2	51.6	10.9		SSE	17	7.6			3			0	0	Blue sky	W. Boswell.
Ardrossan	30.43	772.9	30.45	773.4	54	12.2		S			2		1					Misty	William McNeil.
Armagh, Observatory			30.47	773.9	55.0	12.8		SSW	7	3.1			5					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.48	774.2	50.4	10.2		WNW	11	4.9			0					Blue sky	John Hartnup.
Bolton (Sharples)			30.42	772.6	54.1	12.3		NW	18	8.0			6					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	30.03	762.7	30.43	772.9	52.3	11.3		NE			5		0			0	0	Blue sky	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84	28.9		SE			2		3					D. clouds	Pvt. G. Surgener, A. H.
Cambridge, Observatory			30.45	773.4	50.0	10.0		NE			1		1					Blue sky	H. Todd. [C.
Cardington			30.43	772.9	52.0	11.1		N			1		1					Blue sky	John McLaren.
Chatham, School M. E.	30.31	769.9	30.44	773.2	49.7	9.8		NE			1		4					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	30.43	772.9	30.47	773.9	53	11.7		SSE			2		0					Blue sky	J. Mac Gowan.
Dover	30.39	771.9	30.42	772.6	47	8.3		NE			4		2					¼ clouded	J. Costello.
Falmouth, Observatory	30.26	768.6	30.49	774.4	48.7	9.3		ESE			2		0					Blue sky	The Staff.
Fort Napier (Natal)	27.70	703.6	30.00	762.0	70.6	21.4		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.66	753.4	29.89	759.2	89	31.7		SW			0		3					D. clouds	
Galway, Queen's college			30.42	772.6	51	10.6		SW			2		10					Overcast	Prof. A. Curtis.
Gibraltar (Mediterranean.)	29.97	761.2	30.02	762.5	64.5	18.1		E			5		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	30.22	767.6	30.42	772.6	55.4	13.0		WSW			2		3					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.45	773.4	30.46	773.7	45	7.2		NNE			3		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.27	768.8	30.44	773.2	51.8	11.0		NNE			1		2					D. clouds	The staff, for G.B. Airy.
Guernsey	30.21	767.3	30.43	772.9	49	9.4		ENE			3		0					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.35	770.9	30.48	774.2	54	12.2		NE			4		c			0	0	Very fine	M. P. Moyle.
Holyhead	30.47	773.9	30.51	774.9	49	9.4		WNW			2		0					Blue sky	John Tilston.
Jersey	30.15	765.8	30.46	773.7	47.8	8.8		NE			3		7					D. clouds	J. Fisher.
Kew, Observatory	30.41	772.4	30.44	773.2	49.5	9.7		N	10	4.5			3					D. clouds	The Meteorological Of.
Leicester, Museum.	30.19	766.8	30.45	773.4	52.3	11.3		NE			1							Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.81	757.2	29.89	759.2	69.4	20.8		SW			2		4k			0	0	D. clouds	Sergt. H. J. Beckett, A. H. C.
Nairn	30.29	769.4	30.38	771.6	60	15.6		Calm			0		0					Clear	W. D. Penny.
Nassau (Bahamas)			30.00	762.0	78.5	25.8		SW			0		5			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.28	769.1	30.47	773.9	53.0	11.7		NE			1		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.91	759.7	30.44	773.2	53.9	12.2		NNE			1		0					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.44	773.2	53	11.7		NE			2		1					Blue sky	H. E. Bellamy.
Plymouth	30.38	771.6	30.46	773.7	53.1	11.7		NE			2		1					Blue sky	John Merrifield.
Prince Town	28.92	734.6	30.44	773.2	47.4	8.6		E			4		1					Fine	W. H. Tooker.
*Roche's Point	30.43	772.9	30.53	775.4	55	12.8		SSW			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	30.32	770.1	30.49	774.4	49	9.4		WNW			1		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			30.40	772.1	51	10.6		SW	10	4.5			0					Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.96	761.0	30.03	762.8	73.0	22.8		NE			1		1					Blue sky	W. H. Lyne.
Sheffield	30.18	766.6	30.47	773.9	54.3	12.4		ENE			1		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.42	772.6	30.45	773.4	56.2	13.4	51	Calm			0		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	30.04	763.0	30.44	773.2	54.2	12.3		W			2		7					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.22	767.6	30.45	773.4	53.2	11.8		NE			2		0					Blue sky	C. H. Griffith, F. M. S.
Truro, Royal Institution	30.45	773.4	30.49	774.4	57	13.9		SE			4		4					D. clouds	W. Newcombe.
Valencia, Observatory	30.44	773.2	30.47	773.9	54.1	12.3		SSE	17	7.6			8					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.93	760.2	29.97	761.2	73	22.8	65	SE	8	3.6		10	10			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.15	765.8	43.0	6.1	81	S			2		8k			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.46	773.7	55.0	12.8		E			1	0	0			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.74	755.4	29.92	760.0	75.0	23.9	88	NE	5.5	2.5			10		NE	0.33	8.4	Overcast	C. Meldrum.
Melbourne, Observatory	30.20	767.1	30.29	769.3	49.8	9.9	80	SE	7	3.1			8			0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.40	772.1	49	9.4		S			6	3	0	S		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.34	770.6	47	8.3		SW			4	0	0						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Observer
H. M. S. "Fawn,"			Capt. W. J. L. Wharton.
Brig Alliance			
S. S. Amanda.			Capt. W. Scott.
Barque Belle-Isle			Capt. B. Boyes.
Ship British Commodore, N. 41° 15', W. 49° 30'			Capt. A. J. Brown.
—— City of Agra,	4	WSW	Capt. J. W. Thorne.
Barque Commewyne			Capt. Thos. Young.
Barque Fedalma			Capt. A. Buchan.
Barque Mertole.			Capt. H. L. Fox.
S. S. Nizam			Capt. E. W. Turner.
S. S. Strathleven,			Capt. Barlow.
S. S. Wyberton			Capt. C. W. Pearson.
			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	69.8	21.0	95	Calm			0	6cs				0.1	3.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.24	768.0	30.28	769.2	50.5	10.3	47	NNW			2		0						
Fanöe	30.31	769.9	30.33	770.4	49.1	9.5	74	WNW			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.07	763.8	30.11	764.7	49.6	9.8	75	SW			6		10						
Vestervig	30.15	765.8	30.32	770.1	52.7	11.5	53	NW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.83	757.6	30.38	771.6	48.6	9.2	61	NE			1		8		NE	0.102	2.6	Very cloudy	Collignon, Director.
Amiens, Normal School	30.21	767.4	30.33	770.3	52.9	11.6	80	NE			3		0			0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.83	757.7	29.91	759.7	57.2	14	57	N			6		5			0.088	2.1	Cloudy	Giraud, Director
Bar-sur-Seine	29.66	753.4	30.23	767.8	52.0	11.1	53	SE			3		8kn		E	Inap.	Inap.	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	30.07	763.8	30.34	770.6	52.5	11.4	39	NE			3		8		NE	0	0	Very cloudy	Frere Eugene Marie, Dr
Besançon, Normal School	29.20	741.6	30.10	764.4	55.2	12.9	41	NE			3		2		N	0	0	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.20	741.8	30.12	765.1	54.1	12.3	40	NE			4		5ck	NE	NE	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.70	754.4	30.26	768.7	51.4	10.8	68	N			1		1	N	N	0	0	Clear	A. Waquet, Director.
Brest, Naval Observatory	30.10	764.6	30.34	770.7	53.6	12.0	46	NE			2		6k		NE	0	0		De Rermarez, Director
Carcassonne, Normal School	29.70	754.3	30.11	764.8	57.2	14.0	35	NW			6		5	WNW	WNW	0.12	3.	Cloudy	September, Director.
Caen, Normal School	30.32	770.2	30.40	772.1	49.6	9.8	62	NE			3		1		NE	0.110	2.8	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.67	753.7	30.25	768 3	52.5	11.4	95	NE			3		9	SW	SW	0.102	2.6		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.95	760.8	30.28	769.0	52.5	11.4	45	N			2		5	N	N			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.75	730.2	30.12	765.1	50.4	10.2	87	N			2		8		N	0	0		Alluard, Director.
Commercy, Normal School.	29.36	745.7	30.23	767.9	48.6	9.2	58	E			4		5n		E	0	0	Cloudy..A	Dr. Coulet, Director.
Commune de Gréasque*	28.74	729.9	29.88	758.9	57.4	14.1	58	NW			2		8		W	0.142	3.6		L. Kina, Director.
Grenoble, Normal School	29.17	740.9	29.94	760.5	51.4	10.8	52	N			1		8kn		NE	0.083	2.10	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	30.12	764.9	30.33	770.4	53.2	11.8	65	N			4		8		N	0.067	1.7	Very cloudy	Mouillot, Director.
Le Mans, Normal School	30.03	762.8	30.34	770.7	50.7	10.4	50	N			3		5	NNE	NNE	0.12	3.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.5	30.13	765.2	50.2	10.1	39	NE			6		8n	NE	NE	0	0	Very cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.29	769.3	30.39	771.8	54.0	12.2	54	NE			2				NE	0	0		Lt T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	29.11	739.3	30.17	766.3	48.6	9.2	42	SSE			4		1k		NNW	0	0	Clear	Barbier, Director.
Nîmes, Normal School	29.75	755.6	29.95	760.8	57.9	14.4	37	NW			6		2		NE	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.89	733.8	29.96	761.0	53.1	11.7	69	N			3		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.18	639.6			28.0	— 2.2	100	N			4		10		N	0.609	17.0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.27	768.9	30.30	769.7	59.5	15.3	48	NE			1		5	NE	NE	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.29	769.3	30.37	771.5	53.1	11.7	45	N			3		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.36	771.1	30.39	771.9	54.5	12.5	54	NE			4		1		NE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.13	765.3	30.30	769.5	52.2	11.2	41	NNE			3				NE	0	0		E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.21	767.4	53.6	12	54	ESE			2		0			0	0	Clear	T. Hugnet, Director.
Toulouse, Observatory	29.49	749.0	30.21	767.4	51.1	10.6	58	NW			3		4			0	0		Mercadier Juller.
Versailles Observatory	29.81	757.1	30.30	769.6	50.4	12.2	44	NE			4					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.36	745.6	30.07	763.8	53.8	12.1	61	N			4		2		NNE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	80.6	27										0	0		L'Abbé Marel ésl.
Lyons Obs'y (Park Station)	29.43	747.4	30.04	763.1	53.2	11.8	43	N			4		7			0.197	5.0	Very cloudy	Mr. Jays.
Mont-Louis	24.83	630.7	30.15	765.7	33.8	1.0	55	N	24.2	10.8			2		NE	0.374	9.5		M. Cave.
Nice			29.85	758.3	58.3	14.6	65	SW			3		10			0.433	11.0	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	30.02	762.5			50.7	10.4	49	N			4		9		NE	0.004	0.1		Marié Davy, Director.
Perpignan	29.93	760.2	30.04	762.9	75.0	12.8	32	NW	40.9	18.3			3		WNW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.48	750.9			32.2	0.1	A	N			1		9			0.183	4.64	Snowy	Gen'l de Nansouty.
Tours	30.10	764.4	30.29	769.4	51.1	10.6	56	ENE			3		10		ENE	0.079	2.0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.78	756.4	29.81	757.1	62.2	16.8	75	SE	8.7	3.9			0			0	0	Clear	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Greasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from. The rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet: Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1.467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi. (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.26	743.1	30.10	764.6	49.5	9.7	42	NE			5		7	NE		0	0		Prof. Dr. Hoh.
Berlin	30.10	764.6	30.28	769.0	52.9	11.6	29	NE			4		0			0	0		Prof. Arndt.
Breslau	29.71	754.5	30.24	768.1	44.8	7.1	61	NNE			2		10	NE		0	0		Royal University Obs'y
Carlsruhe	29.76	756.0	30.20	767.1	51.4	10.8	47	ENE			2		10	NE		0	0		Albert Senz.
Cassel	29.68	753.8	30.29	769.3	54.7	12.6	35	NE			3		7	NE		0	0		Dr. H. Möhl.
Crefeld	30.13	765.2	30.29	769.3	55.9	13.3	32	NE			4		8k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.88	758.9	30.25	768.4	52.9	11.6		ENE			3		8			0	0		Physical Society.
Freienwalde on the Oder	30.23	767.7	30.26	768.7	55.6	13.1	57	N			2		2cs	N		0	0		Assmann., M. D.
Friedrichshafen	28.65	727.8	30.11	764.9	47.3	8.5	50	NE			9		9	NE		0	0		M. Wilhelm.
Hamburg	30.25	768.3	30.32	770.1	55.2	12.9	35	NE			4		8k	N		0	0	Fair	Captain F. Hegeman.
Kiel	30.21	767.3	30.23	767.7	53.2	11.8	30	NE			2		0			0	0		Prof. G. Karsten.
Königsberg (Prussia)	30.14	765.6	30.23	767.8	47.1	8.4	47	N			3		0			0	0		Prof. E. Luther.
Köslin			30.24	768.2	47.8	8.8		N			4		0			0	0		H. Müller.
Leipsic Observatory	29.84	757.8	30.26	768.6	51.1	10.6	40	NNE			1		8			0	0		Prof. Bruhns, Privy Counselor.
Memel	30.13	765.2	30.17	766.4	39.9	4.4	74	NW			5		0						Skalweit.
Neufahrwasser	30.26	768.7	30.28	769.1	41.5	5.3	71	NNE			3		0			0	0		A. Lothes.
Posen	29.96	761.0	30.26	768.5	49.1	9.5	52	N			6		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.65	753.1	30.21	767.3	51.3	10.7	39	NE			4		4	NE		0	0		Imp. University Observatory.
Stuttgart	29.21	742.0	30.17	766.2	49.5	9.7	39	E			3		7	E		0	0		Prof. Schoder.
Treves (Trier)	29.67	753.7	30.20	767.1	53.8	12.1	37	NE			3		7			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.65	727.8	30.19	766.8	46.9	8.3	43	ENE	11	5			7ck		NE	0	0		Dr. Van Bebber.
Wustrow	30.28	769.0	30.30	769.6	48.7	9.3	45	N			1		5s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.9	30.07	763.7	69.6	20.9		SW			1.0							Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.62	752.2	29.66	753.5	90.5	32.5	36	SW					0			0	0	Blue sky	
Deesa					102.0	38.9	12	W	7.5	3.4			0			0	0	Blue sky	
Bombay	29.68	753.9	29.72	754.8	84.9	29.4	77	WNW	12.0	5.4			0			0	0	Blue sky	
Poona	27.76	705.2	29.69	754.2	94.2	34.6	33	NW					0			0	0	Blue sky	
Lahore	28.85	732.7	29.55	750.7	101.2	38.4	16	W	2.5	1.1			0			0	0	Blue sky	
Belgaum	27.24	691.8	29.73	755.1	83.7	28.7	75	W	20.0	8.9			1	E	E	0	0	D. clouds	
Roorkee	28.70	728.9	29.55	750.6	99.9	37.7	11	W	3.0	0.9						0	0	Blue sky	
Agra	29.03	737.4	29.56	750.9	104.6	40.3	15	W					0			0	0		
Nagpur	28.58	726.0	29.57	751.2	104.5	40.3	17	Calm	3.1	1.4			2	SE		0	0	D. clouds	
Lucknow	29.22	742.3	29.58	751.4	106.0	41.1	17	NNE	1.0	0.4			0			0	0	Blue sky	
Allahabad	29.23	742.3	29.52	749.8	105.1	40.6	12	NW	1.9	0.8			0			0	0	Blue sky	
Patna	29.36	745.8	29.54	750.2	100.0	37.8	23	W	0.6	0.3			2	W	W	0	0		
Hazaribagh	27.60	701.0	29.53	750.0	96.3	35.7	20	NW	6.5	2.9			1			0	0	D. clouds	
Cuttack	29.55	750.6	29.63	752.6	88.4	31.3		S	9.0	4.0			4			0	0	Thunder	
Calcutta (Alipore)	29.61	752.0	29.63	752.6	86.0	30.0	78	SSW	15.0	6.7			6	S		0	0	D. clouds	
Goalpara	29.25	743.0	29.65	753.0	73.8	23.2	75	ENE	4.2	1.9			10		SW	0.04	1.0	D. clouds	
Chittagong	29.62	752.4	29.71	754.7	85.2	29.6	81	S	7.9	3.5			3			0	0	Misty	
Sibsagar	29.33	744.9	29.66	753.4	82.2	27.9	76	SE	1.7	0.8			10	W	W	0	0	D. clouds	
Jubbulpore	28.25	717.6	29.55	750.6	102.7	39.3	14	NW	5.4	2.4			4		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.6	29.88	759.0	54.5	12.5	47	E	1.8	0.8			10			0	0		Prof. Giovanni Clodig.
Milan	29.36	745.6	29.87	758.8	57.6	14.2	46	SSW			2		8	SSW		0	0		Prof. Schiaparelli.
Padua	29.76	756.0	29.87	758.7	53.1	11.7	57	NE	21.7	9.7			10			0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.97	735.8	29.87	758.8	50.2	10.1	63	ESE	4.3	1.9			10			0	0		Prof. P. F. Denza.
Genoa	29.64	752.9	29.83	757.7	53.8	12.1	45	N	9.8	4.4			10	NE		0.043	1.1		Prof. G. M. Garibaldi.
Mondovi	27.97	710.5	29.89	759.1	45.9	7.7	72	W			4		10			1.839	46.7		Prof. D. C. Bruno.
Pesaro	29.62	752.3	29.67	753.5	49.5	9.7	83	SW	13.0	5.8			10			1.378	35.0		Prof. Luigi Guidi.
Florence	29.48	748.7	29.73	755.2	51.3	10.7	72	NE			4		10	NE		0.480	12.2		Cav. F. Meucci
Leghorn	29.62	752.3	29.71	754.5	52.3	11.3	72	ENE			4		10			0.539	13.7		Prof. P. Monte.
Rome	29.54	750.4	29.72	754.9	57.4	14.1	63	S	11.2	5.0			8			1.189	30.2		Prof. P. S. Ferrari.
Lecce	29.65	753.0	29.90	759.4	60.8	16.0	79	WSW	31.1	13.9			10	S		0.209	5.3		Prof. C. De Giorgi.
Cosenza	29.04	737.6	29.93	760.1	55.0	12.8	72	NW	0	0			10			0.476	12.1		Prof. D. Conti.
Cagliari	29.73	755.2	29.93	760.1	60.6	15.9	50	NW			4		5	NW		0.020	0.5		Prof. A. Pacinotti.
Palermo	29.63	752.7	29.89	759.1	59.7	15.4	59	WSW	4.9	2.2			10	WSW		0.004	0.1		Prof. G. Cacciatore.
Syracuse	29.78	756.4	29.85	758.3	68.2	20.1	64	W	13.7	6.1			10	S		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.27	743.4	29.82	757.5	57.2	14.0	53	SW	7.4	3.3			7			0.268	6.8		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.80	756.9	29.81	757.2	59.7	15.4	83	NNE	6.8	3.0			0			0*	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.65	753.1	29.85	758.2	55.1	12.8	92	N	0.9	0.4			0			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.73	755.1	29.80	756.9	62.0	16.7	94	SSW	5.8	2.6		2ck	8s	S	S	0.130	3.30	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.0	30.17	766.4	46.8	8.2	48	SW			1	0	3		SW	0	0	Clear	Prof. L. Perez.
Leon	24.42	620.2	30.05	763.3	62.6	17.0	57	S			1	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.07	585.9	30.11	764.8	52.2	11.2	44	Calm	0.	0		1c	0			0	0	Very hazy	The Staff.
Pabellon, (Aguascalientes)					61.9	16.6	39	Calm			0	2c	0	WSW		0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.8	29.89	759.1	73.4	22.9	90	S			1	0	0			0	0	Foggy	M. M. Chàzaro.
San Luis Potosi	24.17	614.0	30.05	763.2	64.0	17.8	68	SW			1	3	0	W				Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.1	30.00	761.9	65.5	18.6	34	Calm			0	2c	0			0	0	Clear	J. C. Castrillon.
Puebla, (Catholic Institute)	23.41	594.5	30.17	766.3	47.1	8.4	43	N	1.3	0.6		0	0			0	0	Fine	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.37	720.6	30.02	762.5	74.8	23.8	64	NE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	30.40	772.2	30.40	772.2	48.2	9.0		N								0	0		
Helder	30.32	770.2	30.38	771.6	48.7	9.3		N			1					0	0		
Hellevoetsluis	30.39	771.8	30.39	771.8	44.6	7.0		N			4					0	0		
Utrecht	30.37	771.5	30.37	771.5	52.0	11.1	62	N			3					0	0		
	29.92	760.0	30.36	771.2	51.3	10.7	60	NE			4		2			0	0	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	30.30	769.6	30.35	771.0	51.1	10.6	61	WNW	10.3	4.6			0			0	0		
Brönno	30.15	765.7	30.19	766.7	41.0	5.0	72	SSW	18	8			10			0	0		
Christiania	30.10	764.6	30.25	768.3	61.3	16.3	36	SW	7	3			7			0	0		
Tromsö	30.07	763.8	30.11	764.9	38.5	3.6	73	Calm	0	0			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.68	753.8	29.87	758.7	62.2	16.8	78	WNW	10.5	4.7			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.08	738.7	30.11	764.7	63.5	17.5	30	E	15.0	6.7			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.80	756.9	29.89	759.1	69.8	21.0	63	SE	8.1	3.6			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.0	30.04	763.0	68.4	20.2	34	ENE	26.2	11.7			1	W		0	0		The Staff.
Ponta Delgada (Azores)	29.87	758.6	29.94	760.4	69.1	20.6	58	W	7.4	3.3			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias, N. 33° 50′, W. 17° 00′			29.94	760.5	68.7	20.4		E			3		5		E	2	NE	D. clouds	A. G. da Silva Costa, Com'd.t. A.M.de Sande, Com'd't.
D. Fernando																			C.C.da Fonseca Ferreira, Comd't.
Duque da Terceira, Porto de Bulama, Senegambia			30.03	762.8	85.1	29.5		Calm			0		8			1		D. clouds	A. D. Pedroso, Com'd't.
India																			J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, S. 8° 41′ 45,″ E. 12° 46′ 09″			29.86	758.5	83.8	28.8		NW			1		10		ESE	1	NW	Overcast	A.J.de Mattos, Com'd't. J.T.d'Oliveria, Com'd't.
Rio Douro																			
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.93	760.2	82.4	28.0		NW			1		8		NW	0		Misty.	A. Ferreira, 2d Lt. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo. Macao, China			29.81	757.1	72.5	22.5		E			4		10		W	2	SE	Raining	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.74	755.5	30.18	766.5	45.7	7.6	79	Calm	0	0			10ks						Astronomical Obs.
Wilna	29.69	754.0	30.12	765.0	43.9	6.6	71	NW	7	3			10					Heavy clouds	Astronomical Obs.
Dorpat	29.82	757.5	30.07	763.8	47.7	8.7	46	NW	7	3			5k						Prof. Dr. Weihrauch.
St. Petersburg	29.97	761.3	29.99	761.7	45.7	7.6	47	NW	13	6			2cs;ks						Central Physical Obs.
Kieff	29.34	746.2	29.97	761.2	56.1	13.4	51	N	7	3			10c;ks						Physical Cabinet.
Nikolaiev	29.92	759.9	29.99	761.7	60.3	15.7	68	SSW	18	8			8n						Kurdakof.
Kertch	30.06	763.6	30.08	764.1	65.1	18.4	92	SSW	7	3			5						Lagorio.
Moscow	29.36	745.8	29.91	759.8	52.5	11.4	60	N	7	3			8ks						Meteorological Obs.
Lugan	29.56	750.9	29.76	755.9	73.9	23.3	45	W	22	10			6						Meteorological Obs.
Archangel	29.95	760.7	29.97	761.2	48.0	8.9	65	Calm	0	0			3cs						Capt. Sselliwerstow.
Tiflis	28.53	724.6	29.85	758.3	90.0	32.2	23	Calm	0	0			0						Physical Observatory.
Astrakhan	29.90	759.5	29.82	757.4	80.4	26.9	47	SSW	7	3			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.61	752.2	29.89	759.1	47.5	8.6	79	Calm	0	0			10						Physical Cabinet.
Ekaterinburg	29.03	737.4	30.02	762.6	33.6	0.9	96	Calm	0	0			10					Foggy	Meteorological Obs.
Nukuss	29.84	757.9	30.06	763.5	86.9	30.5	42	N	4	2			1c						
Tashkend	28.43	722.1	29.94	760.4	75.9	24.4	51	Calm	0	0			2						Teich, A. M.
Barnaul	29.47	748.5	29.98	761.4	43.0	6.1	42	SE	0	0			10						Meteorological Obs.
Yeniseisk	29.83	757.7	30.13	765.4	31.8	— 0.1	64	NNW	13	6			6						Marks.
Irkutsk																			
Peking (China)	29.61	752.2	29.76	755.8	60.3	15.7	51	SE	4	2			6k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.50	749.4	29.60	751.9	47.3	8.5	99	SW	4	2			6k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.88	758.9	29.98	761.6	62.6	17	40	SSE	3.5	1.58			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.22	767.5	30.27	768.9	59.0	15.0	59	NW	2.1	0.95		3	2	E		0.189	4.8	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.26	692.4			47.5	8.6	47	NE	10.9	4.88			0			0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Oservatory	27.89	708.5			59.5	15.3	36	NE	11.2	5.00		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.91	759.8	30.06	763.6	69.8	21.0	25	NW	5.6	2.5			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.3	30.07	763.8	64.4	18.0	46	SE	7.4	3.3			1			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.3	76.9	24.9	78	E	1.8	0.8		1c	1k	ENE	E	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.75	755.7	29 80	757.0	86.0	30.0	75	SW	4.9	2.2			1k		E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.6	30.00	762.1	69.4	20.8	35	ESE	22.3	9.9		3	6	W	E				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.89	759.1	29.98	761.4	80.2	26.8	78	SE	0	0		8ks	5kn			0.256	6.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	L w'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.92	759.9	29.96	760.9	39.9	4.4	.....	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.04	763.1	30.10	764.4	43.9	6.6	51	N	.....	.....	2	.....	7	.....	.....	0	0	.....	
Hernosand	30.04	763.0	30.09	764.3	51.1	10.6	72	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	30.01	762.2	30.19	766.7	50.2	10.1	34	NNW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	30.11	764.9	30.17	766.4	42.8	6.0	67	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.09	764.3	30.17	766.2	52.5	11.4	37	WNW	11.2	5.0	.....	.....	8	.....	N	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.57	725.7	30.02	762.4	47.7	8.7	57	NNE	.....	.....	9	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.46	722.9	30.12	765 1	46.8	8.2	57	E	.....	.....	2	.....	10	.....	NE	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +1.2 mm.; Thermometer,—6.0 Cent.; Relative Humidity, —1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.08	763.9	68.0	20.0	51	ENE	8	3.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.08	764.0	98.6	37.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.3	69.4	20.8	.....	S	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.80	756.9	29.91	759.6	77.0	25.0	80	NE	.....	.....	1	.....	7ck	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.70	754.4	29.77	756.1	39.0	3.9	96	W	2	0.9	.....	.....	.....	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.61	752.1	29.92	760.0	45	7.2	.....	SW	5	2.2	.....	0	5s	.....	W	0	0	Fair	W. R. Bigg
*Chatham, N. B	29.73	755.1	29.79	756.7	45	7.2	61	N	6	2.7	.....	5k	5ks	N	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.73	755.1	29.77	756.1	42	5.6	97	S	3	1.3	.....	.....	10n	.....	.....	0.155	3.94	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.84	757.9	42.4	5.8	74	NE	.....	.....	1	.....	8s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.88	757.7	35.5	1.9	.....	W	.....	.....	1	.....	10ks	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.03	762.8	48.3	6.3	92	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.79	756.7	29.81	757.2	38	3.3	89	W	12	5.4	.....	5k	5ks	W	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.76	755.9	29.82	757.4	42.5	5.8	63	NW	5	2.2	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.88	733.5	29.70	754.4	45	7.2	76	E	15	6.7	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.88	733.5	30.00	762 0	43	6.1	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.62	752.3	29.75	755.6	43	6.1	93	NW	6	2.7	.....	.....	10n	.....	NW	0.332	8.43	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.62	752.3	29.99	761.7	47.5	8.6	64	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.93	760.2	40	4.4	81	S	6	2.7	.....	8ck	0	SW	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.72	754.9	29.76	755.9	35.2	1.8	98	S	4	1.8	.....	.....	Fog	.....	.....	0.21	5.3	Rain & fog	C. H. Rigby.
Moose Factory, Ontario	29.93	760.2	29.95	760.7	29.0—	1.7	91	W	.....	.....	3	.....	10	.....	.....	0.10	2.5	Light snow	J. R. Nason.
*Montreal, Quebec	29.67	753.6	29.87	758.7	42	5.6	70	SW	5	2.2	.....	5ck	0	W	.....	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.23	742.4	29.94	760.5	39	3.9	82	W	6	2.7	.....	2ck	0	W	.....	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.16	740.7	29.92	760.0	45.7	7.6	53	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	30.00	762.0	42	5.6	91	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.70	754.4	29.75	755.6	39.8	4.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0.30	7.6	Raining	Peter Grant.
Port Stanley, Ontario	29.34	745.2	30.00	762.0	41	5.0	81	W	6	2.7	.....	5ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.51	749.5	29.84	757.9	38	3.3	63	NW	.....	.....	3	2c	2s	NW	NW	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.86	758.4	37	2.8	76	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.78	755.1	29.78	756.4	42	5.6	65	N	.....	.....	1	2k	2ks	NW	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.62	752.3	29.79	756.7	42	5.6	83	S	5	2.2	.....	5ck	0	.....	.....	0.21	5.3	Clearing	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.95	760.7	45	7.2	60	SW	14	6.3	.....	5cs	0	.....	.....	0	0	Fair	K. Stewart.
Stayner, Ontario	29.14	740.1	29.92	760.0	46	7.8	77	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	R. J. Cole.
Stratford, Ontario	28.68	728.5	29.98	761.5	40.2	4.6	69	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	C. J. MacGregor, M. A.
*Sydney, C. B	29.73	755.1	29.77	756.1	41	5.0	95	NE	4	1.8	.....	.....	10n	.....	.....	0.03	0.8	Light rain	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.98	761.5	44	6.7	52	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.67	753.6	29.77	756.1	44.0	6.7	92	W	3	1.3	.....	8k;cs	0	.....	.....	0.15	3.8	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	29.98	761.5	53.0	11.7	.....	S	.....	.....	.....	.....	.....	.....	.....	0	0	Overcast	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.75	755.6	29.98	761.5	48	8.9	49	S	4	1.8		1c	0	Calm		0	0	Clear	
Alpena, Michigan	29.29	744.0	29.94	760.5	46	7.8	47	NW	3	1.3		0	2s		W	0	0	Clear	
Atlanta, Georgia	28.94	735.1	30.10	764.5	51	10.6	33	N	7	3.1		0	Haze		Calm	0	0	Hazy	
Atlantic City, New Jersey	30.08	764.0	30.10	764.5	49	9.4	51	W	6	2.7		0	0			0	0	Clear	
Augusta, Georgia	29.95	760.7	30.13	765.3	57	13.9	58	SE	1	0.4		0	0			0	0	Clear	
Baltimore, Maryland	30.06	763.5	30.11	764.8	49	9.4	44	NW	4	1.8		2c	Haze	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	30.03	762.8	30.06	763.5	54	12.2	43	W	8	3.6		0	0			0	0	Clear	
Bismarck, Dakota	27.58	700.5	29.44	747.8	54	12.2	93	E	10	4.5			10s		SE	0.11	2.8	Cloudy	
Boerne, Texas	28.43	722.1	29.70	754.4	67	19.4	89	S	9	4.0			10s		S	0	0	Cloudy	
Boise City, Idaho	27.38	695.4	30.34	770.6	32	0.0	69	SE	2	0.9		2cs	0	W		0	0	Fair	
Boston, Massachusetts	29.77	756.1	29.92	760.0	46.5	8.1	51	NW	7	3.1		1k	0	Calm		Inap.	Inap.	Clear	
Brackettville, Texas	28.69	728.7	29.68	753.9	68	20.0	90	E	4	1.8			10s		Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.52	724.4	29.48	748.8	49	9.4	71	SE	30	13.4			10ks		W	0.13	3.3	Cloudy	
Brownsville, Texas	29.82	757.4	29.86	758.4	79	26.1	70	SE	8	3.6		0	0			0	0	Clear	
Buffalo, New York	29.26	743.2	29.97	761.2	39	3.9	68	SW	7	3.1		1ck	Haze	W	Calm	0	0	Clear	
Burkes, Arizona					68	20.0	18	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.62	752.3	29.91	759.7	43	6.1	70	S	3	1.3		0	2ks		Calm	0	0	Fair	
Cairo, Illinois	29.63	752.6	30.01	762.2	59	15.0	59	S	7	3.1		5ck	0	NW		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.13	638.3	29.93	760.2	62	16.7	32	W	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona	26.61	675.9	29.95	760.7	55	12.8	39	W			1		10s		Calm	0	0	Cloudy	
Campo, California	27.42	696.5	29.99	761.7	36	2.2	71	NE	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	57	13.9	63	NE	6	2.7		0	0			0	0	Clear	
Cape Henry, Virginia	30.10	764.5	30.12	765.0	53	11.7	54	N	8	3.6		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.07	763.8	30.08	764.0	63	17.2	67	SW	8	3.6		0	0			0	0	Clear	
Cape May, New Jersey	30.01	762.2	30.04	763.0	48	8.9	56	W	10	4.5		0	0			0	0	Clear	
Castroville, Texas	29.10	739.1	29.78	756.4	71	21.7	80	S	6	2.7			10ks		S	0	0	Cloudy	
Charleston, South Carolina	30.04	763.0	30.09	764.3	61	16.1	66	N	4	1.8		0	Fog		Calm	0	0	Clear	
Cheyenne, Wyoming	23.86	606.0	29.80	756.9	42	5.6	Inap.	NW	16	7.2		0	0			0	0	Clear	
Chicago, Illinois	29.23	742.4	29.94	760.5	49	9.4	64	SE	5	2.2		10cs	0	W		Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.41	747.0	30.06	763.5	48	8.9	63	SE	4	1.8		10k	0	NW		0	0	Cloudy	
Cleveland, Ohio	29.31	744.5	30.04	763.0	45	7.2	53	S	6	2.7		0	Sm'e		Calm	0	0	Clear	
Coleman City, Texas	27.98	710.7	29.58	751.3	65	18.3	73	S	10	4.5		0	8s		W	0	0	Fair	
Columbus, Ohio	29.19	741.4	30.03	762.8	48	8.9	56	E	3	1.3		8k	Sm'e	NE	Calm	0	0	Fair	
Concho, Texas	27.84	707.1	29.42	747.2	69	20.6	80	SW	16	7.2		0	0			0	0	Clear	
Corsicana, Texas	29.41	747.0	29.86	758.4	69	20.6	90	S	7	3.1			10s		S	0.02	0.5	Cloudy	
Davenport, Iowa	29.20	741.7	29.83	757.7	50	10.0	65	E	9	4.0			10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.09	637.3			40	4.4	56	SW	4	1.8		0	0			0	0	Clear	
Decatur, Texas	28.57	725.7	29.68	753.9	70	21.1	80	S	24	10.7		5ck	0	S		0	0	Fair	
Denison, Texas	29.03	737.3	29.79	756.7	67	19.4	95	S	12	5.4			10ks		S	0	0	Cloudy	
Denver, Colorado	24.47	621.5	29.69	754.1	61	16.1	17	NW	20	8.9		0	0			0	0	Clear	
Des Moines, Iowa	28.81	731.8	29.66	753.4	58	14.4	64	SE	6	2.7			10s		SW	0	0	Cloudy	
Detroit, Michigan	29.33	745.0	30.01	762.2	42	5.6	66	SW	5	2.2		0	Sm'e		Calm	0	0	Clear	
Dodge City, Kansas	26.95	684.5	29.69	737.9	64	17.8	83	S	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.14	740.1	29.83	757.7	51	10.6	53	SE	8	3.6			10s		SE	0.01	0.3	Cloudy	
Duluth, Minnesota	29.14	740.1	29.82	757.4	43	6.1	67	NE	5	2.2			10s		Calm	0	0	Cloudy	
Eagle Pass, Texa	29.08	738.6	29.76	755.9	70	21.1	85	SE	2	0.9		5ck	0	Calm		0	0	Fair	
Eastport, Maine	29.72	754.9	29.79	756.7	41	5.0	65	NW	8	3.6		10k	0	Calm		0	0	Cloudy	
Edinburg, Texas					72	22.2	90	S			1	0	0			0	0	Clear	
El Paso, Texas	26.06	661.9			69	20.6	19	NW	8	3.6		2k	0	NW		Inap.	Inap.	Fair	
Erie, Pennsylvania	29.29	744.0	30.01	762.2	46	7.8	54	W	12	5.4		0	0			0	0	Clear	
Escanaba, Michigan	29.26	743.2	29.92	760.0	42	5.6	74	NE	1	0.4		0	Haze		Calm	0	0	Clear	
Florence, Arizona	28.50	718.8	29.90	759.4	69	20.6	16	SW	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.43	696.7			45	7.2	84	NW	28	12.5			10n		NW	0.29	7.4	Light rain	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.08	637.0	30.04	763.0	68	20.0	22	S	5	2.2			10s		S	0.02	0.5	Cloudy	
Fort Gibson, Indian Ter	29.24	742.7	29.74	755.4	64	17.8	63	S	18	8.0			10s		S	0	0	Cloudy	
Fort Griffin, Texas	28.45	722.6	29.66	753.4	68	20.0	84	S	8	3.6		0	0			0	0	Clear	
Fort Keogh, Montana	27.11	688.6			42	5.6	100	NW	29	13.0			10n		Calm	0.06	1.5	Light rain	
Fort McKavett, Texas	27.52	699.0	29.35	745.5	67	19.4	79	S	16	7.2		0	8s		S	0	0	Fair	
Fort St. Michael, Alaska	30.00	762.0	30.04	763.0	6	—14.4	100	W	3	1.3			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.46	722.9	29.51	749.5	67	19.4	89	S	16	7.2		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.54	699.5			53	11.7	86	SE	15	6.7			10n		Calm	0.66	16.8	Light rain	
Fredericksburg, Texas	28.17	715.5	29.64	752.8	79	26.1	43	N	5	2.2			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.90	759.4	29.94	760.5	74	23.3	81	SE	12	5.4		0	8s		S	0	0	Cloudy	
Graham, Texas	28.75	730.2	29.76	755.9	69	20.6	90	S	8	3.6		0	0			0	0	Clear	
Grand Haven, Michigan	29.32	744.7	29.98	761.5	44	6.7	60	E	2	0.9		0	0			0	0	Clear	
Indianapolis, Indiana	29.14	740.1	29.91	759.7	53	11.7	48	SE	4	1.8			10s		Calm	0	0	Cloudy	
Indianola, Texas	29.91	759.7	29.93	760.2	76	24.4	77	S	9	4.0		5c	2s	NW	S	0	0	Fair	
Jacksboro, Texas	28.60	726.4	29.68	753.9	69	20.6	80	SE	16	7.2		0	0			0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.07	763.8	67	19.4	74	NE	3	1.3		0	0			0	0	Clear	
Keokuk, Iowa	29.15	740.4	29.74	755.4	60	15.6	55	S	9	4.0			10s		W	Inap.	Inap.	Cloudy	
Key West, Florida	29.99	761.7	30.02	762.5	76	24.4	77	N	9	4.0		5k	0	NE		0	0	Fair	
Kittyhawk, North Carolina	30.06	763.5	30.09	764.3	53	11.7	61	NE	20	8.9		0	0			0	0	Clear	
Knoxville, Tennessee	29.13	739.9	30.16	766.1	44.5	6.9	68	N	3	1.3		0	Haze			0	0	Foggy	
La Crosse, Wisconsin	29.07	738.4	29.79	756.7	54	12.2	49	SE	4	1.8			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.92	658.4	30.07	763.8	51	10.6	34	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.45	748.0	29.77	756.1	76	24.4	52	SE	4	1.8		2c	0	W		0	0	Clear	
Leavenworth, Kansas	28.76	730.5	29.57	751.1	59	15.0	59	S	18	8.0			10s			0	0	Cloudy	
Los Angeles, California	29.56	750.8	29.89	759.2	57.5	14.2	81	NE	4	1.8			10s		Calm	0	0	Cloudy	
Louisville, Kentuckey	29.46	748.3	30.02	762.5	54	12.2	49	S	4	1.8		2ck	5s	N	Calm	0	0	Fair	
Lynchburg, Virginia	29.44	747.8	30.13	765.3	52	11.1	53	Calm	0	0		0	0			0	0	Clear	
Madison, Wisconsin	28.89	733.8	29.86	758.4	52	11.1	47	SE	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.19	741.4	29.89	759.2	45	7.2	61	Calm	0	0		5k	0	SE		0	0	Fair	
Mason, Texas	28.20	716.3	29.89	759.2	68	20.0	74	S	7	3.1		8cs	0	W		0	0	Fair	
Memphis, Tennessee	29.72	754.9	30.03	762.8	59	15.6	48	SE	8	3.6		5ck	0	W		0	0	Fair	
Milwaukee, Wisconsin	29.19	741.4	29.92	760.0	45	7.2	52	S	5	2.2			10s		W	0	0	Cloudy	
Mobile, Alabama	30.03	762.8	30.07	763.8	60	15.6	57	N	3	1.3		0	0			0	0	Clear	
Montgomery, Alabama	29.90	759.4	30.13	765.3	55	12.8	62	N	2	0.9		0	Sm';bz		Calm	0	0	Clear	
Morgantown, West Virginia	28.99	736.3	30.07	763.8	42	5.6	74	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	23.46	595.9	29.82	757.4	17	— 8.3	100	NW	42	18.8			10n		NW	0.01	0.3	Light snow.	
Nashville, Tennessee	29.55	750.6	30.08	764.0	56	13.3	57	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.87	758.7	29.98	761.5	52	11.1	57	NW	6	2.7		0	0			0	0	Clear	
New London, Connecticut	29.93	760.2	29.98	761.5	47	8.3	55	NW	11	4.9		0	0			0	0	Clear	
New Orleans, Louisiana	29.98	761.5	30.04	763.0	68	20.0	84	E	5	2.2		0	0			0.82	20.8	Clear	
Newport, Rhode Island	29.90	759.4	29.95	760.7	47	8.3	48	W	10	4.5		0	0			0	0	Clear	
New York, New York	29.87	758.7	30.05	763.3	44	6.7	53	W	5	2.2		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.04	763.0	30.10	764.5	54	12.2	49	N	8	3.6		Haze	0	Calm		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.67	677.4	29.09	738.9	60	15.6	24	N	40	17.9		5ck	2s	SW	N	0	0	Fair	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	44.2	6.8	92	S	6	2.7			9n		S	0.38	9.7	Light rain	
Omaha, Nebraska	28.37	720.6	29.40	746.7	61	16.1	61	SE	14	6.3			10s		S	0	0	Cloudy	
Oswego, New York	29.66	753.4	29.98	761.5	45	7.2	61	SW	6	2.7		5c	0	NW		0	0	Fair	
Pembina, Dakota	28.81	731.8	29.62	752.3	48	8.9	70	E	14	6.3			10s;hz		Calm	0	0	Cloudy	
Philadelphia, Pa	30.02	762.5	30.07	763.8	48	8.9	56	NW	19	8.5		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28.59	726.2	30.33	770.4	66	18.9	32	Calm	0	0		0	Haze		Calm	0	0	Hazy	
Pike's Peak, Colorado	17.69	449.3	29.90	759.4	22	— 5.6	32	W	28	12.5		0	0			0	0	Clear	
Pioche, Nevada	24.06	611.1	29.83	757.7	32	0.0	40	N	10	4.5		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.26	743.2	30.09	764.3	38	3.3	81	Calm	0	0		0	Fog		Calm	0	0	Foggy	
Port Huron, Michigan	29.51	744.5	29.98	761.5	46	7.8	62	SW	4	1.8		0	0			0	0	Clear	
Portland, Maine	29.83	757.1	29.88	758.9	45	7.2	68	N	4	1.8		10k	0	Calm		0	0	Cloudy	
Portland, Oregon	30.18	766.6	30.29	769.4	46.5	8.1	69	SW	13	5.8			10s		SW	0.12	3.0	Cloudy	
Prescott, Arizona	24.58	624.3	29.94	760.5	45	7.2	53	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.09	738.9	29.92	760.0	68	20.0	56	SE	12	5.4		0	2s		SE	0	0	Fair	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	70	21.1	75	NE	8	3.6		0	0			0	0	Clear	
Red Bluff, California	29.82	757.4	30.18	766.6	48	8.9	45	NW	15	6.7		0	0			0	0	Clear	
Rio Grande City, Texas	29.68	753.9	29.89	759.2	71	21.7	80	E			1	0	0			0	0	Clear	
Rochester, New York	29.36	745.7	29.98	761.5	40	4.4	73	W	6	2.7		0	Haze			0	0	Clear	
Roseburg, Oregon	29.79	756.7	30.39	771.9	35.5	1.9	97	Calm	0	0		5ck	2s	SW	SW	0.12	3.0	Fair	
Sacramento, California	29.97	761.2	30.06	763.5	56	13.3	51	N	25	11.2		0	0			0	0	Clear	
St. Louis, Missouri	29.34	745.2	29.90	759.4	60	15.6	44	S	12	5.4		8ck	2s	SW	Calm	0	0	Cloudy	
St. Marks, Florida	30.06	763.5	30.08	764.0	60	15.6	60	N	4	1.8		0	0			0	0	Clear	
St. Paul, Minnesota	28.87	733.3	29.68	753.9	52	11.1	53	SE	18	8.0			10n		S	Inap.	Inap.	Light rain	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	39	3.9	31	Calm	0	0		7k	0	NW		0	0	Fair	
San Antonio, Texas	29.20	741.7	29.76	755.9	73	22.8	72	SE	4	1.8			10ks		SE	0	0	Cloudy	
San Diego, California	29.84	757.9	29.90	759.4	57	13.9	81	SE	6	2.7			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.38	746.2	30.06	763.5	46	7.8	54	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Sandy Hook, New Jersey	30.00	762.0	30.03	762.8	52	11.1	47	SW	8	3.6		0	Haze		Calm	0	0	Clear	
San Francisco, California	30.06	763.5	30.12	765.0	50	10.0	68	W	8	3.6		0	0			0	0	Clear	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	50	10.0	26	E	4	1.8		0	0			0	0	Clear	
Savannah, Georgia	30.02	762.5	30.11	764.8	63	17.2	89	N	1	0.4		0	Fog		Calm	0	0	Clear	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	62	16.7	88	SE	4	1.8			10s		Calm	0	0	Cloudy	
Silver City, New Mexico	24.21	614.9	30.20	767.1	59	15.0	18	NW	2	0.9		0	0			0	0	Clear	
Smithville, North Carolina	30.08	764.0	30.11	764.8	59	15.0	82	N	4	1.8		0	Haze		Calm	0	0	Clear	
Springfield, Massachusetts	29.82	757.4	29.95	760.7	46	7.8	62	W	2	0.9		0	8ks		W	0	0	Cloudy	
Stockton, Texas	26.74	679.2	29.74	755.4	76	24.4	38	SW	10	4.5			10ks		SW	0	0	Cloudy	
Thatcher's Island, Mass	29.85	758.2	29.91	759.7	45	7.2	68	W	14	6.3		0	0			0	0	Clear	
Toledo, Ohio	29.32	744.7	30.00	762.0	50	10.0	65	Calm	0	0		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.35	694.7	29.90	759.4	63	17.2	25	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.88	758.9	30.39	771.9	44.0	6.7	68	SW	12	5.4			10s		W	0.08	2.0	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.98	736.1	29.79	756.7	67	19.4	89	Calm	0	0			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	59	15.0	59	SE	6	2.7		0	0			0	0	Clear	
Virginia City, Montana	24.22	615.2	29.70	754.2	27	— 2.8	53	W	20	8.9			10s		W	0.05	1.3	Cloudy	
Visalia, California	29.67	753.6	30.05	763.3	45.8	7.7	77	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.	30.00	762.0	30.11	764.8	46	7.8	54	NW	5	2.2		1cs	Haze	W	Calm	0	0	Clear	
Wickenburg, Arizona					60	15.6	65	Calm			0	2cs	Haze	Calm	Calm	0	0	Fair	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	57	13.9	58	NE	1	0.4		0	Haze			0	0	Clear	
Winnemucca, Nevada	25.83	656.1	30.19	766.8	26	— 3.3	63	Calm	0	0		0	0			Inap.	Inap.	Clear	
Wood's Holl, Mass	29.90	759.4	29.94	760.5	45	7.2	68	NW	14	6.3			8ks		NW	0	0	Cloudy	
Yankton, Dakota	28.21	716.5	29.42	747.2	59	15.0	70	SE	15	6.7		5ck	2s	SW	SE	0	0	Cloudy	
Yuma, Arizona	29.57	751.1	29.73	755.1	66	18.9	36	NW	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.24	717.3	29.61	752.1	60	15.6	59												J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	78	25.6	72	Calm	0	0		0	4ks		E	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.23	640.8			68.0	20.0	83	Calm			0		10n			0.22	5.6		Thomas Herran.
Navassa, W. I	29.88	758.9	29.96	761.0	78	25.6		E								0.20	5.1	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	82	27.8	83	E			2	5k	6ks		E	0	0	¾ clouded	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.19	766.8	30.24	768.1	24.0	— 4.4	94	NE	14	6.3		5k	3s	NE	NE	0	0	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12‡	765.0‡			46	7.8	84	NW	8	3.6			0			0	0			Clear	
Navy Yard, Pensacola, Fla	30.10‡	764.5‡			64	17.8	94	NE	5	2.2			0							Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.82‡	757.4‡			64	17.8	89	Calm			0		10ks		SW	Slight	Slight			Gloomy	
Adams, Panama	29.88‡	758.9‡			81	27.2	91	Calm			0		10							Cloudy	
Alaska, Sitka, Alaska	29.60‡	751.8‡			34	1.1	90	SSE			2		10		NW	0.450	11.43			Snowing	
Alliance, Tunis, Africa	29.97‡	761.2‡			61	16.1	61	NW			3–4		7		NNW					Pleasant	
Ashuelot, Hong-Kong, China	29.88‡	758.9‡			75	23.9	86	ENE			3		8		Calm			Smooth		Misty	
Canonicus, New Orleans, La	30.01‡	762.2‡			67	19.4	95	SE			2		8		SE					Fair	
Colorado, New York, N. Y	30.05‡	763.3‡			49	9.4	57	SW	5	2.2			0			0	0			Hazy	
Constitution, N. 23° 22′, W. 45° 48′	30.13‡	765.3‡			75	23.9	90	NE			4		3		NE			Smooth	NE	Clear	
Despatch, Genoa, Italy	29.83‡	757.7‡			55	12.8	56	NNE			3		10		N	0	0	Smooth		Cloudy	
Enterprise, N. 38° 00′, W. 9° 39′ 15″	30.03‡	762.8‡			60	15.6	88	N			3		2		N;E			Smooth		Squally	
Franklin, Norfolk, Va	30.08‡	764.0‡			56	13.3	69	NNW	3.6	1.6			0			0	0			Clear.	
Hartford, Colonia, Uruguay *.	29.96‡	761.0‡			59	15.0	88	W			1		0			0	0			Clear	
Michigan, Erie, Pa					44	6.7	76	W			4		0			0	0			Clear	
Monongahela, Yokohama, Japan	29.78‡	756.4‡			67	19.4	84	N			0–1		10k			Very light	Very light			Overcast	
New Hampshire, Port Royal, S. C	30.08‡	764.0‡			67	19.4	84	Calm	0	0			2		Calm	0	0			Clear	
Onward, Callao, Peru †*.	30.08‡	764.0‡			63	17.2	94	WSW			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.80‡	756.9‡			62	16.7	83	SSE			2		0							Clear.	
Passaic, Washington, D. C					49	9.4	78	W			1		2							Clear	
Pensacola, Callao, Peru	29.95‡	761.5‡			62	16.7	100	S	3	1.3			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va	30.12‡	765.0‡			51	10.6	100	NE			2		0			0	0	Smooth		Clear	
Powhatan, Norfolk, Va	29.97‡	761.2‡			58	14.4	70	N			2		0			0	0			Clear	
Quinnebaug, N. 33° 30′, E. 23° 09′	30.80‡	764.0‡			69	20.6	70	ESE			1		6					Smooth		Clear	
Ranger, Amoy, China	29.85‡	758.9‡			72	22.2	80	SSE			2		2		Calm			Smooth		Clear.	
Richmond, Singapore, China	29.76‡	755.9‡			81	27.2	96	NW			1		5		NW	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.85‡	758.9‡			79	26.1	86	SE			1		0							Clear	
Santee, Annapolis, Md	30.10‡	764.5‡			52	11.1	47	NW			1		8?		W	0	0			Clear?	
Saratoga, N. 35° 51′, W. 27° 19′	29.97‡	761.2‡			66	18.9	68	NNW			4		5		SE	0	0	Mod'ate	NW	D. clouds	
St. Louis, League Island, Pa	30.09‡	764.3‡			51	10.6	65	NW	18	8.0			0			0	0			Clear	
Trenton, Genoa, Italy	29.85‡	757.7‡			55	12.8	50	N			4		10		NNE	0.01	0.3	Smooth		Cloudy	
Tuscarora, Port Sacrificios, Mex	29.92‡	760.0‡			76	24.4	73	Calm			0		0			0	0	Smooth		Hazy	
Vandalia, Kingston, Jamaica, W.I.	29.97‡	761.2‡			77	25.0	86	ESE			1		10					Smooth		Cloudy	
Wabash, Boston, Mass	29.93‡	760.2‡			44	6.7	68	NW	7	3.1			2			0	0			Light haze	
Wyoming, N. 37° 18′, E. 19° 39′	30.08‡	764.0‡			63	17.2	100	S			4		2		S			Mod'ate	S	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, Liverpool, Eng.....†*		30.34	770.6	56	13.3		E			1		0						Clear.	M. C. Miles.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S.S. City of Tokio, Capt. Maury, N. 23° 12′, E. 116° 22′		29.83‡	757.7‡	66	18.9		N			2		0			0	Mod'ate	NE	Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.08‡	764.0‡	55	12.8	68	NW			4		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.99‡	761.7‡				SSW			5–6		10		S				Squally	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kenn dy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 33° 02′, E. 162° 29′		30.08‡	764.0‡	66	18.9	94	NW			2		2c			0	Smooth		D. clouds	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 47° 52′, W. 31° 14′		30.12‡	765.0‡	59.0	15.0	82	NE			4		5				Smooth	NW	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 37° 30′, W. 70° 08′		30.07‡	763.8‡	55.5	13.1	65	NW			4		5		NW		Mod'ate	NW	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.28‡	769.1‡				NE			3		2		NE		Rough		Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N 50° 42,' W. 26° 05'		30.18‡	766.6‡	55	12.8	93	NE			6		5		NE	Mod'ate	Smooth		Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 34° 50,' W. 74° 19'		30.09‡	764.3‡	64	17.8	48	NNE	4	1.8			5k			0.09 in. or 2.3 mm.	Swell	ESE	D. clouds	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 25° 20', W. 67° 28'		29.81‡	757.2‡				Calm	0	0			5		NE	0	Smooth	E	Fair	Capt. George Gardner.

American S. S. Co. Marine Series.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Red Star Line Marine Series.

Allan Line Marine Series.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Marine Series. (Miscellaneous.)

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

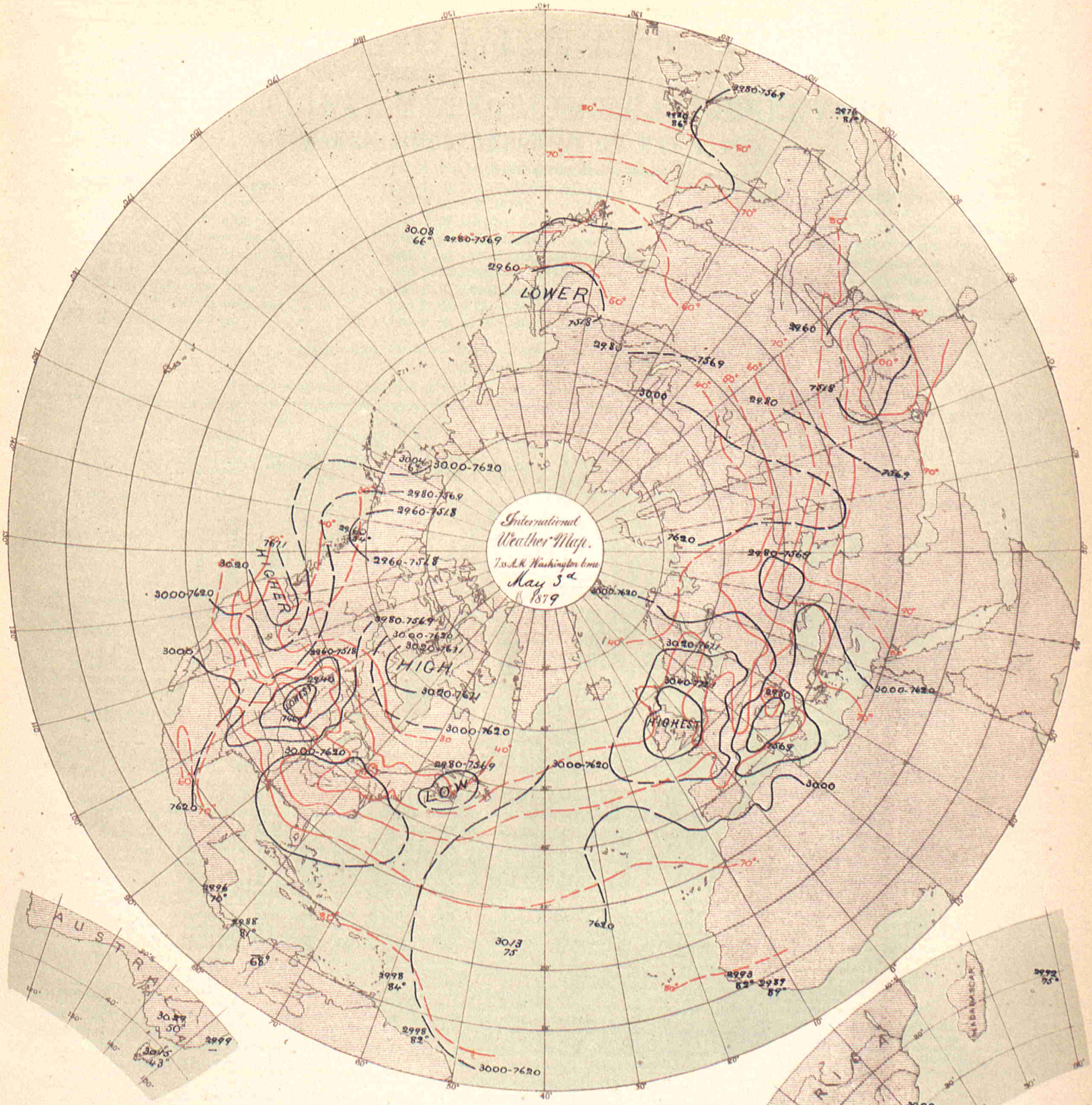
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 4, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M., WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.05	763.3	65.5	18.6	62	NW			1		10						
Algiers			30.07	763.8	62.2	16.8	58	NE			2		0			0	0	Covered	Kesxuche.
La Calle			30.08	764.1	61.9	16.6	73	WNW			4		5			0	0	Clear	Tourlliere.
Tunis																0.012	0.30	Cloudy	Foufrede.
Sfax																			Jacques.
Saida			30.12	765.0															Gau.
Tebessa			30.03	762.7	74.3	23.5	9	N			2		5			0	0	Cloudy	Herbin.
Geriville			30.11	764.9	59.5	15.3	29	W			3		0			0	0	Clear	Watrin.
Laghouat			30.01	762.2	57.6	14.2	55	N			1		5			0	0	Cloudy	Brugniaux.
Biskra			30.01	762.2	75.9	24.4	29	E			2		2			0	0	Fair	Bertrand.
			30.07	763.7	74.7	23.7	25	NW			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.33	745.0	29.88	758.9	54.0	12.2	72	NE			4		10			0.638	16.2	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.52	749.8	30.30	769.6	51.1	10.6	58	ENE			3		10			0	0		Dr. Wierzbiski.
Eperies	29.28	743.6	30.16	766.1	52.2	11.2	73	N			5		10s		S	0	0		Julius Mikolik.
Gratz	28.74	730.0	30.02	762.6	40.6	4.8	97	NW			4		10			0.402	10.2		Andreas Rospini.
Hermannstadt	28.58	725.9	29.96	761.1	68.2	20.1	51	SSW			5		3			0	0		Prof. A. Gottschling.
Kremsmünster	28.82	731.9	30.22	767.5	35.6	2.0	93	W			2		10			0.236	6.0		Prof. C. Wagner.
Lemberg	29.22	742.2	30.22	767.5	51.1	10.6	64	NE			1		10			0	0		Dr. T. Stanecki.
Pola	29.77	756.1	29.88	758.9	59.0	15.0	53	ESE			3		8			0.161	4.1		I.R.Hydrographic Office
Szatlmar	29.61	752.0	30.06	763.4	73.0	22.8	76	NE			2		4			0	0		Julius Csics, S. J.
Szegedin	29.65	753.0	29.92	759.9	64.2	17.9	63	Calm			0		10			0.522	13.25		Karl Stancel.
Trieste	29.83	757.7	29.93	760.3	51.6	10.9	62	ENE			2		10			0.220	5.6	Raining	P. Busin.
Vienna	29.39	746.4	30.11	764.9	47.8	8.8	84	N			2		10			0.748	19.0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cne.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 0:1, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	30.37	771.4	30.47	773.9	56.7	13.7		S	17	7.6			0			0	0	Blue sky	W. Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			30.57	776.5	56.0	13.3		W	5	2.2									S. Call.
Bidston (Liverpool Obs)			30.53	775.4	54.2	12.3		WNW	11	4.9			0					Blue sky	John Hartnup.
Bolton (Sharples)			30.50	774.7	58.6	14.8		NNW	6	2.7			3					Blue sky	Thomas Mackereth.
Bradford, Yorkshire																0	0		J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	82	27.8		SE			1		2					D. clouds	Pvt. G. Surgener, A. H.
Cambridge, Observatory			30.52	775.2	55.0	12.8		NE			1		0					Blue sky	H. Todd. [C.
Cardington			30.50	774.7	55.0	12.8		E			1		0					Blue sky	John McLaren.
Chatham, School M. E.	30.38	771.6	30.52	775.2	47.6	8.7		NE			1		1					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	30.52	775.2	30.57	776.5	51	10.6		N			3		0					Blue sky	J. Mac Gowan.
Dover	30.46	773.7	30.49	774.4	48	8.9		NE			5		1					¾ clouded	J. Costello.
Falmouth, Observatory	30.30	769.6	30.53	775.4	52.2	11.2		SE			1		1					D. clouds	The Staff.
Fort Napier (Natal)	27.73	704.3	30.04	763.0	69.4	20.8		SE			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.66	753.4	29.89	759.2	89	31.7		NW			1		3					D. clouds	
Galway, Queen's College			30.52	775.2	56	13.3		W			1		3					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.93	760.2	29.98	761.5	62.6	17.0		E			4		6					D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	30.32	770.1	30.52	775.2	58.3	14.6		WSW			4		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.52	775.2	30.53	775.4	46	7.8		NE			3		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.33	770.4	30.50	774.7	55.1	12.8		NE			1		0					Blue sky	The Staff, for G.B.Airy.
Guernsey	30.25	768.3	30.47	773.9	60	10.0		NNE			3		0					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.42	772.6	30.54	775.7	57	13.9		E			2		c			0	0	Fine	M. P. Moyle.
Holyhead	30.55	776.0	30.57	776.5	50	10.0		NNW			2		0					Blue sky	John Tilston.
Jersey	30.20	767.1	30.59	774.7	51.9	11.1		NNE			2		1					D. clouds	J. Fisher.
Kew, Observatory	30.46	773.7	30.50	774.7	51.5	10.8		NNE	10	4.5								Misty	The Meteorological Of.
Leicester, Museum.	30.25	768.3	30.51	774.9	53.5	11.9		NE			1							Blue sky	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.85	758.2	29.92	760.0	66	18.9		SW			1		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.34	770.6	30.44	773.2	58	14.4		WSW			3		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	78.5	25.8		NE			1		5			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.34	770.6	30.53	775.4	57.4	14.1		SE			1		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.98	761.5	30.51	774.9	56.0	13.3		NE			2		0					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.50	774.7	53	11.7		ENE			3		0					Blue sky	H. E. Bellamy.
Plymouth	30.42	772.6	30.50	774.7	56.8	13.2		S			3		1					Blue sky	John Merrifield.
Prince Town	29.01	736.8	29.52	749.8	48.0	8.9		NE			3		1					Fine	W. H. Tooker.
*Roche's Point	30.50	774.7	30.61	777.5	55	12.8		N			2		0					Clear	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			30.42	772.6	50.2	10.1		SW	11	4.9			10					Overcast	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.87	758.7	29.94	760.5	67.0	19.4		NE			2		1					Blue sky	Serg't W. H. Lyne.
Sheffield	30.25	768.3	30.53	775.4	57.4	14.1		NE			1		0			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.49	774.4	30.52	775.2	60.0	15.6	50	W			3		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	30.10	764.5	30.51	774.9	58.3	14.6		SW			1							Misty	Rev. S. J. Perry.
Stratfield, Turgiss	30.29	769.4	30.51	774.9	57.5	14.2		NE			2		0					Blue sky	Rev. C.H.Griffith, F.M.S.
Truro, Royal Institution	30.49	774.4	30.52	775.2	63	17.2		W			5		0					Blue sky	W. Newcombe.
Valencia, Observatory	30.54	775.7	30.57	776.5	53.3	11.8		NNW	8	3.6			3					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.87	758.7	29.91	759.7	76.4	24.7	54	S	8	3.6		10	8			0.220	5.59	Rainy	The Staff, for D. Gill.
Hobart Town (Tasmania).			30.22	767.6	48.0	8.9	93	S			2		10kn			0.08	2.0	Hazy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.51	774.9	59.1	15.1		NW			2	0	0			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.69	754.1	29.88	758.8	74.6	23.7	88	ENE	11.0	4.9		2	6	NNW	E	3.75	95.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.17	766.3	30.26	768.6	50.0	10.0	81	ESE	6	2.7			1			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.43	772.9	49	9.4		SSW			6		10			0	0		J. Youngclause.
North Unst (Shetland Is.)			30.25	768.3	46	7.8		SW			6		10						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series.

Vessels.	Sea or swell. Height scale 0-9	Direction from—	Weather	Observer
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
Brig Alliance				Capt. W. Sco
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore, N. 41° 45′, W. 46° 50′				
—— City of Agra,	2	SW	D. clouds	Capt. J. W. Thorne.
Barque Commewyne				Capt. Thos. Young.
Barque Fedalma				Capt. A. Buchan.
Barque Mertole.				Capt. H. L. Fox.
S. S. Nizam				Capt. E. W. Turner.
S. S. Strathleven,				Capt. Barlow.
S. S. Wyberton				Capt. C. W. Pearson.
				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	*Observer
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2	29.95	760.7	68.9	20.5	97	Calm					10s		NE	0.5	13.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches for an altitude of 1,140 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.39	772.0	30.44	773.2	51.6	10.9	49	E			2		0						
Fanöe	30.45	773.5	30.47	774.0	53.2	11.8	68	WNW			4		0						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.15	765.7	30.18	766.6	48.9	9.4	67	W			4		8						
Vestervig	30.30	769.7	30.47	774.0	51.4	10.8	65	WNW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	30.26	768.5	30.41	772.5	53.6	12	69	NE			2		5		NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.30	769.7	30.41	772.6	54.7	12.6	70	NE			1		0			0	0	Clear	Bouvallet, Director.
Avignon, Normal School	29.89	759.1	29.96	761.1	60.8	16	52	N			4		0			0	0	Very clear	Giraud, Director
Bar-sur-Seine	29.66	753.3	30.22	767.5	57.7	14.3	32	E			1		0			0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	30.11	764.7	30.37	771.4	55.9	13.3	85	ENE			3		5		NE	0	0	Cloudy	Frere Eugene Marie, Dr
Besançon, Normal School	29.26	743.1	30.15	765.8	55.9	13.3	47	NE			6		2		NE	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.12	765.1	58.1	14.5	47	NE			1		5ck	NE	NE	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.70	754.4	30.26	768.6	54.7	12.6	47	N			1		1	N	N	0	0	Clear	A. Waquet, Director
Brest, Naval Observatory	30.14	765.6	30.39	771.8	55.8	13.2	48	NE			2		0			0	0		De Rermaree, Director
Carcassonne, Normal School	29.71	754.6	30.13	765.2	54.1	12.3	54	WNW			4		10	W	WNW	0	0	Covered	September, Director.
Caen, Normal School	30.35	770.9	30.43	772.9	50.7	10.4	62	NNE			3		0			0	0	Clear	Lair, Director.
Chartres, Normal School	29.76	756.3	30.34	770.7	57.2	14	95	NE			3		4	SW	NE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.97	761.2	30.28	769.2	61.5	16.4	19	NE			2		2	NE	NE			Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.80	731.6	30.18	766.6	50.4	10.2	58	N			1		10		N	0	0		Allnard, Director.
Commercy, Normal School	29.39	746.5	30.26	768.5	53.6	12	46	ENE			4		8k;cs		ENE	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.82	731.9	29.96	760.9	60.8	15.7	45	NW			2		2		W	0	0	¼ covered	L. Kina, Director.
Grenoble, Normal School	29.30	744.2	30.08	763.9	51.1	10.6	56	WNW			3		10kn		NW	0	0	Covered	Ablard, Director
La Roche-sur-Yon, N. School	30.18	766.5	30.39	772.0	58.3	14.6	55	N			4		2		N	0	0	Slightly cl'd	Moullot, Director.
Le Mans, Normal School	30.04	762.9	30.35	770.8	56.5	13.6	64	NE			4		5		NE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.5	30.13	765.4	54.7	12.6	33	NE			6	1c			NE	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	30.33	770.3	30.43	772.8	58.6	14.8	56	E			2				NE	0	0		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Directo.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	29.15	740.3	30.20	767.0	53.2	11.8	22	SW			1		2ck		NE	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.79	756.6	29.99	761.8	60.1	15.6	36	N			2		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.96	735.6	29.99	761.8	54.5	12.5	72	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.17	639.4			29.8	— 1.2	92	N			4		8		N	0	0	Very cloudy	Allnard, Director.
Rochefort, Naval Obs'y	30.28	769.2	30.32	770.0	60.8	16.0	40	NE			1		2	NE	NE	0	0	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.31	769.8	30.39	772.0	58.6	14.8	50	WNW			1		5		NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.41	772.3	30.44	773.1	54.3	12.4	62	NNE			1		0			0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.17	766.2	30.33	770.4	58.3	14.6	35	NNE			3–4				NE	0	0		E. Renou, Director.
Tarbes, Normal School	29.16	740.6	30.24	768.2	55.4	13	55	W			2		0			0	0	Clear	T. Hugnet, Director.
Toulouse, Observatory	29.49	749.1	30.22	767.6	52.2	11.2	65	NW			4		9			0	0		Mercadier Julier.
Versailles Observatory	29.84	758.0	30.34	770.5	56.5	13.6	33	NE			6					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S	29.38	746.3	30.10	764.4	58.1	14.5	48	N			4		2	S	NE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.79	756.6	29.82	757.3	80.6	27										0	0		L'Abbé Marcl ésl.
Lyons Obs'y (Park Station)	29.45	748.0	30.06	763.6	56.7	13.7	26	NNE			3	5c				0	0	½ covered	Mr. Jays.
Mont-Louis	24.83	630.6	30.14	765.6	39.2	4.0	44	NW	24.2	10.8			2		NW	0	0		M. Cave.
Nice			29.96	761.0	59.7	15.4	68	E			2		10			0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	30.05	763.3			56.3	13.5	36	NE			4		7		NE	0	0		Marie Davy, Director.
Perpignan	29.97	761.3	30.08	764.0	57.0	13.9	28	NW	29.8	13.3			4		N	0	0		Dr. Fines.
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.51	571.7			32.4	0.2		NE			1		0			0.007	0.19	Clear	Gen'l de Nansouty.
Tours	30.09	764.3	30.29	769.3	58.3	14.6	42	NE			4		7		ENE	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.05	753.1	29.68	753.7	67.6	19.8	75	SE	12.1	5.4			10			0	0	Covered	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Greasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall is measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:09 instead of 6:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.37	745.9	30.21	767.4	53.2	11.8	38	NE			8		7	E		0	0		Prof. Dr. Hoh.
Berlin	30.23	767.9	30.41	772.3	57.7	14.3	42	E			1		0			0	0		Prof. Arndt.
Breslau	29.81	757.1	30.34	770.7	54.1	12.3	39	ENE			4		3	E		0	0		Royal University Obs'y
Carlsruhe	29.83	757.6	30.26	768.7	52.9	11.6	50	E			3		8	E		0	0		Albert Senz.
Cassel	29.68	753.9	30.29	769.4	58.6	14.8	31	NNE			4		1	ENE		0	0		Dr. H. Möhl.
Crefeld	30.21	767.4	30.38	771.6	58.8	14.9	28	N			4		0			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.94	760.6	30.32	770.1	58.1	14.5		NE			4		4			0	0		Physical Society.
Freienwalde on the Oder	30.38	771.6	30.42	772.6	60.8	16.0	57	NE			4		0			0	0		Assmann., M. D.
Friedrichshafen	28.74	730.1	30.22	767.6	43.5	6.4	66	NE			8		10	NE		0.035	0.9		M. Wilhelm.
Hamburg	30.39	771.9	30.46	773.7	59.2	15.1	36	NE			3		0			0	0	Clear	Captain F. Hegeman.
Kiel	30.45	773.5	30.47	773.9	55.8	13.2	32	NNE			1		0			0	0		Prof. G. Karsten.
Königsberg (Prussia)	30.30	769.6	30.38	771.7	51.8	11.0	55	NW			5		2			0	0		Prof. E Luther.
Köslin			30.42	772.6	50.2	10.1		N			2		0			0	0		H. Müller.
Leipsic Observatory	29.93	760.1	30.35	770.9	55.4	13.0	43	NE			4		3			0	0		Prof. Bruhns, Privy Counselor.
Memel,	30.33	770.3	30.37	771.5	43.7	6.5	70	NNW			5		1s						Skalweit.
Neufahrwasser	30.44	773.1	30.45	773.5	46.2	7.9	72	NNE			4		7			0	0		A. Lothes.
Posen	30.13	765.4	30.43	772.8	54.3	12.4	32	NE			6		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.72	754.9	30.28	769.1	52.2	11.2	43	NE			6		8	ENE		0	0		Imp. University Observatory
Stuttgart	29.29	743.9	30.25	768.4	46.8	8.2	55	E			4		10			0.016	0.4	Sprinkling	Prof. Schoder.
Treves (Trier)	29.73	755.1	30.26	768.5	58.1	14.5	25	NE			5		2			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.73	729.7	30.29	769.3	40.8	4.9	81	E	4	2			10			0.039	1.0		Dr. Van Bebber
Wustrow	30.43	772.9	30.45	773.5	55.6	13.1	59	N			2		0			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.59	751.6	29.97	761.3	73.0	22.8		SW			1.5							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.60	751.8	29.65	753.0	85.6	29.8	53	S					2			0	0	D. clouds	
Deesa					101.4	38.6	10	WNW	7.5	3.4			7	WSW		0	0	D clouds	
Bombay	29.72	754.9	29.76	755.9	85.6	29.8	74	W	12.0	5.4			0			0	0	Blue sky	
Poona	27.78	705.6	29.72	755.0	92.9	33.8	43	WNW					0			0	0	Blue sky	
Lahore	28.84	732.5	29.54	750.4	102.3	39.1	15	NW	4.3	1.9			0			0	0	Misty	
Belgaum	27.25	692.1	29.75	755.5	82.6	28.1	71	SW	16.0	7.2			2	E		0	0	D. clouds	
Roorkee	28.64	727.5	29.50	749.2	100.5	38.1	8	SW	2.8	1.2			0			0	0	Blue sky	
Agra	29.02	737.1	29.56	750.7	104.1	40.1	13	W					0			0	0		
Nagpur	28.56	725.5	29.55	750.6	105.9	41.1	16	Calm	2.2	1.0			5	E		0	0	D. clouds	
Lucknow	29.14	740.1	29.50	749.3	96.1	35.6	37	NW	1.9	0.8			0			0	0	Blue sky	
Allahabad	29.23	742.5	29.53	750.0	102.3	39.1	13	NNW	5.2	2.3			0			0	0	Blue sky	
Patna	29.31	744.6	29.49	749.0	102.3	39.1	14	W	0.8	0.4			0			0	0	Blue sky	
Hazaribagh	27.58	700.4	29.50	749.2	97.8	36.6	16	NW	10.8	4.9			2			0	0	D. clouds	
Cuttack	29.50	749.4	29.58	751.4	90.1	32.3		SSW	6.0	2.7			2			0	0	D. clouds	
Calcutta (Alipore)	29.52	749.8	29.54	750.3	86.8	30.4	76	SSW	13.0	5.8			1	SW		0	0	D. clouds	
Goalpara	29.22	742.2	29.61	752.0	76.8	24.9	83	E	5.9	2.6			6	W		0.60	15.2	D. clouds	
Chittagong	29.61	752.0	29.70	754.3	84.7	29.3	81	SE	9.6	4.3			9			0	0		
Sibsagar	29.32	744.8	29.66	753.2	81.4	27.4	77	Calm	1.7	0.8			10	SW	SW	1.40	35.6	D. clouds	
Jubbulpore	28.24	717.3	29.54	750.2	103.7	39.8	12	NNW	3.5	1.6			6		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.55	750.6	29.96	761.0	52.2	11.2	62	E	3.8	1.7			10			0.065	1.6		Prof. Giovanni Clodig.
Milan	29.42	747.2	29.94	760.4	59.5	15.3	47	NW			2		9	E		0.055	1.4		Prof. Schiaparelli.
Padua	29.82	757.3	29.92	760.0	59.4	15.2	55	NE	8.1	3.6			10	NNE		0.059	1.5		Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.0	29.92	760.0	54.7	12.6	74	ESE	8.1	3.6			8	N		0	0		Prof. P. F. Denza.
Genoa	29.74	755.3	29.93	760.1	59.0	15.0	41	SW	4.3	1.9			10	NE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.02	711.8	29.94	760.4	54.1	12.3	13	NNE			2		9			0	0		Prof. D. C. Bruno.
Pesaro	29.85	758.1	29.89	759.3	54.0	12.2	79	W	8.7	3.9			10			0.728	18.5		Prof. Luigi Guidi.
Florence	29.65	753.0	29.90	759.5	58.1	14.5	61	N			6		8			0.102	2.6		Cav. F. Meucci
Leghorn	29.78	756.5	29.87	758.7	57.9	14.4	57	W			4		9	ENE		0.118	3.0		Prof. P. Monte.
Rome	29.67	753.6	29.85	758.1	57.4	14.1	72	WSW	6.3	2.8			10			0.394	10.0		Prof. P. S. Ferrari
Lecce	29.66	753.3	29.91	759.8	59.7	15.4	65	SW	4.9	2.2			4	SW		1.744	44.3		Prof. C. De Giorgi.
Cosenza	29.04	737.7	29.93	760.2	56.8	13.8	72	SE	5.6	2.5			9			0.386	9.8		Prof. D. Conti.
Cagliari	29.73	755.2	29.93	760.1	60.6	15.9	50	NW			4		5	NW		0.020	0.5		Prof. A. Pacinotti.
Palermo	29.69	754.0	29.94	760.4	62.2	16.8	50	WSW	13.0	5.8			7	WSW		0.020	0.5		Prof. G. Cacciatore.
Syracuse	29.90	759.4	29.97	761.3	65.3	18.5	40	NNE	12.5	5.6			6	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.8	29.88	758.9	55.4	13.0	77	SW	1.3	0.6			8			0.496	12.6		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.83	757.7	29.84	757.9	61.2	16.2	83	NNE	2.4	1.1			7cs; ck			0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.67	753.6	29.87	758.7	59.9	15.5	89	SW	0.2	0.1			6ck;c			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.72	754.9	29.79	756.6	63.2	17.3	91	ESE	4.0	1.8		1ck	5ks	S	S	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.0	30.14	765.5	49.6	9.8	41	Calm			0	0	0			0	0	Very clear	Prof. L. Perez.
Leon	24.40	619.8	30.04	763.0	62.2	16.8	59	NW			2	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	30.03	762.7	54.9	12.7	47	Calm	0	0		7c	0	W		0	0	Very hazy	The Staff.
Pabellon (Aguascalientes)					57.7	14.3	38	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.77	756.1	29.78	756.4	76.3	24.6	86	Calm			0	0	0			0	0	Foggy	M. M. Châzaro.
San Luis Potosi	24.12	612.6	30.01	762.2	62.1	16.7	51	E			1	1	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.51	571.8	30.01	762.2	62.6	17.0	32	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.4	30.17	766.2	51.8	11.0	56	ENE	0.9	0.4		0	0			0	0	Fine	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.38	720.8	30.02	762.6	77.0	25.0	71	NNE			1	0	10		N	0	0	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.1 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.47	774.0	30.47	774.0	50.5	10.3		N								0	0		
Groningen	30.39	772.0	30.45	773.4	54.9	12.7		N			2					0	0		
Helder	30.48	774.2	30.48	774.2	48.2	9.0		N			2					0	0		
Hellevoetsluis	30.45	773.4	30.45	773.4	55.4	13.0	64	N			3					0	0		
Utrecht	30.00	762.0	30.44	773.2	56.7	13.7	47	NE			4		2			0	0	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.37	771.3	30.42	772.7	56.5	13.6	50	S	13.7	6.1			0			0	0		
Brönø	30.15	765.9	30.19	766.9	41.0	5.0	87	SW	29	13			10			0.630	16.0	Light rain	
Christiania	30.23	767.9	30.38	771.6	62.1	16.7	32	SSW	7	3			2			0	0		
Tromsö	29.89	769.2	29.93	760.3	40.3	4.6	68	SSW	29	13			10			0.067	1.7		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.61	752.1	29.80	757.0	61.9	16.6	75	W	1.8	0.8			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.01	736.9	30.03	762.7	66.9	19.4	28	E	19.2	8.6			7	E		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.77	756.1	29.85	758.3	70.0	21.1	68	W	4.9	2.2						0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.63	752.6	29.98	761.6	69.3	20.7	24	ENE	24.8	11.1			7			0	0		The Staff.
Ponta Delgada (Azores)	29.76	755.8	29.83	757.6	63.3	17.4	70	SSE	3.8	1.7			3			0.406	10.3		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias, N. 34° 35′, W. 17° 00′			29.80	756.9	69.1	20.6		NNE			2		5		E	1	NE	D. clouds	A. G. da Silva Costa. Com'd.t. A.M.de Sande, Com'd't.
D. Fernando																			C.C.da Fonseca Ferreira, Comd't.
Duque da Terceira, Porto de Bulama, Senegambia			30.04	763.0	86.9	30.5		Calm			0		8			1		D. clouds	A. D. Pedroso, Com'd't.
India																			J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, St. Paul de Loando			29.74	755.3	83.8	28.8		WNW			3		4		ESE	1	WNW	D. clouds	A.J.de Mattos, Com'd't. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.86	758.5	82.4	28.0		Calm			0		9			1		Misty	A. Ferreira, 2d Lt. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo. Macao, China			29.80	756.9	74.3	23.5		E			4		10		W	2	SE	Raining	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.93	760.2	30.36	771.2	53.1	11.7	41	ENE	9	4			1k						Astronomical Obs.
Wilna	29.87	758.8	30.30	769.7	46.9	8.3	49	WNW	7	3			4					Heavy clouds	Astronomical Obs.
Dorpat	30.02	762.6	30.28	769.0	42.6	5.9	63	N	11	5			k						Prof. Dr. Weihrauch.
St. Petersburg	30.11	764.8	30.13	765.2	43.5	6.4	64	NW	7	3			n						Central Physical Obs.
Kieff	29.52	749.8	30.16	766.0	54.0	12.2	49	NW	7	3			5k;ks						Physical Cabinet.
Nikolaiev	30.11	764.8	30.18	766.6	68.9	20.5	42	NE	2	1			0						Kurdakof.
Kertch	30.13	765.3	30.15	765.8	63.7	17.6	66	N	4	2			0						Lagorio.
Moscow	29.48	748.7	30.03	762.8	49.1	9.5	55	N	9	4			6ks						Meteorological Obs.
Lugan	29.80	756.9	30.00	762.0	71.4	21.9	43	N	13	6			6						Meteorological Obs.
Archangel	30.05	763.3	30.07	763.8	45.5	7.5	62	NE	4	2			10						Capt. Sseliwerstow.
Tiflis	28.59	726.2	29.93	760.2	84.7	29.3	33	Calm	0	0			10						Physical Observatory.
Astrakhan	30.14	765.6	30.06	763.5	77.2	25.1	28	NNW	4	2			4s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.61	752.0	29.87	758.8	55.8	13.2	67	Calm	0	0			3n						Physical Cabinet.
Ekaterinburg	28.83	732.2	29.82	757.3	33.4	0.8	96	NNE	4	2			10						Meteorological Obs.
Nukuss	29.67	753.7	29.89	759.3	89.2	31.8	28	NNE	16	7			1c						
Tashkend	28.33	719.6	29.81	757.1	82.4	28.0	49	Calm	0	0			0						Teich, A. M.
Barnaul	29.45	748.1	29.95	760.8	48.2	9.0	36	NE	2	1			9						Meteorological Obs.
Yeniseisk	29.89	759.2	30.19	766.9	28.6	— 1.9	46	N	13	6			0						Marks.
Irkutsk																			
Peking (China)	29.69	754.1	29.83	757.7	59.5	15.3	49	SE	7	3			3ks						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.72	755.0	29.82	757.5	46.0	7.8	100	N	9	4			6k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.92	760.0	30.03	762.7	59.9	15.5	47	ESE	4.5	2.00			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.24	768.0	30.30	769.5	60.1	15.6	45	NW	1.5	0.68		2	1	SE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.21	691.1			51.1	10.6	40	NE	9.7	4.33			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.86	707.7			60.8	16.0	35	NE	17.2	7.67		1	2	W		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.92	760.0	30.07	763.7	73.4	23.0	29	NE	2.6	1.17		3	4	E		0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.9	30.05	763.3	64.8	18.2	40	ESE	1.9	8.6			0			0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.96	761.0	30.03	762.7	74.8	23.8	81	E	1.1	0.5		0	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.75	755.7	29.80	757.0	87.1	30.6	81	SE	6.7	3.0			10kn		S	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.9	29.94	760.4	69.9	19.4	25	ESE	27.9	12.5		0	10		SE				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.8	29.96	761.1	79.9	26.6	80	SE	0	0		4cs	4k			0.039	1.00	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. L w'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.28	769.2	30.32	770.2	39.2	4.0	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	30.31	769.9	30.36	771.2	44.6	7.0	55	SW	.....	.....	4	.....	9	.....	.....	0.07	1.9	.....	
Hernosand	30.32	770.2	30.37	771.5	43.9	6.6	54	S	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	30.23	767.9	30.41	772.4	52.0	11.1	22	NE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	30.34	770.5	30.39	772.0	42.4	5.8	73	NNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.33	770.3	30.40	772.2	55.0	12.8	24	N	6.3	2.8	.....	.....	2	N	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.7	30.04	763.2	50.5	10.3	40	NNE	.....	.....	9	.....	5	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.54	724.9	30.21	767.3	44.6	7.0	68	E	.....	.....	4	.....	10	.....	.....	0.07	1.7	Raining	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.1 mm.; Thermometer,—4.5 Cent.; Relative Humidity, —18 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.94	760.6	62.4	16.9	67	N	27	12.0	.....	.....	1	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.00	762.0	87.8	31.0	.....	S	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.6	63.1	17.3	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.77	756.1	29.89	759.1	77.0	25.0	75	W	.....	.....	2	.....	8ks	.....	E	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.85	758.2	52	11.1	.....	S	3	1.3	.....	0	2s	.....	W	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.79	756.7	29.85	758.2	44	6.7	76	SE	1	0.4	.....	0	0	.....	.....	0.11	2.8	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.79	756.7	29.83	757.7	39	3.9	93	N	4	1.8	.....	.....	10n	.....	.....	0.160	4.06	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.60	751.8	29.79	756.7	49.6	9.8	66	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.83	757.7	41	5.0	.....	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.97	761.2	30.02	762.5	43.3	6.3	82	Calm	0	0	.....	4ck	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.81	757.2	29.83	757.7	40	4.4	77	SW	20	8.9	.....	5k	2ks	W	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.89	759.2	41.9	5.5	69	NW	3	1.3	.....	3ck	0	.....	.....	0.05	1.3	Fair	Prof. Harrison.
*Fort Garry, Manitoba	28.74	730.0	29.57	751.1	39	3.9	95	E	22	9.8	.....	5k	5n	SE	SE	0.810	20.57	Cloudy	James Stewart.
Granton, Ontario	28.59	726.2	29.68	753.9	47	8.3	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.72	754.9	29.86	758.4	48	8.9	64	NW	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.84	757.9	44.1	6.7	84	SW	.....	.....	1	10cs	0	SW	.....	0.64	1.0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.81	757.2	44	6.7	81	SE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.81	757.2	29.84	757.9	44.7	7.1	90	SW	8	3.6	.....	6k	0	SW	.....	0.16	4.0	Fair	C. H. Rigby.
Moose Factory, Ontario	29.80	756.9	29.83	757.7	33.2	0.7	87	E	.....	.....	1	.....	10	.....	.....	0.10	2.5	Cloudy	J. R. Nason.
*Montreal, Quebec	29.62	752.3	29.82	757.4	45	7.2	68	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.03	737.3	29.72	754.9	45	7.2	58	E	7	3.1	.....	2cs	Haze	W	W	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.06	738.1	29.75	755.6	43	6.1	100	S	6	2.7	.....	.....	10n	.....	W	Inap.	Inap	Threatening	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.09	738.9	29.73	755.1	46	7.8	96	E	12	5.4	.....	5cs	Fog	.....	.....	Inap.	Inap.	Foggy	M. Payne.
*Quebec, Quebec	29.53	750.0	29.86	758.4	40	4.4	73	Calm	.....	.....	0	.....	10n	.....	Calm	0.02	0.5	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.32	744.7	29.79	756.7	37	2.8	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.1	45	7.2	71	SW	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear	Dr. Gove.
St. John, N. B	29.74	755.4	29.91	759.7	41	5.0	82	W	5	2.2	.....	0	0	.....	.....	0.03	0.8	Clear	G. Murdock, C. E.
*Saugeen, Ontario	28.95	735.3	29.66	753.4	49	9.4	72	SE	12	5.4	.....	.....	10ks	.....	S	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.42	721.9	29.69	754.1	45.8	7.7	94	SE	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.80	756.9	29.84	757.9	41	5.0	89	SW	8	3.6	.....	.....	10s	.....	.....	0.40	10.2	Cloudy	T. C. Hill.
*Toronto, Ontario	29.40	746.7	29.78	756.4	43	6.1	81	E	4	1.8	.....	4ck	4ks	.....	.....	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	29.78	756.4	29.88	758.9	47.0	8.3	70	W	9	4.0	.....	1k	0	.....	.....	0.03	0.8	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.74	755.4	29.96	761.0	49.0	9.4	93	S	.....	.....	.....	.....	10n	.....	.....	0.12	3.0	Light rain	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.92	760.0	51	10.6	46	S	6	2.7		Haze	0			0	0	Clear	
Alpena, Michigan	28.96	735.6	29.59	751.6	43	6.1	83	SE	8	3.6			10s		Calm	0	0	Threatening	
Atlanta, Georgia	28.84	732.5	29.96	761.0	63	17.2	47	S	7	3.1		8c	Haze	Calm	Calm	0	0	Fair	
Atlantic City, New Jersey	30.00	762.0	30.01	762.2	52	11.1	35	S	9	4.0			10s		W	0	0	Cloudy	
Augusta, Georgia	29.88	758.9	30.05	763.3	60	15.6	71	S	4	1.8		0	0			0	0	Clear	
Baltimore, Maryland	29.91	759.7	29.96	761.0	55	12.8	68	S	6	2.7			10s		Calm	0	0	Threatening	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	50	10.0	79	S	8	3.6			10s		Calm	0	0	Cloudy	
Bismarck, Dakota	27.63	701.8	29.49	749.0	40	4.4	100	NW					10n		NW	0.05	1.3	Light rain	
Boerne, Texas	28.32	719.3	29.58	751.3	67	19.4	95	SW	6	2.7		2c	0	Calm		0.32	8.1	Clear	
Boise City, Idaho	27.18	690.4	30.14	765.5	39	3.9	64	Calm	0	0		5cs	0	W		0	0	Fair	
Boston, Massachusetts	29.81	757.2	29.96	761.0	58	14.4	42	W	5	2.2		0	0			Inap.	Inap.	Clear	
Brackettville, Texas	28.65	727.7	29.65	753.1	67	19.4	95	SW	1	0.4		8ck	2s	SW	Calm	0.93	23.6	Cloudy	
Breckenridge, Minnesota	28.34	719.8	29.29	744 0	45	7.2	61	W	8	3.6			10ks		W	0.52	13.2	Cloudy	
Brownsville, Texas	29.73	755.1	29.77	756.1	78	25.6	82	SE	8	3.6		5cs	0	Calm		0	0	Fair	
Buffalo, New York	29.05	737.9	29.74	755.4	50	10.0	65	S	5	2.2			10s;hz		S;Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona					63	17.2	Inap.	W			1	0	0			0	0	Clear	
Burlington, Vermont	29.57	751.1	29.86	758.4	48	8.9	49	S	12	5.4		0	Haze		Calm	0.01	0.3	Clear	
Cairo, Illinois	29.42	747.2	29.80	756.9	68	20.0	90	W	14	6.3			10n		W	0.08	2.0	Light rain	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.12	638.0	29.92	760.0	58	14.4	42	NE	4	1.8		0	2s		E	0	0	Clear	
Camp Verde, Arizona	26.63	676.4	29.97	761.2	55	12.8	39	N			1	0	Haze		Calm	0	0	Hazy	
Campo, California	27.32	693.9	29.89	759.2	34	1.1	70	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	62	16.7	77	Calm	0	0		5cs	Haze	SW		0	0	Fair	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	57	13.9	69	SW	11	4.9			10s		SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.08	764.0	30.09	764.3	64	17.8	78	S	6	2.7		2c	Haze	Calm	Calm	0	0	Hazy	
Cape May, New Jersey	29.92	760.0	29.94	760.5	52	11.1	79	S	18	8 0			10s		SW	0	0	Cloudy	
Castroville, Texas	28.99	736.3	29.66	753.4	72	22.2	80	S	11	4.9		5ck	0	W		0.28	7.1	Fair	
Charleston, South Carolina	30.01	762.2	30.07	763.8	69	20.6	65	SW	5	2.2		Haze	0			0	0	Clear	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	35	1.7	36	W	5	2.2		0	0			0	0	Clear	
Chicago, Illinois	28.88	733.5	29.54	750.3	56	13.3	87	W	9	4.0			10s		W	0.20	5.1	Cloudy	
Cincinnati, Ohio	29.04	737.6	29.67	753.6	59	15.0	76	SE	4	1.8			10ks		W	0.45	11.4	Threatening	
Cleveland, Ohio	28.96	735.6	29.66	753.4	53	11.7	73	SE	15	6.7			10s		Calm	0.06	1.5	Cloudy	
Coleman City, Texas	27.93	709.4	29.53	750.0	62	16.7	88	SE	6	2.7		0	2s		Calm	0.66	16.8	Fair	
Columbus, Ohio	28.82	732.0	29.63	752.6	52	11.1	86	SE	6	2.7			10n		S	0.82	20.8	Light rain	
Concho, Texas	27.85	707.4	29.44	747.8	68	20.0	70	SW	8	3.6		0	0			0	0	Clear	
Corsicana, Texas	29.30	744.2	29.75	755.6	69	20.6	95	Calm	0	0			10n		Calm	0.03	0.8	Light rain	
Davenport, Iowa	29.07	738.4	29.69	754.1	50	10.0	65	W	11	4.9		0	0			0.28	7.1	Clear	
Deadwood, Dakota	25.24	641.1			36	2.2	45	S	8	3.6		0	0			Inap.	Inap.	Clear	
Decatur, Texas	28.61	726.7	29.72	754.9	70	21.1	85	S	8	3.6		0	0			0	0	Clear	
Denison, Texas	29.01	736.8	29.76	755.9	69	20.6	90	SE	4	1.8			10ks		SW	0	0	Cloudy	
Denver, Colorado	24.70	627.4	29.92	760.0	38	3.3	54	Calm	0	0		0	0			0	0	Clear	
Des Moines, Iowa	28.88	733.5	29.75	755.6	48	8.9	63	N	4	1.8		0	0			0.19	4.8	Clear	
Detroit, Michigan	29.00	736.6	29.65	753.1	52	11.1	86	SW	8	3.6			10n		Calm	0.02	0.5	Heavy rain	
Dodge City, Kansas	27.37	695.2	29.66	753.4	45	7.2	61	Calm	0	0		2k	0	W		0	0	Fair	
Dubuque, Iowa	28.96	735.6	29.64	752.8	48	8.9	43	SW	12	5.4		5k	0	W		0.02	0.5	Fair	
Duluth, Minnesota	28.77	730.7	29.44	747.8	38	3.3	91	NE	10	4.5			10n		NE	0.51	13.0	Light rain	
Eagle Pass, Texa	29.01	736.8	29.70	754.4	70	21.1	90	SW	8	3.6		5cs	0	W		0	0	Fair	
Eastport, Maine	29.84	757.9	29.90	759.4	46	7.8	62	SE	1	0.4		5ck	0	W		0.02	0.5	Fair	
Edinburg, Texas					73	22.8	86	S			4		10s		S	0	0	Cloudy	
El Paso, Texas	26.10	662.9			65	18.3	35	NW	6	2.7		0	0			0	0	Clear	
Erie, Pennsylvania	29.01	736.8	29.71	754.6	52	11.1	79	S	16	7.2			10s		W	0	0	Cloudy	
Escanaba, Michigan	28.83	732.3	29.47	748.5	40	4.4	82	E	7	3.1			10n		NE	0.21	5.3	Light rain	
Florence, Arizona	28.44	722.4	30.04	763.0	70	21.1	53	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.60	701.0			37	2.8	100	NW	37	16.5			10n		NW	0.63	16.0	Light rain	
Fort Craig, New Mexico	25.43	645.9	29.49	749.0	56	13.3	28	NW	11	4.9		0	0			0	0	Clear	
Fort Davis, Texas	25.08	637.0	30.04	763.0	69	20.6	31	SW	12	5.4		0	0			0.04	1.0	Clear	
Fort Gibson, Indian Ter	29.32	744.7	29.84	757.9	60	15.6	82	N	8	3.6			10n		SW	0.40	10.2	Light rain	
Fort Griffin, Texas	28.45	722.6	29.67	753.6	64	17 8	83	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.32	693.9			42	5.6	65	NW	13	5.8		5c	0	Calm		0.10	2.5	Fair	
Fort McKavett, Texas	27.51	698.7	29.34	745.2	65	18.3	73	SW	3	1.3		0	2s		SW	0.50	12.7	Clear	
Fort St. Michael, Alaska	30.06	763.5	30.10	764.5	3	—16.1	100	W	4	1.8			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.61	726.7	29.68	753.9	61	16.1	55	NE	21	9.4		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.65	702.3			37	2.8	80	NE	39	17.4			10n		NW	0.09	2.3	Light rain	
Fredericksburg, Texas	28.05	712.5	29.53	750.0	72	22.2	76	S	16	7.2			10ks		Calm	0.06	1.5	Cloudy	
Galveston, Texas	29.81	757.2	29.85	758.2	75	23.9	81	S	12	5.4		10ck	0	Calm		0	0	Cloudy	
Graham, Texas	28.67	728.2	29.68	753.9	68	20.0	84	SE	4	1.8		0	0			0.02	0.5	Clear	
Grand Haven, Michigan	28.87	733.3	29.50	749.3	52	11.1	93	SE	8	3.6			10n		Calm	0.29	7.4	Light rain	
Indianapolis, Indiana	28.79	731.3	29.52	749.8	60	15.6	82	SW	5	2.2			10n		SW	0.33	8.4	Light rain	
Indianola, Texas	29.82	757.4	29.84	757.9	73	22.8	90	S	8	3.6		10c	0	Calm		0	0	Cloudy	
Jacksboro, Texas	28.68	728.5	29.75	755.6	75	23.9	52	SE	16	7.2		0	0			0.09	2.3	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	72	22.2	67	E	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa	29.13	739.9	29.73	755.1	55	12.8	62	NW	12	5.4		1c	0	W		0.17	4.3	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	79	26.1	70	SE	9	4.0		2k	0	Calm		0	0	Clear	
Kittyhawk, North Carolina	30.03	762.5	30.05	763.3	62	16.7	72	SW	9	4.0		8ck	Sm'e	W	Calm	0	0	Fair	
Knoxville, Tennessee	28.92	734.6	29.89	759.2	61.5	16.4	43	SW	12	5.4			10s		SW	0	0	Threatening	
La Crosse, Wisconsin	28.87	733.3	29.59	751.6	49	9.4	64	SW	5	2.2		0	0			0.21	5.3	Clear	
La Mesilla, New Mexico	25.95	659.1	30.10	764.5	61	16.1	31	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.35	745.5	29.67	753.6	80	26.7	62	SE	9	4.0		5k	0	Calm		0	0	Fair	
Leavenworth, Kansas	29.02	737.1	29.85	758.2	54	12.2	74	S	2	0.9		0	0			0 01	0.3	Clear	
Los Angeles, California	29.54	750.3	29.88	758.9	55.0	12.8	81	E	5	2.2			10s		SE	0	0	Cloudy	
Louisville, Kentuckey	29.16	740.7	29.70	754.4	61	16.1	77	S	8	3.6			10s		NW	0.24	6.1	Cloudy	
Lynchburg, Virginia	29.25	742.9	29.92	760.0	57	13.9	57	S	2	0.9		0	8ks		Calm	0	0	Cloudy	
Madison, Wisconsin	28.57	725.7	29.52	749.8	50	10.0	72	W	22	9.8		0	0			0.50	12.7	Clear	
Marquette, Michigan	28.78	731.0	29.47	748.5	40	4.4	100	Calm	0	0			10n		Calm	0.12	3.0	Light rain	
Mason, Texas	28.11	714.0	29.80	756.9	65	18.3	84	SW	3	1.3		1cs	0	W		0.33	8.4	Clear	
Memphis, Tennessee	29.58	751.3	29.89	759.2	67	19.4	90	SW	11	4.9			10s		SW	0.32	8.1	Cloudy	
Milwaukee, Wisconsin	28.78	731.0	29.48	748.8	51	10.6	93	W	6	2.7			10s		NW	0.06	1.5	Cloudy	
Mobile, Alabama	29.97	761.2	30.01	762.2	71	21.7	90	S	4	1.8		0	8s		SW	0.27	6.9	Fair	
Montgomery, Alabama	29.81	757.2	30.04	763.0	65	18.3	53	SE	1	0.4		1c	Sm'e	Calm	Calm	0	0	Clear	
Morgantown, West Virginia	28.75	730.2	29.78	756.4	51	10.6	86	Calm	0	0			10n		Calm	Inap.	Inap.	Light rain	
Mt. Washington, N. H.	23.59	599.2	29.95	760.7	23	— 5.0	73	NW	24	10.7		5c	2s	NW	NW	0.34	8.6	Fair	
Nashville, Tennessee	29.30	744.2	29.82	757.4	67	19.4	79	SW	8	3.6			10n		SW	0.05	1.3	Light rain	
New Haven, Connecticut	29.86	758.4	29.98	761.5	55	12.8	74	S	3	1.3		0	Haze		Calm	0	0	Clear	
New London, Connecticut	29.96	761.0	30.01	762.2	54	12.2	74	SW	5	2.2		0	Haze		Calm	Inap.	Inap.	Clear	
New Orleans, Louisiana	29.91	759.7	29.97	761.2	70	21.1	85	SE	2	0.9		5k	5s	SW	S	0	0	Cloudy	
Newport, Rhode Island	29.95	760.7	30.00	762.0	49.5	9.7	82	SW	5	2.2		5cs	0	NW		0	0	Fair	
New York, New York	29.81	757.2	29.99	761.7	49	9.4	77	SW	4	1.8			10s		Calm	0	0	Cloudy	
Norfolk, Virginia	29.97	761.2	30.03	762.8	59	15.0	43	S	8	3.6			8ks		Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.00	685.8	29.70	754.4	39	3.9	64	NW	6	2.7		0	0			0	0	Clear	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	43.2	6.2	92	S	2	0.9			10s		Calm	0.21	5.3	Cloudy	
Omaha, Nebraska	28.68	728.5	29.76	755.9	50	10.0	52	SW	10	4.5		0	0			0	0	Clear	
Oswego, New York	29.52	749.8	29.84	757.9	50	10.0	65	S	6	2.7		Haze	0	Calm		0	0	Clear	
Pembina, Dakota	28.56	725.4	29.39	746.5	38	3.3	100	E	24	10.7			10n		E	0.27	6.9	Light rain	
Philadelphia, Pa	29.91	759.7	29.96	761.0	53	11.7	67	S	11	4.9			10s			0	0	Cloudy	
Phœnix, Arizona	28.62	726.9	30.36	771.1	66	18.9	32	NE	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Pike's Peak, Colorado	17.68	447.1	29.89	759.2	16	— 8.9	33	W	38	17.0		0	0			0	0	Clear	
Pioche, Nevada	23.95	608.3	29.72	754.9	39	3.9	19	N	8	3.6		0	0			0	0	Clear	
Pittsburg, Pennsylvania	28.99	736.3	29.78	756.4	53	11.7	80	S	3	1.3			10s			0.01	0.3	Cloudy	
Port Huron, Michigan	28.95	735.3	29.59	751.6	50	10.0	93	SE	8	3.6			10n		Calm	0.02	0.5	Light rain	
Portland, Maine	29.88	758.9	29.93	760.2	47	8.3	70	SW	4	1.8		1k	0	Calm		0	0	Clear	
Portland, Oregon	30.04	763.0	30.14	765.5	48.5	9.2	89	SE	3	1.3			10ks		S	0.03	0.8	Cloudy	
Prescott, Arizona	24.59	624.6	29.95	760.7	42	5.6	34	SW	3	1.3		0	0			0	0	Clear	
Pilot Point, Texas	29.00	736.6	29.83	757.7	68	20.0	90	SE	1	0.4		8ck	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	75	23.9	81	E	10	4.5		0	0			0	0	Clear	
Red Bluff, California	29.55	750.6	29.91	759.7	56	13.3	60	NW	4	1.8			10ks		W	0	0	Cloudy	
Rio Grande City, Texas	29.59	751.6	29.78	756.4	75	23.9	77	E			1	0	8ks		SE	0	0	Fair	
Rochester, New York	29.20	741.7	29.81	757.2	51	10.6	53	SW	6	2.7		5k	Haze	SW	Calm	0	0	Fair	
Roseburg, Oregon	29.55	750.6	30.13	765.3	47.5	8.6	88	Calm	0	0			10s		Calm	0	0	Cloudy	
Sacramento, California	29.52	757.4	29.91	759.7	49	9.4	85	SE	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.22	742.2	29.78	756.4	61	16.1	71	NW	10	4.5			10s		W	0.33	8.4	Cloudy	
St. Marks, Florida	30.05	763.3	30.06	763.5	65	18.3	94	SE	1	0.4		4k	0	S		0	0	Fair	
St. Paul, Minnesota	28.64	727.4	29.44	747.8	46	7.8	61	SW	16	7.2		0	0			0.43	10.9	Clear	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	37	2.8	38	SW	2	0.9		0	0			0	0	Clear	
San Antonio, Texas	29.07	738.4	29.62	752.3	73	22.8	76	S	8	3.6		0	0			0.44	11.2	Clear	
San Diego, California	29.84	757.9	29.92	760.0	54	12.2	87	E	6	2.7			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	28.99	736.3	29.64	752.8	54	12.2	87	S	16	7.2			10s		Calm	0.10	2.5	Threatening	
Sandy Hook, New Jersey	29.95	760.7	29.95	761.5	51	10.6	72	W	4	1.8		2k	8s	NW	NW	Inap.	Inap.	Cloudy	
San Francisco, California	29.90	759.4	29.96	761.0	50	10.0	84	W	1	0.4		0	0			0	0	Clear	
Santa Fé, New Mexico	29.22	689.8	29.76	755.9	41	5.0	33	NE	1	0.4		1ck	Haze	SW	Calm	0	0	Clear	
Savannah, Georgia	29.98	761.5	30.07	763.8	73	22.8	72	S	6	2.7		0	Sm'e			0	0	Clear	
Shreveport, Louisiana	29.62	752.3	29.83	757.7	69	20.6	90	S	4	1.8		0	8s		SW	0	0	Fair	
Silver City, New Mexico	24.22	615.2	30.32	770.1	51	10.6	46	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.07	763.8	30.10	764.5	67	19.4	69	S	9	4.0		2cs	Haze	NW	Calm	0	0	Fair	
Springfield, Massachusetts	29.82	757.4	29.95	760.7	50	10.0	72	S	2	0.9		2k	Sm'e	W		0	0	Fair	
Stockton, Texas	26.68	677.7	29.68	753.9	70	21.1	44	SW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	29.92	760.0	29.98	761.5	49	9.4	78	SW	12	5.4		0	0			0	0	Clear	
Toledo, Ohio	28.94	735.1	29.60	751.8	55	12.8	87	S	12	5.4			10n		Calm	0.04	1.0	Light rain	
Tucson, Arizona	27.38	695.4	29.93	760.2	64	17.8	47	E	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.76	755.9	30.26	768.6	45.0	7.2	76	Calm	0	0		0	2ks		W	0	0	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.87	733.3	29.66	753.4	70	21.1	80	W	1	0.4		0	2s		SW	0.31	7.9	Clear	
Vicksburg, Mississippi	29.72	754.9	29.97	761.2	70	21.1	85	SW	5	2.2			10s		SW	0	0	Cloudy	
Virginia City, Montana	24.26	616.2	29.74	755.4	32	0.0	50	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.53	750.0	29.90	759.4	47	8.3	83	Calm	0	0		0	0		Calm	0	0	Clear	
Washington, D. C.	29.83	757.7	29.96	760.7	54	12.2	74	SE	6	2.7			10s;fg		Calm	0	0	Cloudy	
Wickenburg, Arizona					55	12.8	39	Calm			0	0	Haze		Calm	0	0	Hazy	
Wilmington, N. Carolina	30.00	762.0	30.08	764.0	65	18.3	63	S	4	1.8		0	Haze			0	0	Clear	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	33	0.6	42	NE	12	5.4		0	0			0	0	Clear	
Wood's Holl, Mass	29.96	761.0	30.00	762.0	48	8.9	85	SW	14	6.3		0	5s		NW	0	0	Fair	
Yankton, Dakota	28.48	723.4	29.73	755.1	51	10.6	46	SW	13	5.8		0	0			0	0	Clear	
Yuma, Arizona	29.58	751.3	29.74	755.4	68	20.0	65	SE	3	1.3		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.31	719.1	29.68	753.9	60	15.6	88												J. B. Gordon.
Havana, Cuba, W. I	29.96	761.0	30.01	762.2	78	25.6	72	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.24	641.1			67.0	19.4	82	Calm			0	2c	2ks			0.40	10.2		Thomas Herran.
Navassa, W. I	29.88	758.9	29.96	761.0	79	26.7		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	87	E			3	3c	5k	E		0	0	Fair	O. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.08	764.0	30.13	765.3	26.0	— 3.3	100	NE	14	6.3			10n		NE	0.01	0.3	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,861 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.94‡	760.5‡			51	10.6	86	WSW	12	5.4			0			0	0			Clear	
Navy Yard, Pensacola, Fla.	30.03‡	762.8‡			72	22.2	90	S	6	2.7			5		W					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.77‡	756.1‡			64	17.8	89	Calm			0		9ks		E	0.10	2.5			Cloudy	
Adams, Panama	29.92‡	760.0‡			79	26.1	95	N			1		10		N					Cloudy	
Alaska, Sitka, Alaska	29.55‡	750.6‡			35	1.7	90	E			2		8		NW	0.025	0.64			D. clouds	
Alliance, Tunis, Africa	30.08‡	764.0‡			62	16.7	46	NW			3–5		6		NNW			Light	NW	Pleasant	
Ashuelot, Hong-Kong, China	29.79‡	756.7‡			77	25.0	91	E			2		10		Calm			Smooth		Misty	
Canonicus, New Orleans, La.	29.97‡	761.2‡			68	20.0	100	SE			2		5		SE					Fair	
Colorado, New York, N. Y.	30.00‡	762.0‡			50	10.0	79	SSW	3	1.3			10		WNW	0	0			Hazy	
Constitution, N. 23° 20′, W. 48° 05′	30.07‡	763.8‡			76	24.4	95	E			3		3		Calm			Smooth	NE	Pleasant	
Despatch, Genoa, Italy	29.92‡	760.0‡			64	17.8	53	SSW			2		10		NW	0	0	Smooth		Cloudy	
Enterprise, N. 40° 16′, W. 10° 34′	30.06‡	763.5‡			61	16.1	66	E			4		1		N; E			Smooth		Blue sky	
Franklin, Norfolk, Va.	30.03‡	762.8‡			60	15.6	71	SSW	9.6	4.3			10		WNW	0	0			Cloudy	
Hartford, Colonia, Uruguay*.	29.95‡	760.7‡			63	17.2	78	ENE			3		8		NE	0.10	2.5			Cloudy	
Michigan, Erie, Pa.					51	10.6	86	S			4		10							Overcast	
Monongahela, Yokohama, Japan	29.75‡	755.6‡			66	18.9	84	ESE			0–1		ks			Very light	Very light			D. clouds	
New Hampshire, Port Royal, S. C.	30.06‡	635.1‡			71	21.7	75	SSW	14	6.3			0			0	0			Clear	
Onward, Callao, Peru †*	30.08‡	764.0‡			62	16.7	94	S			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.67‡	753.6‡			66	18.9	84	SSE			3		8		WSW					Hazy	
Passaic, Washington, D. C.					56	13.3	81	SW			1		8		N					Cloudy	
Pensacola, Callao, Peru	29.97‡	761.2‡			63	17.2	94	S	3	1.3			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	30.02‡	762.5‡			59	15.0	70	SSE			3		2		S	0	0	Smooth		Clear	
Powhatan, Norfolk, Va.	29.89‡	759.2‡			67	19.4	84	S			2		8		Calm	0	0			Hazy	
Quinnebaug, N. 32° 17′, E. 26° 41′	30.01‡	762.2‡			70	21.1	75	Calm			0		0					Smooth		Clear	
Ranger, Amoy, China	29.84‡	757.9‡			73	22.8	90	SSW			1		10		Calm			Smooth		Cloudy	
Richmond, Singapore, China	29.76‡	755.9‡			81	27.2	91	NNW			1		0?		NNW?	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.79‡	756.7‡			76	24.4	95	SE			1		5		S					Fair	
Santee, Annapolis, Md.	29.97‡	761.2‡			56	13.3	69	S			2				S	0	0			Overcast	
Saratoga, N. 35° 04′, W. 28° 18′	29.87‡	758.7‡			64	17.8	73	WNW			5		2		SSE	Light	Light	Mod'ate	NW	D. clouds	
St. Louis, League Island, Pa.	30.01‡	762.2‡			52	11.1	66	SW	7	3.1			10		SSW	0	0			Cloudy	
Trenton, Genoa, Italy	29.89‡	759.2‡			60	15.6	50	SW			2		5		NNE	0	0	Smooth		Fair	
Tuscarora, Port Sacrificios, Mex.	29.86‡	758.4‡			76	24.4	68	WNW			2		0			0	0	Smooth		Hazy	
Vandalia, N. 15° 51′, W. 76° 34′	29.88‡	758.9‡			77	25.0	100	ENE			4		10		E			Mod'ate	ESE	Cloudy	
Wabash, Boston, Mass.	29.97‡	761.2‡			55	12.8	67	W	3	1.3			0			0	0			Clear	
Wyoming, N. 37° 53′, E. 15° 57′	29.90‡	759.4‡			59	15.0	88	WSW			3–4		2		W			Smooth	W	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of vessels.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, Liverpool, Eng.....†*		30.30	769.6	60	15.6		E			1		0						Clear	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.75‡	755.6‡	68	20.0		NW			3		n			0.75 in. or 19.1mm			Rainy	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.18‡	766.0‡	56	13.3	69	NW			2		0						Clear	R. Lawless.
S. S. Georgia																			Capt. C anolly
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W		29.94‡	760.5‡				SSW			3				S				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kenn dy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 33° 07′, E. 156° 47′		29.76‡	755.9‡	66	18.9	74	SE			5		4n			Light	Mod'ate	SE	Raining	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 46° 30′, W. 37° 38′		30.29‡	769.4‡	60.0	15.6	76	NE			3		2				Smooth	NW	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 38° 28′, W. 64° 44′		30.15‡	765.5‡	53.5	11.9	58	NNW			5		5		NNW		Mod'ate	NW	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.26‡	768.6‡				N			3		5		NNW		Rough		Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 55′, W. 34° 14′		30.26‡	769.1‡	57	13.9	75	N			0–1		9		NW	0	Mod'ate	NNW	Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 34° 15′, W. 73° 22′		30.12‡	765.0‡	69	20.6	56	SSW	14	6.3			2ck		W	0	Rough	SSW	Clear	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 24° 24′, W. 66° 32′		29.71‡	754.6‡				NNE	25	11.2					NE	0	Smooth	E	Clear	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

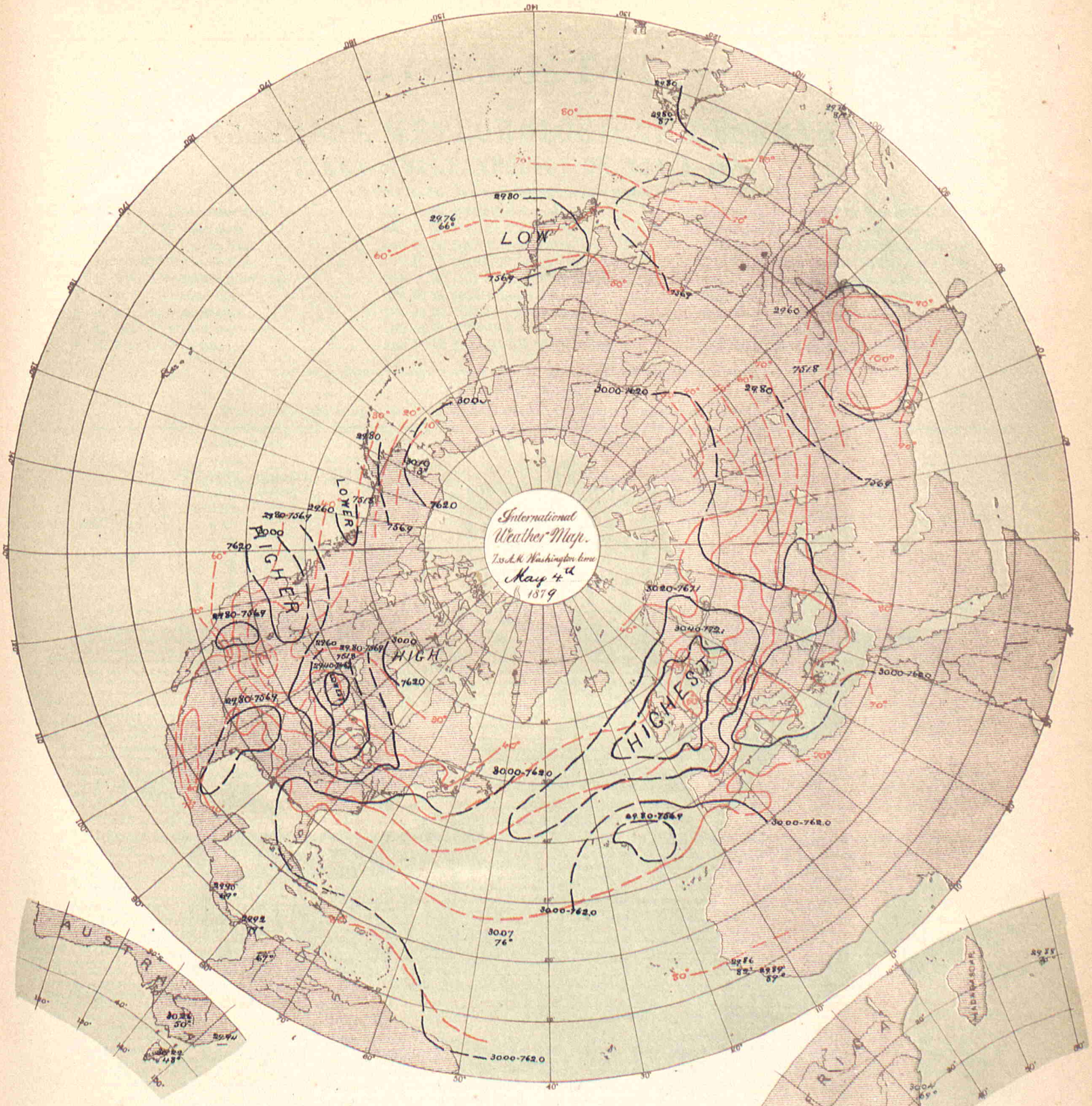
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 5, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.06	763.5	66.9	19.4	77	E			1		8			0	0	Very cloudy	Kesxuche.
Algiers			30.06	763.6	62.6	17.0	56	NE			3		0			0	0	Clear	Tourilliere.
La Calle			30.04	763.1	65.1	18.4	60	NNW			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.08	764.0															Gau.
Saida			30.04	762.9	69.8	21.0	7	N			3		8			0	0	Very cloudy	Herbin.
Tebessa			30.08	764.0	60.4	15.8	44	NNW			1		5			0	0	Cloudy	Watrin.
Geriville			30.00	761.9	59.0	15.0	39	W			2		5			0	0	Cloudy	Brugniaux.
Laghouat			29.96	760.9	74.8	23.8	37	SE			2		0			0	0	Clear	Bertrand.
Biskra			30.03	762.8	77.9	25.5	32	SW			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.47	748.5	30.02	762.5	53.6	12.0	90	NE			5		10			0.394	10.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.52	749.9	30.30	769.6	54.3	12.4	50	E			4		0			0	0		Dr. Wierzbiski.
Eperies	29.26	743.1	30.13	765.3	58.3	14.6	46	NE			5		3c			0	0		Julius Mikolik.
Gratz	28.89	733.7	30.15	765.8	51.6	10.9	90	NW			3		10			1.780	45.2		Andreas Rospini.
Hermannstadt	28.57	725.6	29.97	761.2	62.6	17.0	54	E			4		10			0	0		Prof. A. Gottschling.
Kremsmünster	28.85	732.9	30.22	767.9	43.5	6.4	97	Calm			0		10			1.398	35.5		Prof. C. Wagner.
Lemberg	29.25	743.0	30.25	768.4	52.0	11.1	46	E			1		4			0	0		Dr. T. Stanecki.
Pola	29.88	759.0	29.99	761.8	61.5	16.4	54	ESE			2		6			0	0		I.R.Hydrographic Office
Szathmar	29.63	752.6	30.09	764.2	63.5	17.5	46	NE			4		2			0	0		Julius Csics, S. J.
Szegedin	29.72	754.8	30.00	761.9	56.5	13.6	65	Calm			0		10			0	0		Karl Stancel.
Trieste	29.95	760.6	30.05	763.2	58.6	14.8	55	ENE			2		10			0	0		P. Busin.
Vienna	29.44	747.8	30.16	766.1	55.0	12.8	75	NW			2		6			0.988	25.1		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.19	766.8	30.28	769.1	60.0	15.6		W	22	9.8			6			0.175	4.45	D. clouds	W. Boswell.
Ardrossan	30.42	772.6	30.44	773.2	58	14.4		W			3		6					D. clouds	William McNeil.
Armagh, Observatory			30.53	775.4	58.5	14.7		W	9	4.0			7					D.clouds	S. Call.
Bidston, (Liverpool Obs)			30.51	774.9	52.3	11.3		WNW	14	6.3			1					Blue sky	John Hartnup.
Bolton (Sharples)			30.48	774.2	57.2	14.0		W	24	10.7			3					Blue sky	Thomas Mackereth.
Bradford, Yorkshire	30.04	763.0	30.43	772.9	57.1	13.9		W			2		0			0	0	Blue sky	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	84.5	29.2		SE			1		6					Gloomy	Pvt. G. Surgener, A. H.
Cambridge, Observatory			30.47	773.9	64.0	17.8		NW			1		0					Blue sky	H. Todd. [C.
Cardington			30.42	772.6	61.6	16.4		N			1		0					Blue sky	John McLaren.
Chatham, School M. E.	30.33	770.4	30.46	773.7	52.6	11.4		Calm			0		0					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	30.48	774.2	30.52	775.2	58	14.4		NNE			2		8					D. clouds	J. Mac Gowan.
Dover	30.38	771.6	30.41	772.4	55	12.8		NE			3		0					Clear	J. Costello.
Falmouth, Observatory	30.28	769.1	30.52	775.2	55.5	13.1		SSE			1		1					D. clouds	The Staff.
Fort Napier (Natal)	27.67	702.8	29.98	761.5	71.5	21.9		NE			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.62	752.3	29.84	757.9	87	30.6		SW			0		3					D. clouds	
Galway, Queen's College			30.53	775.4	56	13.3		SW			1		4					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.97	761.2	30.02	762.5	61.5	16.6		E			4		4					D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	30.18	766.6	30.39	771.9	56.3	13.5		WSW			3		9					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.46	773.7	30.47	773.9	48	8.9		NE			2		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.28	769.1	30.45	773.4	63.8	17.7		NNE			1		0					Blue sky	The Staff, for G.B.Airy.‡
Guernsey	30.22	767.6	30.44	773.2	55	12.8		NNW			3		0					Blue sky	Dr. S.E.Hoskins,F.R.S.
Helston	30.40	772.1	30.52	775.2	62	16.7		N			0		0			0	0	Fine	M. P. Moyle.
Holyhead	30.50	774.7	30.53	775.4	52	11.1		NW			2		0					Blue sky	John Tilston.
Jersey	30.16	766.1	30.45	773.4	55.4	13.0		NNE			4		1					D. clouds	J. Fisher.
Kew, Observatory	30.42	772.6	30.45	773.4	59.2	15.1		NNE	9	4.0			0						The Meteorological Of.
Leicester, Museum.	30.19	766.8	30.45	773.4	61.5	16.4		SW			1							Blue sky	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.92	760.0	30.00	762.0	65	18.3		NW			2		3ck			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.18	766.6	30.27	768.8	55	12.8		WSW			4		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	79.0	26.1		S			0		8			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.24	768.1	30.43	772.9	68.3	20.2		SSW			3		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.93	760.2	30.45	773.4	61.0	16.1		NW			2		0					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.46	773.7	61	16.1		Calm			0		0					Blue sky	H. E. Bellamy.
Plymouth	30.41	772.4	30.48	774.2	59.2	15.1		S			2		0					Blue sky	John Merrifield.
Prince Town	28.99	736.3	30.49	774.4	51.0	10.6		SE			1		1					Fine	W. H. Tooker.
*Roche's Point	30.51	774.9	30.62	777.7	58	14.4		SSE			3		2					¾ clouded	Wm. Kennedy.
Saint Ann's Head	30.37	771.4	30.54	775.7	54	12.2		N			1		0					Blue sky	John C. Walker.
Sandwick Manse (Orkney)			30.18	766.6	47.5	8.6		WSW	28	12.5			10					Raining	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.76	755.9	29.82	757.4	64.2	17.9		NE			2		9			Blank	Blank	D. clouds	Serg't W. H.Lyne.
Sheffield	30.16	766.1	30.44	773.2	62.8	17.1		W			1		7			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.42	772.6	30.45	773.4	58.3	14.6	65	W			5		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	30.07	763.8	30.47	773.9	55.5	13.1		W			3							Blue sky	Rev. S. J. Perry.
Stratfield, Turgiss	30.26	768.6	30.48	774.2	61.4	16.3		NE			2		0					Blue sky	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.48	774.2	30.51	774.9	64	17.8		N			6		0					Blue sky	W. Newcombe.
Valencia, Observatory	30.56	776.2	30.59	777.0	56.3	13.5		NNW	14	6.3			1					Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.97	761.2	63.2	17.3	82	NW	7	3.1		10	10			0.030	0.76	Rainy	The Staff, for D. Gill.
Hobart Town (Tasmania).			30.12	765.0	42.0	5.6	87	NW			2		7k			0.05	1.3		FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			30.42	772.6	58.8	14.9		W			4	6ck				0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.71	754.6	29.89	759.3	78.8	26.0	74	NNW	10.0	4.5		1	2			0.19	4.8	Fine	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	49.5	9.7	89	NE	6	2.7			0			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)			30.32	770.1	49	9.4		SSW			6	5	5	SSW		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.98	761.5	46	7.8		N			6		10						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Barometer. Inches.	Barometer. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Force.	Clouds. Amount.	Clouds. Direction.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn,"																Capt. W. J. L. Wharton.
Brig Alliance																Capt. W. Scoes
S. S. Amanda.																Capt. B. Boy.
Barque Belle-Isle																Capt. A. J. Brown.
Ship British Commodore, N. 43° 15′, W. 44° 10′			30.14	765.5	61	16.1		ESE		4		9	3	SE	Overcast	Capt. J. W. Thorne.
—— City of Agra,																Capt. Thos. Young.
Barque Commewyne																Capt. A. Buchan.
Barque Fedalma																Capt. H. L. Fox.
Barque Mertole.																Capt. E. W. Turner.
S. S. Nizam																Capt. Barlow.
S. S. Strathleven,																Capt. C. W. Pearson.
S. S. Wyberton																Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	68.0	20.0	91	SE			1	7cs				0.3	8.		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.27	768.8	30.32	770.0	57.9	14.4	42	W			2		0						
Fanöe	30.38	771.6	30.30	772.1	49.5	9.7	74	WNW			4		0						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.92	759.9	29.95	760.8	41.5	5.3	72	NW			7		6						
Vestervig	30.13	765.4	30.30	769.7	48.9	9.4	66	W			6		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.79	756.6	30.34	770.6	58.6	14.8	44	NE			1		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.21	767.3	30.32	770.1	65.5	18.6	57	NE			2		0			0	0	Clear	Bonvallet, Director
Avignon, Normal School	29.96	761.1	30.04	763.1	64.4	18	50	N			2		9			0	0	Lightly cov.	Giraud, Director
Bar-sur-Seine	29.63	752.7	30.23	767.8	61.0	16.1	52	E			3		5kn		E	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	30.04	763.0	30.30	769.7	61.9	16.6	31	NE			4		0			0	0	Clear	Frere Eugene Marie, Dr
Besançon, Normal School	29.30	744.2	30.29	767.1	53.4	11.9	62	E			2		10		NE	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.1	30.19	766.8	58.1	14.5	60	N			1		5ck	N	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.65	753.1	30.21	767.2	58.6	14.8	60	N			1		2	N	NE	0	0	Slightly cl'dy	A. Waquet, Director
Brest, Naval Observatory	30.14	765.5	30.38	771.7	57.2	14.0	52	NE			3		0			0	0		De Rermaree, Director
Carcassonne, Normal School	29.76	755.9	30.18	766.6	48.6	9.2	86	WNW			1		10	W	WNW	0.04	1.	Covered	September, Director.
Caen, Normal School	30.30	769.5	30.37	771.4	54.0	12.2	54	NE			3		0			0	0	Clear	Lair, Director.
Chartres, Normal School	29.67	753.5	30.23	767.8	64.0	17.8	96	NNE			2		0			0	0	Clear	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.93	760.3	30.24	768.2	67.3	19.6	17	NE			2		5					Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.79	731.2	30.17	766.2	50.7	10.4	58	N			1		10		N	0.024	0.6		Allnard, Director.
Commercy, Normal School.	29.33	744.9	30.19	766.7	56.3	13.5	64	ESE			4		2cn		ESE	0	0	Slightly cl'dy	Dr. Coulet, Director
Commune de Gréasque*	28.90	734.1	30.08	764.1	57.7	14.3	53	S			1		8		SE			Showery	L. Kina, Director.
Grenoble, Normal School	29.34	745.1	30.19	764.5	58.3	14.6	58	E			1		2ck	N	ENE	0	0	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	30.08	763.9	30.29	769.3	63.7	17.6	46	NNW			4		0			0	0	Clear	Mouillot, Director
Le Mans, Normal School	30.00	762.1	30.31	769.9	61.7	16.5	41	NE			4		2		NE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.21	741.9	30.13	765.4	56.3	13.5	35	NE			6	5c			NE	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.30	769.6	30.40	772.1	60.4	15.8	45	NNE			4				NNE	0	0		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	29.13	739.8	30.17	766.2	58.6	14.8	41	SW			3		3k		NE	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.84	757.9	30.04	763.1	62.6	17	50	N			2		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	29.60	736.6	30.06	763.4	60.1	15.6	81	NW			1		cn	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.6			30.2 — 1.0		100	NE			4					0.102	2.6	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.22	767.6	30.25	768.4	66.7	19.3	44	NNE			2		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	30.26	768.6	30.35	770.8	65.5	18.6	35	ENE			3		0			0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.37	771.3	30.40	772.1	57.2	14.0	67	N			3		1		NE	0	0	Fine	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.09	764.3	30.26	768.5	65.1	18.4	31	NE			3	c				0	0		E. Renou, Director.
Tarbes, Normal School	29.12	739.5	30.20	767.1	55.4	13	55	S			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.51	749.6	30.24	768.1	45.3	7.4	100	WNW			1		10			0.059	1.5	Light rain	Mercadier Julier.
Versailles, Observatory	29.76	756.0	30.26	768.6	63.3	17.4	26	NE			6		0			0	0	Very clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.38	746.2	30.11	764.7	60.8	16	88	E			3		5		NW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.74	755.4	29.77	756.1	80.6	27										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.52	749.7	30.13	765.3	58.8	14.9	44	N			1		5		NE	0	0	½ covered	Mr. Jays.
Mont-Louis	24.83	630.7	30.15	765.7	33.4	0.8	71	W	18.6	8.3			10			0	0		M. Cave.
Nice			30.05	763.3	62.1	16.7	72	E			4		2			0	0	¼ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.98	761.6			63.1	17.3	30	NNE			6		0			0	0		Marie Davy, Director.
Perpignan	30.03	762.7	30.13	765.4	58.2	11.8	50	NW	26.2	11.7			0		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.50	571.5			32.9	0.5		W			1		10			0.069	1.74	Snowing	Gen'l de Nansouty.
Tours	30.03	762.8	30.23	767.8	64.0	17.8	36	NE			4		1		E	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.69	754.0	29.71	754.6	62.6	17.0	99	E	9.4	4.2			10n			0.933	23.7	Rainy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. (0–12)	Clouds. Amount. Up'er (0–10)	Low'r (0–10)	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.37	746.1	30.22	767.6	61.7	16.5	34	E			7		2	E		0	0		Prof. Dr. Hoh.
Berlin	30.19	766.8	30.36	771.2	59.5	15.3	31	E			2		0			0	0		Prof. Arndt.
Breslau	29.80	756.9	30.34	770.5	57.2	14.0	29	E			3		0			0	0		Royal University Obs'y
Carlsruhe	29.78	756.5	30.21	767.3	59.4	15.2	51	NE			2		5	NE		0	0		Albert Senz.
Cassel	29.73	755.2	30.39	771.8	64.0	17.8	32	ENE			5		1	W		0	0		Dr. H. Möhl.
Crefeld	30.15	765.8	30.32	770.0	66.7	19.3	30	NE			5		0			0	0		Director Lose.
Emden																0	0		Prof. Prestel.
Frankfort on the Main	29.89	759.2	30.26	768.7	65.1	18.4		NNE			4		0			0	0		Physical Society.
Freienwalde on the Oder	30.33	770.4	30.37	771.4	64.4	18.0	55	NE			1		0			0	0	Clear	Assmann., M. D.
Friedrichshafen	28.74	730.0	30.20	767.1	48.2	9.0	69	ENE			7		10	NE		0	0		M. Wilhelm.
Hamburg	30.32	770.0	30.39	771.8	61.2	16.2	47	Calm			0		0			0	0	Clear	Captain F. Hegeman.
Kiel	30.35	771.0	30.37	771.4	56.8	13.8	36	NE			2		0			0	0		Prof. G. Karsten.
Königsberg (Prussia)	30.34	770.6	30.42	772.7	51.8	11.0	40	W			2		0			0	0		Prof. E. Luther.
Köslin			30.34	770.5	53.6	12.0		N			2		0			0	0		H. Müller.
Leipsic Observatory	29.90	759.4	30.32	770.1	59.7	15.4	30	ENE			3		2			0	0		Prof. Bruhns, Privy Counselor.
Memel	30.35	771.0	30.40	772.2	45.5	7.5	77	SW			2		0						Skalweit.
Neufahrwasser	30.41	772.5	30.43	772.9	57.2	14.0	43	SE			1		0			0	0		A. Lothes.
Posen	30.12	765.0	30.41	772.4	57.0	13.9	43	NE			6		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.69	754.1	30.24	768.1	58.6	14.8	47	NNE			5		9	E		0	0		Imp. University Observatory.
Stuttgart	29.26	743.2	30.20	767.0	58.5	14.7	45	E			1		8	E		0	0		Prof. Schoder.
Treves (Trier)	29.69	754.1	30.22	767.5	62.8	17.1	33	E			5		3			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.69	728.7	30.21	767.1	54.1	12.3	61	ESE	7	3			8ck		E	0.118	3.0		Dr. Van Bebber
Wustrow	30.35	771.0	30.38	771.6	52.2	11.2	59	NW			1		0			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.84	757.8	70.7	21.5		SW			2.0							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.68	753.8	29.73	755.1	85.1	29.5	57	SW					0			0	0	Blue sky	
Deesa					100.6	38.1	15	WSW	7.9	3.5			2	WSW		0	0	D. clouds	
Bombay	29.70	754.5	29.74	755.4	84.9	29.4	74	WNW	11.0	4.9			0			0	0	Blue sky	
Poona	27.76	705.2	29.71	754.5	93.0	33.9	36	NW					0			0	0	Blue sky	
Lahore	28.82	732.1	29.53	750.0	101.2	38.4	12	W	2.9	1.3			0			0	0	Blue sky	
Belgaum	27.23	691.7	29.73	755.1	83.2	28.4	79	W	15.0	6.7			1	E	W	0	0	D. clouds	
Roorkee	28.65	727.8	29.51	749.5	100.9	38.3	9	NW	4.0	1.8			1			0	0	Misty	
Agra	29.02	737.2	29.56	750.8	103.6	39.8	15	NW					7		W	0	0		
Nagpur	28.56	725.3	29.54	750.4	105.2	40.7	17	NW	2.2	1.0			5		E	0	0	D. clouds	
Lucknow	29.17	740.8	29.52	749.9	105.0	40.6	35	NNW	4.8	2.2			0			0	0	Blue sky	
Allahabad	29.24	742.7	29.54	750.2	102.8	39.3	12	NW	4.3	1.9			2	W		0	0	D. clouds	
Patna	29.34	745.3	29.52	749.7	100.7	38.2	17	WNW	0.7	0.3			0			0	0	Blue sky	
Hazaribagh	27.61	701.2	29.54	750.3	95.3	35.2	10	NW	10.0	4.5			0			0	0	Blue sky	
Cuttack	29.47	748.5	29.55	750.5	93.1	33.9		SSW	6.0	2.7			2			0	0	D. clouds	
Calcutta (Alipore)	29.55	750.5	29.57	751.1	88.3	31.3	73	S	10.0	4.5			0			0	0	Blue sky	
Goalpara	29.25	743.0	29.64	752.8	81.8	27.7	81	NE	4.7	2.1			10			0.58	14.7	Gloomy	
Chittagong	29.61	752.1	29.70	754.4	78.3	25.7	84	E	7.6	3.4			4			0	0	Misty	
Sibsagar	29.31	744.5	29.64	752.9	83.3	28.5	74	SW	0.8	0.4			4			0	0	Blue sky	
Jubbulpore	28.25	717.6	29.55	750.5	103.7	39.8	10	NNW	5.1	2.3			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.0	30.02	762.4	63.7	17.6	52	E	1.3	0.6			10			0.299	7.6		Prof. Giovanni Clodig.
Milan	29.53	750.1	30.05	763.3	63.5	17.5	45	WSW			2		4	NNE		0.130	3.3		Prof. Schiaparelli.
Padua	29.92	760.0	30.03	762.7	61.7	16.5	49	ENE	11.2	5.0			7	E		0.327	8.3		Prof. Dott. Lorenzoni.
Moncalieri	29.17	740.8	30.07	763.8	56.7	13.7	64	WNW	1.3	0.6			6	ENE		0.039	1.0		Prof. P. F. Denza.
Genoa	29.82	757.3	30.01	762.2	63.1	17.3	45	N	7.4	3.3			4	NE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.16	715.3	30.07	763.8	49.3	9.6	72	W			2		8			0.142	3.6		Prof. D. C. Bruno.
Pesaro	29.97	761.2	30.02	762.4	56.5	13.6	72	NW	9.4	4.2			10	NW		0.063	1.6		Prof. Luigi Guidi.
Florence	29.74	755.5	30.00	762.0	61.9	16.6	44	NE			4		7	NE		0	0		Cav. F. Meucci
Leghorn	29.90	759.4	29.98	761.6	58.6	14.8	58	NW			4		6	NE		0.039	1.0		Prof. P. Monte.
Rome	29.80	756.9	29.98	761.4	49.1	9.5	97	W	7.4	3.3			10			0.882	22.4		Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.92	760.0	58.3	14.6	64	S	4.3	1.9			5	N		0.039	1.0		Prof. C. De Giorgi.
Cosenza	29.06	738.2	29.55	760.6	59.9	15.5	70	NW	2.5	1.1			5			0.075	1.9		Prof. D. Conti.
Cagliari	29.75	755.6	29.94	760.5	62.2	16.8	40	W			2		2	W		0	0		Prof. A. Pacinotti.
Palermo	29.74	755.3	29.99	761.7	60.4	15.8	48	WNW	4.3	1.9			9	NW		0	0		Prof. G. Cacciatore.
Syracuse	29.89	759.3	29.97	761.2	63.9	17.7	58	SSW	11.2	5.0			6	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.98	761.6	55.9	13.3	74	NE	1.8	0.8			9			0.102	2.6		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.89	759.2	62.4	16.9	79		1.5	0.7			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	64.7	18.2	79	SE	1.5	0.7			10cs;s			0.015	0.38	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.85	758.2	29.91	759.7	58.5	14.7	81	ESE	4.4	2.0		8cs;ck	0			0.005	0.13	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.01	635.3	30.11	764.9	49.1	9.5	46	SW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.39	619.4	30.00	762.0	63.1	17.3	74	NW			1	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.02	584.7	29.94	760.5	58.5	14.7	51	Calm	0	0		0	Haze			0	0	Very hazy	The Staff.
Pabellon (Aguascalientes)					57.9	14.4	38	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.78	756.3	29.79	756.6	77.0	25.0	62	SE			3	0	0			0	0	Hazy	M. M. Chàzaro.
San Luis Potosi	24.10	612.2	29.96	761.0	64.0	17.8	51	WSW			1	0	0			0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.49	571.3	29.98	761.6	62.1	16.7	31	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.37	593.7	30.14	765.5	53.6	12.0	15	ENE	6.3	2.8		0	0			0	0	Fine	Prof. P. Spuna.
Durango																			M. V. de Leon, C. E.
Colima	28.34	719.9	30.00	761.9	74.3	23.5	67	ENE			1	0	6			0	0	Fair	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.41	772.5	30.41	772.5	58.3	14.6		N								0	0		
Groningen	30.36	771.1	30.41	772.5	58.1	14.5		N			1					0	0		
Helder	30.41	772.4	30.41	772.4	50.7	10.4		NNE			2					0	0		
Hellevoetsluis	30.39	771.8	30.39	771.8	63.5	17.5	56	N			3					0	0		
Utrecht	29.96	761.1	30.41	772.3	62.2	16.8	41	NE			4		2			0	0	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.07	763.8	30.13	765.2	44.6	7.0	98	SSW	17.7	7.9			10			1.402	35.6	Rain & fog	
Brönö	29.58	751.4	29.62	752.4	41.4	5.2	90	SW	29	13			10			0.413	10.5	Raining	
Christiania	29.87	758.6	30.01	762.3	61.2	16.2	38	WSW	26	9			10			0	0		
Tromsö	29.33	745.0	29.37	746.1	37.8	3.2	70	SSW	11	5			10			0.276	7.0	Rain & snow	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.67	753.6	29.86	758.5	60.8	16.0	81	ESE	2.5	1.1			7			0	0		Dr. J. A. Sampaio.
Campo Major	29.08	738.6	30.09	764.3	68.0	20.0	25	ENE	15.0	6.7			5			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.93	760.1	30.01	762.3	68.5	20.3	65	SW	3.1	1.4			2			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.6	30.06	763.6	68.5	20.3	27	NE	19.9	8.9			7	W		0	0		The Staff.
Ponta Delgada (Azores)	29.83	757.6	29.90	759.4	64.0	17.8	76	SE	14.3	6.4			3			0.976	24.8		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias, N. 35° 00′, W. 16° 00′			29.90	759.4	69.1	20.6		NNW			2		8		NW	1	NE	D. clouds	A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, N. 12° 39′18″, W. 18° 03′ 51″			29.98	761.4	85.1	29.5		Calm			0		8			1		D. clouds	C. C. da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.78	756.4	83.1	28.4		W			3		6		ESE	1	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.87	758.7	84.9	29.4		Calm			0		2			0		Blue sky	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.78	756.5	81.0	27.2		Calm			0		10			0		Raining	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg,

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.98	760.2	30.36	771.1	53.8	12.1	37	NE	4	2			0						Astronomical Obs.
Wilna	29.94	760.6	30.37	771.5	49.8	9.9	43	WNW	2	1			10						Astronomical Obs.
Dorpat	30.02	762.4	30.26	768.7	52.0	11.1	50	WSW	11	5			0						Prof. Dr. Weihrauch.
St. Petersburg	30.13	765.4	30.15	765.8	46.8	8.2	60	WNW	13	6			8k						Central Physical Obs.
Kieff	29.57	751.1	30.22	767.5	50.2	10.1	34	N	11	5			2k;ks						Physical Cabinet.
Nikolaiev	30.04	763.0	30.11	764.8	58.1	14.5	32	NNE	31	14			0						Kurdakof.
Kertch	29.87	758.8	29.89	759.3	66.2	19.0	66	N	7	3			0						Lagorio.
Moscow	29.60	751.8	30.15	765.9	48.2	9.0	39	NW	7	3			8ks						Meteorological Obs.
Lugan	29.71	754.5	29.91	759.6	67.1	19.5	47	NNE	18	8			6						Meteorological Obs.
Archangel	29.80	756.9	29.82	757.4	37.6	3.1	78	S	9	4			10						Capt. Sseliwerstow.
Tiflis	28.37	720.6	29.71	754.6	82.9	28.3	34	SE	4	2			8k					Heavy clouds	Physical Observatory.
Astrakhan	29.93	760.1	29.84	758.0	70.3	21.3	37	E	11	5			9s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.61	752.0	29.68	758.9	52.0	11.1	46	WSW	9	4			3n						Physical Cabinet.
Ekaterinburg	28.88	733.6	29.85	758.1	45.3	7.4	68	SSE	13	6			10						Meteorological Obs.
Nukuss	29.51	749.5	29.72	755.0	91.9	33.3	34	N	18	8			0						
Tashkend	28.17	715.6	29.63	752.6	86.0	30.0	52	NW	2	1			1						Teich, A. M.
Barnaul	29.04	737.7	29.56	750.7	33.6	0.9	100	NNE	4	2			10					Light clouds	Meteorological Obs.
Yeniseisk	29.66	753.4	29.96	761.0	36.7	2.6	39	NW	2	1			0						Marks.
Irkutsk																			
Peking (China)	29.53	750.1	29.67	753.7	62.1	16.7	45	SE	4	2			7n					Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.82	757.5	29.92	760.0	36.9	2.7	89	E	4	2			7k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.95	760.7	30.06	763.4	59.0	15	54	ESE	5.1	2.28			10			0	0	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	30.24	768.1	30.30	769.5	64.0	17.8	63	NW	2.1	0.93		3	2	NE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.26	692.3			52.7	11.5	44	NE	10.4	4.67			5			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.88	708.1			64.4	18.0	34	N	14.2	6.33		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.91	759.6	30.06	763.4	71.6	22.0	27	NE	3.7	1.67		2	3	NNE		0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.6	30.16	766.0	66.7	19.3	39	NE	13.7	6.1			0			0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.96	760.9	30.02	762.5	77.7	25.4	73	ESE	6.7	3.0		0	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.74	755.5	29.79	756.8	86.0	30.0	90	SW	3.8	1.7			10n		E	0.492	12.5	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.3	30.03	762.8	69.6	20.9	27	ESE	23.4	10.5		3	6	NW	E				Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.89	759.2	29.98	761.5	78.4	25.8	74	NE	0.1	4.06		5ck	2k	NE	NE	0.256	6.50	Cloudy	Leonardo de Tejoda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 800 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.63	752.7	29.67	753.7	37.8	3.2		SW			2		10			0	0		
Umea	29.74	755.5	29.80	756.8	52.5	11.4	59	NW			4		7			0.05	1.3		
Hernosand	29.78	756.4	29.83	757.7	50.4	10.2	93	S			2		9			0	0		
Stockholm	29.84	758.0	30.32	762.5	62.6	17.0	23	WSW			6		0			0	0		
Wisby	30.06	763.4	30.11	764.9	52.2	11.2	52	WSW			7		0			0	0		
Sub-Series.																			
Upsala	29.89	759.3	29.97	761.2	61.3	16.3	32	SW	21.7	9.7			5	WNW		0	0		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.71	729.1	30.14	765.6	50.4	10.2	60	N			3		7			0	0	Cloudy	The Observatory.
Zurich	28.54	724.9	30.20	767.1	47.5	8.6	72	E			4		10			0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.5 mm.; Thermometer,—4.7 Cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.89	759.2	61.2	16.2	87	NNE	10	4.5			10		NE	0	0		The Observatory.
Fao, Persian Gulf			30.00	762.0	84.2	29.0		S			6		0						
Valona			29.96	761.1	66.7	19.3		SW			2		2			0.75	19.	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.75	755.6	29.87	758.6	78.4	25.8	65	SW			3	2c				0	0	D. Clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.32	744.7	29.62	752.3	49	9.4		SW	5	2.2		0	2s		SW	0.21	5.3	Clear	W. R. Bigg
*Chatham, N. B	29.76	755.9	29.82	757.4	40	4.4	89	NE	2	0.9			10n		S	0.01	0.3	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.88	758.9	44	6.7	94	S	11	4.9			10n			0.115	2.92	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.35	745.5	29.54	750.3	52.5	11.4	83	W			3	0	1s			0.18	4.6	Fine	James Smith, M. A.
Dalhousie, N. B	29.63	752.6	29.80	756.9	39.5	4.2		E			1		10n					Raining	H. A. Johnson.
Esquimault, B. C	29.86	758.4	30.01	759.7	45.3	7.4	92	Calm	0	0		10cs	0			0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.67	753.6	29.69	754.1	41	5.0	87	NE	10	4.5			10s		Calm	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.66	753.4	29.73	755.1	44.1	6.7	92	SE	12	5.4			10n			0.34	8.6	Light rain	Prof. Harrison.
*Fort Garry, Manitoba	29.34	745.2	30.19	766.8	35	1.7	90	N	13	5.8		5k	5ks	N	N	0	0	Cloudy	James Stewart.
Granton, Ontario	28.46	722.9	29.54	750.3	51	10.6		S			1		10n			0.08	2.0	Overcast	James Grant.
*Halifax, N. S	29.77	756.1	29.91	759.7	44	6.7	97	S	10	4.5			10n		S	0.431	10.92	Heavy rain	F. Allison, M. A.
Hamilton, Ontario	29.22	742.2	29.58	751.3	53.7	12.1	75	SW			1	10cs	0	SW		0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.29	744.0	29.62	752.3	44	6.7	96	S	4	1.8		5cs	Sm'e	Calm	S	0.35	8.9	Clearing	S. Woods, M. A.
Little Glace Bay, N. S	30.06	763.5	30.10	764.5	50.9	10.5	72	SW	6	2.7		7k	0	SW.		0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	29.78	756.4	29.81	757.2	36.8	2.7	68	N			2	5c	0			0	0	Fair	J. R. Nason.
*Montreal, Quebec	29.23	745.0	29.53	750.0	51	10.6	79	SW	24	10.7		0	0			0.10	2.5	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	28.84	732.5	29.54	750.3	41	5.0	96	E	3	1.3			10n		SE	0.50	12.7	Cloudy	Rev. R. Mosly.
Peterboro, Ontario	28.85	732.8	29.60	751.8	46.7	8.2	91	Calm			0		10s			0.36	9.1	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	28.91	734.3	29.59	751.6	50	10.0	86	SW	13	5.8		5k	5n	SW	SW	0.03	0.8	Cloudy	H. Morgan.
Port Hastings, N. S	29.95	760.7	30.00	762.0	41.6	5.3		S	2	0.9						0.30	7.6	Cloudy	Peter Grant.
Port Stanley, Ontario	28.96	735.6	29.61	752.1	48	8.9	89	W	12	5.4		8k	0	W		0.03	0.8	Cloudy	M. Payne.
*Quebec, Quebec	29.27	743.4	29.60	751.8	39	3.9	100	NE			6		10n		NE	0.05	1.3	Heavy rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.03	737.3	29.48	748.8	46	7.8	84	N	3	1.3			10s		NW	0.28	7.1	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.61	752.1	29.66	753.4	44	6.7	95	S			3		Fog			0.14	3.6	Fog & rain	Dr. Gove.
St. John, N. B	29.57	751.1	29.74	755.4	44	6.7	100	S	12	5.4			10n			1.08	27.4	Light rain	G. Murdock, C. E.
*Saugeen, Ontario	28.80	731.5	29.57	751.1	44	6.7	93	SW	6	2.7			10s			0.28	7.1	Light rain	K. Stewart.
Stayner, Ontario	28.74	730.0	29.50	749.3	51	10.6	79	Calm	0	0			10n		S	0.18	4.6	Cloudy	R. J. Cole.
Stratford, Ontario	28.26	718.3	29.54	750.3	49.3	9.6	74	S	11	4.9			10s			0.06	1.5	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.00	762.0	30.04	763.0	50	10.0	66	S	8	3.6		8cs	5s	W		0.01	0.3	Cloudy	T. C. Hill.
*Toronto, Ontario	29.20	741.7	29.58	751.3	45	7.2	94	S	2	0.9			8ks		SW	0.07	1.8	Light rain	Magnetic Observatory.
Windsor, N. S	29.76	755.9	29.85	758.2	46.0	7.8	92	S	15	6.7			10n			0.13	3.3	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.91	759.7	30.13	765.3	44.0	6.7	84	W				0	0			0.50	12.7	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.50	749.3	29.72	754.9	62	16.7	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	28.89	733.8	29.53	750.0	43	6.1	92	NW	4	1.8	.....	.....	10n	.....	Calm	0.25	6.3	Light rain	
Atlanta, Georgia	28.75	730.2	29.86	758.4	65	18.3	89	NW	7	3.1	.....	10c;k	0	Calm;NW	.....	0.32	8.1	Cloudy	
Atlantic City, New Jersey	29.82	757.4	29.83	757.7	52	11.1	100	S	6	2.7	.....	.....	Fog	.....	Calm	0.17	4.3	Foggy	
Augusta, Georgia	29.75	755.6	29.92	760.0	67	19.4	79	S	4	1.8	.....	.....	10s	.....	S	0	0	Threatening	
Baltimore, Maryland	29.78	756.4	29.82	757.4	61	16.1	77	W	2	0.9	.....	8c	Sm'e	W	Calm	0.03	0.8	Fair	
Barnegat, New Jersey	29.78	756.4	29.80	756.9	58	14.4	93	W	5	2.2	.....	.....	10c	.....	W	0.14	3.6	Cloudy	
Bismarck, Dakota	28.37	720.6	30.23	767.8	31	— 0.6	89	NE	4	1.8	.....	.....	10s	.....	NE	0.11	2.8	Cloudy	
Boerne, Texas	28.34	719.8	29.69	754.1	72	22.2	90	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.95	684.5	29.91	759.7	48	8.9	63	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.56	750.8	29.71	754.6	59.5	15.3	74	SW	11	4.9	.....	5c	Haze	W	Calm	Inap.	Inap.	Hazy	
Brackettville, Texas	28.60	726.4	29.57	751.1	74	23.3	81	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	29.07	738.4	30.10	764.5	33	0.6	79	N	12	5.4	.....	.....	10ks	.....	N	0.06	1.5	Cloudy	
Brownsville, Texas	29.70	754.4	29.75	755.6	80	26.7	74	SE	4	1.8	.....	2cs	0	.....	.....	0	0	Clear	
Buffalo, New York	28.93	734.8	29.61	752.1	50	10.0	58	SW	9	4.0	.....	.....	10s	Calm	SW	0.03	0.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	60	15.6	39	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.33	745.0	29.61	752.1	56	13.3	57	SW	12	5.4	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Cairo, Illinois	29.55	750.6	29.94	760.5	63	17.2	83	W	2	0.9	.....	8c	0	W	.....	0.01	0.3	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.15	638.8	29.95	760.7	56	13.3	46	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.67	677.4	30.01	762.2	53	11.7	42	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.36	694.9	29.93	760.2	39	3.9	91	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	69	20.6	80	SW	24	10.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Henry, Virginia	29.84	757.9	29.85	758.2	66	18.9	84	S	10	4.5	.....	.....	10ks	.....	SW	0.12	3.0	Cloudy	
Cape Lookout, N. Carolina	29.94	760.5	29.95	760.7	69	20.6	85	SW	21	9.4	.....	5ck	Haze	.....	SW	0	0	Hazy	
Cape May, New Jersey	29.76	755.9	29.79	756.7	60	15.6	82	SW	8	3.6	.....	10ck	Fog	SW	SW	0.08	2.0	Cloudy	
Castroville, Texas	28.88	736.1	29.65	753.1	75	23.9	81	SE	8	3.6	.....	0	2ks	W	SE	0	0	Fair	
Charleston, South Carolina	29.90	759.4	29.95	760.7	72	22.2	85	SW	14	6.3	.....	0	5s	.....	SW	0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	34	1.1	52	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.07	738.4	29.74	755.4	51	10.6	72	W	8	3.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.16	740.7	29.79	756.7	60	15.6	60	SW	9	4.0	.....	0	0	.....	.....	Inap	Inap.	Clear	
Cleveland, Ohio	28.93	734.8	29.62	752.3	60	15.6	39	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.00	711.2	29.59	751.6	70	21.1	95	Calm	0	0	.....	.....	10s	.....	NE	0	0	Cloudy	
Columbus, Ohio	28.91	734.3	29.73	755.1	55	12.8	68	S	5	2.2	.....	0	0	.....	.....	0.03	0.8	Clear	
Concho, Texas	27.89	708.4	29.48	748.8	70	21.1	90	N	2	0.9	.....	.....	10ks	.....	N	0	0	Cloudy	
Corsicana, Texas	29.36	745.7	29.81	757.2	70	21.1	95	S	4	1.8	.....	.....	10s	.....	S	0.05	1.3	Cloudy	
Davenport, Iowa	29.22	742.2	29.85	758.2	47	8.3	77	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.44	646.2	.....	.....	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.59	726.2	29.71	754.6	63	17.2	78	E	20	8.9	.....	.....	10s	.....	E	0.80	20.3	Cloudy	
Denison, Texas	29.03	737.3	29.79	756.7	67	19.4	95	E	6	2.7	.....	.....	10n	.....	E	0.59	15.0	Light rain	
Denver, Colorado	24.80	629.8	30.02	762.5	41	5.0	49	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.11	739.4	29.99	761.7	44	6.7	68	N	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Detroit, Michigan	28.93	734.8	29.57	751.1	56	13.3	51	W	10	4.5	.....	8cs	0	.....	.....	0.13	3.3	Fair	
Dodge City, Kansas	27.48	698.0	29.78	756.4	47	8.3	55	NE	12	5.4	.....	.....	10s	W	S	0	0	Cloudy	
Dubuque, Iowa	29.19	741.4	29.89	759.2	43	6.1	67	NW	9	4.0	.....	.....	10ks	.....	NW	0	0	Cloudy	
Duluth, Minnesota	29.26	743.2	29.95	760.7	36	2.2	80	NW	7	3.1	.....	.....	10s	.....	NW	0.72	18.3	Cloudy	
Eagle Pass, Texa	28.99	736.3	29.68	753.9	74	23.3	90	SE	5	2.2	.....	2cs	0	.....	.....	0	0	Fair	
Eastport, Maine	29.62	752.3	29.68	753.9	44	6.7	96	S	15	6.7	.....	.....	10n	Calm	SW	0.25	6.3	Light rain	
Edinburg, Texas	.....	.....	.....	.....	74	23.3	90	S	.....	.....	4	.....	8s	.....	S	0	0	Cloudy	
El Paso, Texas	26.13	663.7	.....	.....	59	15.0	43	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	28.90	734.0	29.59	751.6	58	14.4	53	S	18	8.0	.....	5ck	0	.....	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.03	737.3	29.69	754.1	38	3.3	72	N	15	6.7	.....	.....	10ks	SW	NW	0.28	7.1	Cloudy	
Florence, Arizona	28.36	720.3	29.96	761.0	65	18.3	26	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.10	713.7	.....	.....	36	2.2	80	E	12	5.4	.....	.....	10s	.....	Calm	1.00	25.4	Cloudy	
Fort Craig, New Mexico	25.42	645.7	29.49	749.0	48	8.9	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.06	636.5	30.02	762.5	66	18.9	41	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.39	746.5	29.92	760.0	58	14.4	70	N	5	2.2	.....	8cs	0	.....	.....	0.04	1.0	Cloudy	
Fort Griffin, Texas	28.46	722.9	29.67	753.6	71	21.7	90	E	2	0.9	.....	.....	10s	S	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.54	699.5	.....	.....	34	1.1	79	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.54	699.5	29.35	745.5	72	22.2	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort St. Michael, Alaska	30.16	766.1	30.20	767.1	7	—13.9	100	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.59	726.2	29.66	753.4	64	17.8	83	NE	14	6.3	.....	10ck	0	.....	.....	0	0	Cloudy	
Fort Stevenson, Dakota	28.33	719.6	.....	.....	32	0.0	79	E	7	3.1	.....	.....	10s	W	Calm	0.06	1.5	Cloudy	
Fredericksburg, Texas	28.07	713.0	29.55	750.6	70	21.1	70	S	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.83	757.7	29.87	758.7	76	24.4	91	S	6	2.7	.....	2cs	0	.....	.....	0	0	Clear	
Graham, Texas	28.69	728.7	29.68	753.9	73	22.8	85	Calm	0	0	.....	.....	10s	S	SW	0	0	Cloudy	
Grand Haven, Michigan	29.02	737.1	29.66	753.4	44	6.7	84	NW	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianapolis, Indiana	28.97	735.8	29.72	754.9	56	13.3	54	NW	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear	
Indianola, Texas	29.81	757.2	29.83	757.7	76	24.4	91	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.74	730.0	29.83	757.7	64	17.8	80	SE	12	5.4	.....	.....	10n	.....	SE	0.20	5.1	Light rain	
Jacksonville, Florida	30.00	762.0	30.02	762.5	70	21.1	80	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Keokuk, Iowa	29.28	743.7	29.89	759.2	49	9.4	71	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Key West, Florida	30.01	762.2	30.04	763.0	79	26.1	70	SE	13	5.8	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.86	758.4	29.89	759.2	68	20.0	79	SW	15	6.7	.....	8ck	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	28.94	735.1	29.92	760.0	63	17.2	94	Calm	0	0	.....	.....	10s	.....	W	2.69	68.3	Cloudy	
La Crosse, Wisconsin	29.16	740.7	29.90	759.4	41	5.0	65	N	11	4.9	.....	8k	0	N	.....	0	0	Fair	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	50	10.0	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.32	744.7	29.64	752.8	78	25.6	73	SE	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.16	740.7	30.00	762.0	46	7.8	62	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.62	752.3	29.95	760.7	58.0	14.4	82	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
Louisville, Kentuckey	29.28	743.7	29.82	757.4	62	16.7	61	SW	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Lynchburg, Virginia	29.18	741.2	29.81	757.9	62	16.7	83	SW	1	0.4	.....	.....	10ks	.....	Calm	0.23	5.8	Cloudy	
Madison, Wisconsin	28.81	731.8	29.80	756.9	40	4.4	65	NW	28	12.5	.....	8k	0	NW	.....	0	0	Cloudy	
Marquette, Michigan	28.98	736.1	29.69	754.1	34	1.1	100	NW	20	8.9	.....	.....	10n	.....	Calm	0.44	11.2	Light snow	
Mason, Texas	28.14	714.7	29.81	757.2	73	22.8	81	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.65	753.1	29.96	761.0	64	17.8	88	NW	4	1.8	.....	0	5s	.....	Calm	0.42	10.7	Fair	
Milwaukee, Wisconsin	29.00	736.6	29.73	755.1	41	5.0	74	NW	27	12.1	.....	.....	10s	.....	NW	0	0	Cloudy	
Monroe, Alabama	29.95	760.7	29.99	761.7	72	22.2	90	S	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Montgomery, Alabama	29.77	756.1	30.00	762.0	67	19.4	84	NW	3	1.3	.....	3k	5s	W	W	0.35	8.9	Clearing	
Morgantown, West Virginia	28.74	730.0	29.74	755.4	64	17.8	68	SW	6	2.7	.....	0	0	.....	.....	0.42	10.7	Clear	
Mt. Washington, N. H.	23.37	593.6	29.73	755.1	31	— 0.6	100	NW	96	42.9	.....	.....	Fog	.....	NW	0.16	4.1	Foggy	
Nashville, Tennessee	29.38	746.2	29.89	759.2	67	19.4	74	Calm	0	0	.....	2c	Sm'e	Calm	.....	0.13	3.3	Fair	
New Haven, Connecticut	29.65	753.1	29.76	755.9	63	17.2	72	W	7	3.1	.....	5cs	Haze	Calm	Calm	0.02	0.5	Fair	
New London, Connecticut	29.72	754.9	29.76	755.9	56	13.3	87	W	6	2.7	.....	.....	5ks;fg	.....	NW;W	Inap.	Inap.	Foggy	
New Orleans, Louisiana	29.89	759.2	29.94	760.5	70	21.1	90	S	3	1.3	.....	5cs	Fog	Calm	Calm	0	0	Fair	
Newport, Rhode Island	29.72	754.9	29.77	756.1	53	11.7	86	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New York, New York	29.63	752.6	29.80	756.9	55	12.8	87	W	10	4.5	.....	2cs	Haze	Calm	Calm	0.01	0.3	Fair	
Norfolk, Virginia	29.81	757.2	29.87	758.7	66	18.9	84	SW	12	5.4	.....	5k	2s	Calm	Calm	0.06	1.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
North Platte, Nebraska	27.18	690.4	29.80	756.9	41	5.0	74	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.85	758.2	29.89	759.2	47.3	8.5	85	NW	1	0.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Omaha, Nebraska	28.90	734.0	30.01	762.2	42	5.6	60	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.33	745.0	29.64	752.8	56	13.3	63	S	12	5.4	.....	8c	0	W	.....	0.05	1.3	Fair	
Pembina, Dakota	29.28	743.7	30.14	765.5	34	1.1	79	N	10	4.5	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Philadelphia, Pa	29.75	755.6	29.80	756.9	58	14.4	88	SW	4	1.8	.....	8cs	Fog	N	Calm	0.09	2.3	Cloudy	
Phœnix, Arizona	28.68	728.5	30.45	773.4	59	15.0	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.74	450.7	29.95	760.7	14	—10.0	28	SW	20	8.9	.....	8k	0	SW	.....	0	0	Cloudy	
Pioche, Nevada	28.89	666.8	29.66	753.4	45	7.2	11	S	4	1.8	.....	2c	0	SW	.....	0	0	Fair	
Pittsburg, Pennsylvania	28.96	736.0	29.74	755.4	58	14.4	70	SW	11	4.9	.....	0	0	.....	.....	0.10	2.5	Clear	
Port Huron, Michigan	28.89	733.8	29.52	749.8	55	12.8	56	W	9	4.0	.....	8ck	0	W	.....	0.01	0.3	Fair	
Portland, Maine	29.61	752.1	29.66	753.4	52	11.1	86	S	3	1.3	.....	.....	10s;fg	.....	Calm	0.08	2.0	Cloudy	
Portland, Oregon	29.90	759.4	30.00	762.0	44.5	6.9	88	S	1	0.4	.....	0	8s	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.63	725.6	29.99	761.7	42	5.6	42	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.03	737.3	29.85	758.2	64	17.8	94	E	7	3.1	.....	.....	10n	.....	E	0.08	2.0	Light rain	
Punta Rassa, Florida	30.04	763.0	30.05	763.3	78	25.6	78	SE	10	4.5	.....	2k	0	SE	.....	0	0	Clear	
Red Bluff, California	29.57	751.1	29.93	760.2	54.7	12.6	71	S	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Rio Grande City, Texas	29.56	750.8	29.77	756.1	75	23.9	95	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.60	736.6	29.59	751.6	55	12.8	50	SW	11	4.9	.....	5c	5s	SW	SW	0.04	1.0	Cloudy	
Roseburg, Oregon	29.43	747.5	30.01	762.2	45.5	7.5	92	NW	3	1.3	.....	2ck	5s	S	S	0.11	2.8	Cloudy	
Sacramento, California	29.88	758.9	29.96	761.0	50	10.0	79	S	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
St. Louis, Missouri	29.35	745.5	29.92	760.0	55	12.8	45	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.02	762.5	30.04	763.0	67	19.4	95	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
St. Paul, Minnesota	29.08	738.6	29.92	760.0	39	3.9	63	NW	12	5.4	.....	5cs	0	NW	.....	0.07	1.8	Fair	
Salt Lake City, Utah	25.45	646.4	29.78	756.4	44	6.7	37	SE	4	1.8	.....	8k	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.18	741.2	29.73	755.1	75	23.9	68	SE	4	1.8	.....	5c	0	SE	.....	0	0	Fair	
San Diego, California	29.91	759.7	29.98	761.5	58	14.4	76	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	28.98	736.1	29.62	752.3	58	14.4	48	SW	21	9.4	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.75	755.6	29.78	756.4	56	13.3	87	W	12	5.4	.....	5ck;cs	Haze	NW	Calm	0.10	2.5	Hazy	
San Francisco, California	29.95	760.7	30.02	762.5	49	9.4	81	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.21	589.5	29.75	755.6	45	7.2	76	E	3	1.3	.....	5ck	Haze	SW	Calm	0.37	9.4	Fair	
Savannah, Georgia	29.90	759.4	29.98	761.5	77	25.0	65	SW	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear	
Shreveport, Louisiana	29.64	752.8	29.85	758.2	70	21.1	95	S	4	1.8	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Silver City, New Mexico	24.23	615.4	30.34	770.6	50	10.0	51	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.95	760.7	29.98	761.5	70	21.1	90	SW	12	5.4	.....	5ck	Haze	SW	Calm	0	0	Fair	
Springfield, Massachusetts	29.62	752.3	29.75	755.6	58	14.4	82	S	3	1.3	.....	0	2ks	.....	S	0	0	Fair	
Stockton, Texas	26.76	679.7	29.76	755.9	64	17.8	48	SW	16	7.2	.....	2k	0	SW	.....	0	0	Fair	
Thatcher's Island, Mass.	29.67	753.6	29.72	754.9	52	11.1	86	SW	10	4.5	.....	0	Haze	.....	.....	Inap.	Inap.	Clear	
Toledo, Ohio	28.97	735.8	29.62	752.3	59	15.0	48	W	16	7.2	.....	0	2ks	.....	W	Inap.	Inap.	Clear	
Tucson, Arizona	27.41	696.2	29.96	761.0	61	16.1	40	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.54	750.3	30.04	763.0	51.0	10.6	79	E	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Uvalde, Texas	28.69	733.8	29.69	754.1	72	22.2	85	E	5	2.2	.....	.....	4s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	68	20.0	95	SE	7	3.1	.....	.....	10s	.....	SE	0.67	17.0	Cloudy	
Virginia City, Montana	24.18	614.2	29.66	753.4	40	4.4	39	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.59	751.6	29.96	761.0	52	11.1	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.71	754.6	29.82	757.4	57	13.9	87	S	1	0.4	.....	2cs	8s;fg	SW	Calm;S	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	56	13.3	40	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.86	758.4	29.94	760.5	71	21.7	80	SW	17	7.6	.....	5cs	Haze	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	44	6.7	60	S	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Wood's Holl, Mass.	29.71	754.6	29.75	755.6	50	10.0	100	W	16	7.2	.....	.....	10s;fg	.....	.....	0	0	Foggy	
Yankton, Dakota	28.81	731.8	30.13	765.3	38	3.3	63	NW	10	4.5	.....	2ck	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.64	752.8	29.80	756.9	63	17.2	67	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	28.38	720.8	29.76	755.9	58	14.4	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I.	29.96	761.0	30.01	762.2	79	26.1	69	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbruck.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	68.8	20.4	89	N	.....	.....	1	.....	10n	.....	.....	0.23	5.8	.....	Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	79	26.1	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.00	762.0	30.01	762.2	80	26.7	87	E	.....	.....	3	0	4k	.....	.....	0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.25	768.3	30.30	769.6	24.0	— 4.4	94	NE	10	4.5	.....	1c	3s	N	NE	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.8 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	29.98‡	761.5‡			74	23.3	90	SW	5	2.2			10		SW					Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡			59	15.0	85	Calm			0		10ks		W	0	0			Cloudy	
Adams, Panama	29.82‡	757.4‡			79	26.1	95	W			1		8		W					Fair	
Alaska, Sitka, Alaska	29.76‡	755.6‡			37	2.8	81	E			4		10			0.038	0.97			Snowing	
Alliance, Tunis, Africa	30.07‡	763.8‡			62	16.7	56	ESE			1–2		6							Pleasant	
Ashuelot, Canton, China	29.74‡	755.4‡			81	27.2	83	NNW			2		10					Smooth		Cloudy	
Canonicus, New Orleans, La	29.97‡	761.2‡			71	21.7	100	SE			2		Fog							Foggy	
Colorado, New York, N. Y.	29.81‡	757.2‡			59	15.0	82	SW	4	1.8			10		WNW	0.03	0.8			Hazy	
Constitution, N. 28° 23′, W. 51° 04	29.88‡	758.8‡			76	24.4	100	SE			6		9		SE			Smooth	SE	Cloudy	
Despatch, Genoa, Italy	29.99‡	761.7‡			64	17.8	48	N			2		2		N	0	0	Smooth		Clear	
Enterprise, N. 41° 59′, W. 11° 15′	30.15‡	765.8‡			60	15.6	65	ESE			4		2		S;E			Mod'ate		Squally	
Franklin, Norfolk, Va	29.86‡	765.5‡			67	19.4	95	SW	10.8	4.8			10		SW	0.06	1.5			Cloudy	
Hartford, Colonia, Uruguay.....*	29.86‡	758.4‡			60	15.6	88	NE			2		10		NE	0	0			Cloudy	
Michigan, Erie, Pa					58	14.4	58	SSW			4		8		W					Cloudy	
Monongahela, Yokohama, Japan	29.88‡	758.9‡			61	16.1	77	E			2		10			Light	Light			Overcast	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡			70	21.1	85	SSW	13	5.8			0			0	0			Clear	
Onward, Callao, Peru.....†*	30.06‡	763.5‡			62	16.7	91	WNW			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.69‡	754.1‡			63	17.2	89	SE			2		10							Overcast	
Passaic, Washington, D. C.					60	15.6	88	Calm			0		2							Clear	
Pensacola, Callao, Peru	29.97‡	761.2‡			63	17.2	94	WNW	2	0.9			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va	29.86‡	758.4‡			62	16.7	88	SSW			2		10		Calm			Smooth		Cloudy	
Powhattan, Norfolk, Va	29.97‡	761.2‡			65	18.3	63	SW			2		10		SW	0.1	3.			Gloomy	
Quinnebaug, Alexandria, Egypt .....*	29.89‡	759.2‡			77	25.0	56	NW			3		0							Clear	
Ranger, Amoy, China	29.70‡	754.4‡			77	25.0	91	S			2		8		Calm			Smooth		Cloudy	
Richmond, Singapore, China	29.76‡	755.9‡			81	27.2	96	N			1		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.76‡	755.9‡			75	23.9	109	SE			2		0							Clear	
Santee, Annapolis, Md.	29.85‡	758.2‡			60	15.6	88	WNW			1		10		W	0.01	0.3			Cloudy	
Saratoga, N. 35° 00′, W. 28° 07′	29.89‡	759.2‡			65	18.3	73	W			2		10		Calm	Light	Light	Smooth		D. clouds	
St. Louis, League Island, Pa	29.86‡	758.4‡			59	15.0	82	SW	3	1.3			10		wsw	0.1	3.			Cloudy	
Trenton, Genoa, Italy	29.98‡	761.5‡			65	18.3	44	N			4		2		N	0	0	Smooth		Fair	
Tuscarora, Port Sacrificios, Mex.	29.88‡	758.9‡			75	23.9	81	SW			1		0			0	0	Smooth		Hazy	
Vandalia, N. 13° 50′, W. 77° 24′	30.02‡	762.5‡			77	25.0	100	ESE			4		10		N			Mod'ate	ESE	Cloudy	
Wabash, Boston, Mass	29.71‡	754.6‡			55	12.8	68	SW	4	1.8			5			0	0			Cloudy?	
Wyoming, N. 39° 47′, E. 147° 00′	29.97‡	761.2‡			56	13.3	94	WNW			3		8		NW			Mod'ate	NW	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, Liverpool, Eng.....†*				55	12.8		W			1		0						Clear	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Dearborn.
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.78‡	756.4‡				W			6		n			0.5 in. or 13.mm			Rainy	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.06‡	763.5‡	58	14.4	70	NW			2		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.94‡	760.5‡				WSW			4		10		W				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 33° 19′, E. 151° 44′		29.84‡	757.9‡	67	19.4	74	W			2		78			0	Smooth		Misty	D. A. Joyce.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 44° 47′, W. 43° 26′		30.23‡	767.8‡	62.0	16.7	66	SSW			3		10				Smooth	W	Cloudy	Capt. C. Undütsch.
S. S. Leipzig, N. 39° 30′, W. 57° 34′		30.32‡	770.1‡	60.0	15.6	55	E			2		5		E		Smooth	E	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.11‡	764.8‡				N			3		5		N		Rough		Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 46° 36′, W. 41° 30′		30.30‡	769.6‡	57	13.9	87	ESE			0–1		9		E	Mod'ate	Smooth		Cloudy	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 33° 45′, W. 72° 16′		30.10‡	764.5‡	68	20.0	95	SSW	12	5.4			2k		SW	0	Rough	SSW	Clear	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 21° 52′, W. 65° 45′		29.72‡	754.9‡				NE	20	8.9			1		NE	0	Long	NE	Clear	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

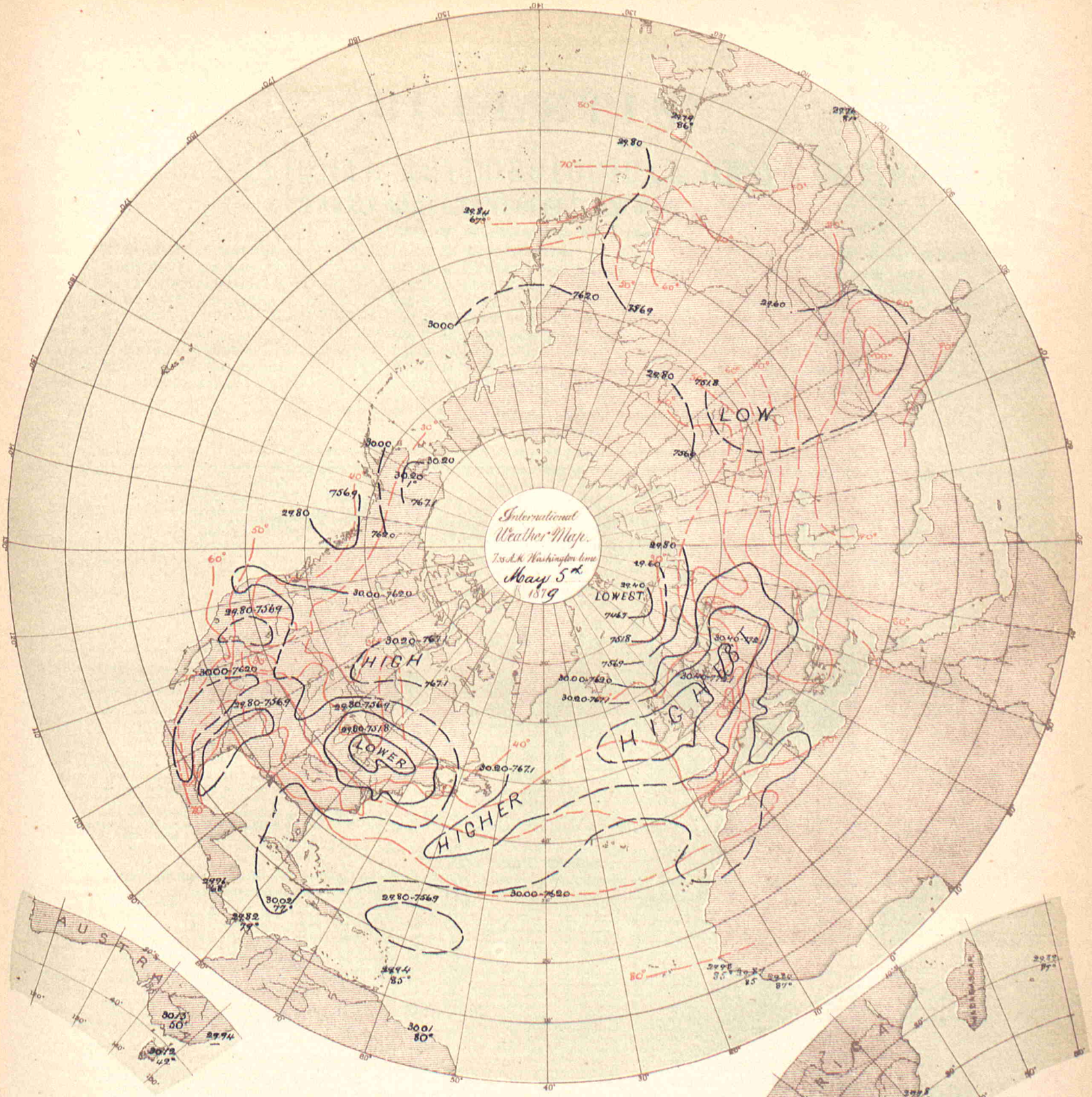
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 6, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Incles.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.95	760.6	66.0	18.9	64	E			2		5			0	0	Cloudy	Kesxuche.
Algiers			29.91	759.8	64.4	18.0	57	NNE			1		0			0	0	Clear	Tourliliere.
La Calle			29.98	761.4	60.1	15.6	64	NW			6		5			0.197	5.00	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.05	763.2															Gan.
Saida			29.95	760.8	68.4	20.2	19	S			6		5			0	0	Cloudy	Herbin.
Tebessa			30.03	762.8	60.1	15.6	45	NW			4		5			0	0	Cloudy	Watrin.
Geriville			29.95	760.6	65.3	18.5	41	N			1		8			0	0	Very cloudy	Brugniaux.
Laghouat			29.94	760.5	67.6	19.8	31	NNW			2		2			0	0	Fair	Bertrand.
Biskra			30.00	762.1	76.3	24.6	26	NW			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 830? meters, or 2,92?.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.32	744.6	29.86	758.4	58.3	14.6	64	NE			1		8			0.024	0.6	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.7	29.84	757.8	60.1	15.6	48	NNW			1		0			0	0		Dr. Wierzbiski.
Eperies	28.95	735.3	29.81	757.2	59.7	15.4	42	S			2		3cs			0	0		Julius Mikolik.
Gratz	28.61	726.8	29.85	758.1	57.2	14.0	60	SE			3		8			0.307	7.8		Andreas Rospini.
Hermannstadt	28.44	722.4	29.85	758.3	56.7	13.7	43	E			3		5			0	0		Prof. A. Gottschling.
Kremsmünster	28.54	724.9	29.89	759.2	47.5	8.6	87	W			1		10			0	0		Prof. C. Wagner.
Lemberg	28.89	733.9	29.86	758.4	62.1	16.7	55	S			1		0			0	0		Dr. T. Stanecki.
Pola	29.71	754.4	29.81	757.2	64.4	18.0	51	ENE			1		3			0	0		I.R.Hydrographic Office
Szathmar	29.42	747.3	29.88	759.0	60.4	15.8	37	SW			2		0			0	0		Julius Csics, S. J.
Szegedin	29.60	751.7	29.87	758.7	61.7	16.5	50	S			2		5			0	0		Karl Stancel.
Trieste	29.73	755.1	29.83	757.7	66.2	19.0	34	NE			2		2			0	0	Almost clear	P. Busin.
Vienna	29.15	740.5	29.86	758.4	59.5	15.3	57	NNE			1		1			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.11	764.8	30.21	767.3	36.2	2.3		N	25	11.2			9			0.170	4.32	Snow-sq'alls	W. Boswell.
Ardrossan	30.24	768.1	30.26	768.6	47	8.3		NNW			3		8					Overcast	William McNeil.
Armagh, Observatory			30.35	770.9	45.3	7.4		N	18	8.0			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.21	767.3	46.0	7.8		WNW	21	9.4			8					Overcast	John Hartnup.
Bolton (Sharples)			30.17	766.3	47.4	8.6		NNE	18	8.0			5					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.75	755.6	30.14	765.5	47.7	8.7		N			5		6			0	0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.90	759.4	29.93	760.2	85	29.4		SE			1		2					D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory			30.11	764.8	46.0	7.8		N			2		10					Hailing	H. Todd.
Cardington			30.10	764.5	49.0	9.4		N			2		8					Overcast	John McLaren.
Chatham, School M. E.	29.97	761.2	30.10	764.5	47.0	8.3		NE			3		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	30.27	768.8	30.31	769.9	51	10.6		N			5		8					D. clouds	J. Mac Gowan.
Dover	30.04	763.0	30.06	763.5	48	8.9		NE			4		7					Showery	J. Costello.
Falmouth, Observatory	29.95	760.7	30.18	766.6	49.9	9.9		NNW			5		5					D. clouds	The Staff.
Fort Napier (Natal)	27.67	702.8	29.98	761.5	71.5	21.9		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4		N			1		3					D. clouds	
Galway, Queen's College			30.34	770.6	50	10.0		N			5		9					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.94	760.5	30.00	762.0	62.7	17.1		E			4		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	30.03	762.8	30.24	768.1	45.9	7.7		N			5		9					Gloomy	D. G. Maclean.
Great Yarmouth	30.06	763.5	30.06	763.5	45	7.2		N			5		5					Squally	G. T. Watson.
Greenwich, Royal Obs'y	29.93	760.2	30.10	764.5	47.6	8.7		NNE			4		10					Overcast	The Staff, for G.B.Airy.
Huernsey	29.87	758.7	30.10	764.5	50	10.0		WNW			1		10					Raining	Dr. S.E.Hoskins, F.R.S.
Helston	30.12	765.0	30.24	768.1	52	11.1		N			4		4k			0	0	Fine	M. P. Moyle.
Holyhead	30.23	767.8	30.26	768.6	45	7.2		NNW			6		1					Blue sky	John Tilston.
Jersey	29.84	757.9	30.14	765.5	49.3	9.6		NW			3		10					Raining	J. Fisher.
Kew, Observatory	30.07	763.8	30.11	764.8	47.0	8.3		NNE	23	10.3			8					D. clouds	The Meteorological Of.
Leicester, Museum.	29.86	758.4	30.12	765.0	48.8	9.3		NE			4		9					D. clouds	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.99	761.7	67	19.4		NW			3		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.18	766.6	30.28	769.1	41	5.0		NNW			6		10			Blank	Blank	Overcast	W. D. Penny.
Nassau (Bahamas)			30.05	763.3	80.0	26.7		E			1		5			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.97	761.2	30.16	766.1	47.7	8.7		NNE			5		5k;ck		N	0.020	0.51	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.62	752.3	30.15	765.8	46.0	7.8		NE			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.12	765.0	49	9.4		NE			4		7					Squally	H. E. Bellamy.
Plymouth	30.05	763.3	30.12	765.0	55.1	12.8		NW			5		1					Blue sky	John Merrifield.
Prince Town	28.68	728.5	30.18	766.6	44.0	6.7		NE			2		10					Foggy	W. H. Tooker.
*Roche's Point	30.27	768.8	30.37	771.4	51	10.6		NNE			6		5					⅝ clouded	Wm. Kennedy.
Saint Ann's Head	30.06	763.5	30.23	767.8	47	8.3		N			6		4					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			30.25	768.3	36	2.2		N	38	17.0			5					Showery	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.60	751.8	29.66	753.4	64.4	18.0		S			1		6			Blank	Blank	D. clouds	Serg't W. H.Lyne.
Sheffield	29.93	760.2	30.22	767.6	49.1	9.5		NNE			3		6			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.18	766.6	30.20	767.1	50.5	10.3	47	NE			6		4			Inap	Inap.	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.78	756.4	30.18	766.6	46.9	8.3		NNW			3		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.88	758.9	30.10	764.5	53.3	11.8		N			2–3		9					Showery	Rev. C.H.Griffith, F.M.S.
Truro, Royal Institution	30.18	766.6	30.21	767.3	53	11.7		N			7		5					D. clouds	W. Newcombe.
Valencia, Observatory	30.36	771.1	30.38	771.6	53.3	11.8		N	30	13.4			8					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.98	761.5	64	17.8	61	W	8	3.6		6	4			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania).			30.02	762.5	40.0	4.4	75	N			2		2k			0.01	0.3	Star-light	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.25	768.3	40.9	4.9		N			4	0	9k			0.05	1.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.71	754.6	29.90	759.4	79.2	26.2	75	W	5.5	2.5		5	2	NW	WNW	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	46.8	8.2	87	S	3	1.3			10			0	0	Dense fog	R. L. J. Ellery.
Monach Lighthouse (Hebrides)			30.41	772.4	41	5.0		N			7	5	5	N		0.2	5.		J. Youngclause.
North Unst (Shetland Is.)			30.08	764.0	36	2.2		N			8		7					Sleeting	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
Brig Alliance				Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore, N. 43° 15′. W. 42° 25′	3	East	Misty	Capt. J. W. Thorne.
—— City of Agra,				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole.				Capt. E. W. Turner.
S. S. Nizam, N. 21° 00′. E. 114° 00′,	Long	SE	Thunder;l'ghtn'g	Capt. Barlow.
S. S. Strathleven,				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	66.6	19.2	96	SE			1		9sd			0.96	24.4		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.54	750.2	29.58	751.4	45.5	7.5	83	WSW			4		10					Raining	
Fanöe	29.69	754.0	29.71	754.5	43.9	6.6	71	WNW			6		7					Raining	
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.41	772.4	30.44	773.3	33.8	1.0	63	N			5		10						
Vestervig	29.37	746.1	29.54	750.4	44.6	7.0	77	W			7							Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.4	30.06	763.4	60.4	15.8	71	NE			1		5		NW	0	0	Cloudy	Colignon, Director.
Amiens, Normal School	29.94	760.4	30.05	763.2	57.2	14	57	NW			1		10			0	0	Covered	Bonvallet, Director
Avignon, Normal School	29.87	758.6	29.94	760.6	68.7	20.4	50	N			1		0			0	0	Very fine	Giraud, Director
Bar-sur-Seine	29.40	746.8	29.94	760.6	64.8	18.2	38	NW			1		5kn		NW	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.73	755.2	30.00	761.9	57.4	14.1	56	NW			2		10		NW	0	0	Covered	Frere Eugene Marie, Dr
Besançon, Normal School	29.08	738.6	29.96	760.9	61.7	16.5	54	W			1		2		NW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.20	741.6	30.04	762.9	66.4	19.1	54	NW			1		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.54	750.4	30.09	764.2	64.0	17.8	51	W			1		2	N	W	0	0	Slightly cld'y	A. Waquet, Director
Brest, Naval Observatory	29.87	758.8	30.12	765.0	56.1	13.4	70	NNW			1		10		NW	0	0		De Rermaree, Director
Carcassonne, Normal School	29.69	754.0	30.10	764.5	61.2	16.2	53	WNW			2		5	WNW	WNW	0	0	Cloudy	September, Director.
Caen, Normal School	30.00	762.0	30.08	763.9	52.5	11.4	61	NW			1		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.44	747.7	29.99	761.8	68.0	20	87	N			1		9	S	SW	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.72	754.9	30.04	762.9	66.7	19.3	23	NW			2		8	N	N			Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.5	30.02	762.5	61.2	16.2	37	NW			1		10		N	0	0		Alluard, Director.
Commercy, Normal School	29.08	738.7	29.94	760.4	58.5	14.7	58	NW			1	2c			NW	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.6	29.98	761.6	63.1	17.3	46	NW			2		2		NW	0.08	2.	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.23	742.4	29.99	761.7	60.4	15.8	58	NW			1	2ck		NE		0	0	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.89	759.3	30.10	764.6	68.2	20.1	41	NNW			1		0			0	0	Clear	Mouillot, Director
Le Mans, Normal School	29.74	755.4	30.05	763.3	53.1	11.7	80	NW			3		2		NW	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.04	737.5	29.96	760.9	63.9	17.7	41	N			2		5k		NE	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.04	763.0	30.14	765.6	61.5	16.4	55	NW			2				NW	0	0		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Directo.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.86	733.0	29.88	758.9	60.4	17.8	44	S			1		8k		N	0	0	Very cloudy	Barbier, Director.
Nismes, Normal School	29.72	755.0	29.93	760.1	69.8	21	41	W			2		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.96	735.6	30.02	762.4	60.8	16	69	N			1		on	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.17	639.4			39.2	4.0	83	NNW			2		9		NNW	0	0	Almost cov.	Alluard, Director.
Rochefort, Naval Obs'y	30.08	763.9	30.11	764.7	69.8	21.0	55	W			1		2	N	N	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.96	760.9	30.04	763.1	53.8	12.1	69	ENE			2		10		N	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.08	763.9	30.10	764.6	50.7	10.4	91	WNW			3		10	WNW	WNW	0	0	Covered	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.2	29.98	761.4	64.0	17.8	30	NW			2			NW	WNW	0.067	1.7		E. Renou, Director.
Tarbes, Normal School	28.96	735.5	30.05	763.2	51.8	11	52	W			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.38	746.3	30.11	764.7	63.0	17.2	59	NW			1		7			0.028	0.7		Mercadier Julier.
Versailles, Observatory	29.53	750.1	30.02	762.6	63.0	17.2	32	NW			3		9			0.078	1.97	Almost cov'd	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.25	743.0	29.94	760.6	68.0	20	55	NW			3		8		NW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.74	755.5	29.77	756.2	78.8	26										0.08	2.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.36	745.8	29.96	761.0	64.9	18.3	46	NNE			1		2kn		NW	0	0		Mr. Jays.
Mont-Louis	24.90	632.5	30.22	767.5	45.5	7.5	62	NW	18.6	8.3			4		W	0	0		M. Cave.
Nice			29.92	760.0	65.1	18.4	69	W			3		1			0	0	Fine	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.70	754.4			62.2	16.8	35	WNW			3		9		W	0	0		Marié Davy, Director.
Perpignan	29.92	760.0	30.03	762.7	63.0	17.2	37	NW	22.4	10.0			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.54	572.4			35.8	2.1		W			1		10			0.022	0.57	Snowy	Gen'l de Nansouty.
Tours	29.30	757.0	30.00	762.0	65.8	18.8	38	NNW			2		2		N	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.68	753.9	29.71	754.5	68.9	20.5	97	ENE	2.7	1.2			9k		WNW	0.004	0.1	Stormy	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall is measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–12	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.99	736.3	29.83	757.6	63.3	17.4	37	SW			5		4	SW		0	0		Prof. Dr. Hoh.
Berlin	29.59	751.6	29.76	755.8	66.2	19.0	28	SW			2		3			0	0		Prof. Arndt.
Breslau	29.30	744.1	29.82	757.5	60.1	15.6	32	SSE			1		0			0	0		Royal University Obs'y
Carlsruhe	29.43	747.6	29.85	758.2	65.3	18.5	48	SW			2		8	NW		0	0		Albert Senz.
Cassel	29.22	742.2	29.82	757.5	64.8	18.2	32	WNW			6		2	NW		0.056	1.43		Dr. H. Möhl.
Crefeld	29.76	755.9	29.92	760.0	48.0	8.9	82	N			5		10					Raining	Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.48	748.7	29.84	757.9	68.0	20.0		NW			1		3			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	29.67	753.6	29.71	754.6	69.1	20.6	52	W			4		0						Assmann., M. D.
Friedrichshaten	28.52	724.3	29.95	760.8	52.7	11.5	76	SSW			2		0			0.083	2.1		M. Wilhelm.
Hamburg	29.69	754.1	29.76	755.9	47.1	8.4	89	WNW			5		10n			0.035	0.9	Raining	Captain F. Hegeman.
Kiel	29.70	754.4	29.72	754.8	46.2	7.9	79	WNW			3		10			0.072	1.83		Prof. G. Karsten.
Königsberg (Prussia)	29.74	755.3	29.82	757.4	58.6	14.8	34	W			5		0			0	0		Prof. E. Luther.
Köslin			29.64	752.9	63.1	17.3		SW			6		0			0	0		H. Müller.
Leipsic Observatory	29.36	745.6	29.76	756.0	65.5	18.6	28	SW			2		2			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.75	755.6	29.80	756.8	50.7	10.4	56	SW			5		0						Skalweit.
Neufahrwasser	29.73	755.1	29.74	755.5	63.3	17.4	35	SSW			3		0			0	0		A. Lothes.
Posen	29.56	750.8	29.85	758.1	61.9	16.6	34	S			2		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.36	745.8	29.90	759.4	66.4	19.1	46	S			3		5	SW		0	0		Imp. University Observatory.
Stuttgart	28.93	734.7	29.85	758.1	62.2	16.8	40	SW			1		8	W		0.110	2.8		Prof. Schoder.
Treves (Trier)	29.33	745.0	29.85	758.2	64.4	18.0	32	W			6		3			0.009	0.23		Prof. Flesch.
Weissenburg (Bavaria)	28.39	721.2	29.87	758.6	60.1	15.6	49	Calm	0	0			7ck		WNW	0	0		Dr. Van Bebber.
Wustrow	29.63	752.6	29.65	753.2	49.6	9.8	76	WSW			5		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.33	745.0	29.72	754.9	64.8	18.2		SW			3.0							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.69	754.1	29.74	755.4	83.5	28.6	68	WSW					1			0	0		D. clouds
Deesa					97.9	36.6	22	W	10.4	4.6			1	SW		0	0		D. clouds
Bombay	29.71	754.7	29.75	755.7	86.5	30.3	70	NW	26.0	11.6			2	WSW	WNW	0	0		D. clouds
Poona	27.75	704.9	29.69	754.2	93.1	33.9	39	NW					3			0	0		D. clouds
Lahore	28.84	732.4	29.54	750.4	101.2	38.4	12	NW	1.4	0.6			0			0	0		Blue sky
Belgaum	27.25	692.1	29.74	755.3	84.7	29.3	69	W	22.0	9.8			1	W	W	0	0		D. clouds
Roorkee	28.69	728.7	29.54	750.4	101.9	38.8	8	NW	3.2	1.4			0			0	0		Misty
Agra	29.05	737.8	29.58	751.4	105.6	40.9	13	W					0			0	0		
Nagpur	28.58	725.9	29.57	751.0	106.2	41.2	17	N	4.5	2.0			8		E	0	0		D. clouds
Lucknow	29.20	741.6	29.55	750.7	106.0	41.1	36	NW	3.2	1.4			0			0	0		Blue sky
Allahabad	29.27	743.4	29.57	751.0	103.1	39.5	17	Calm	3.2	1.4			0			0	0		Blue sky
Patna	29.37	746.0	29.54	750.4	101.3	38.5	20	W	1.8	0.8			0			0	0		Blue sky
Hazaribagh	27.62	701.5	29.55	750.5	96.8	36.0	11	NW	7.0	3.1			0			0	0		Blue sky
Cuttack	29.51	749.5	29.59	751.6	91.4	33.0		S	5.0	2.2			0			0	0		Blue sky
Calcutta (Alipore)	29.59	751.6	29.61	752.1	88.5	31.4	68	S	8.0	3.6			0			0	0		Blue sky
Goalpara	29.25	743.0	29.64	752.8	82.5	28.1	68	NNW	3.1	1.4			7			0	0		Thunder
Chittagong	29.64	752.9	29.74	755.3	78.8	26.0	80	ENE	6.9	3.1			3			0	0		Misty
Sibsagar	29.33	744.9	29.66	753.3	84.2	29.0	74	SW	1.2	0.5			10	SW	SW	0	0		D. clouds
Jubbulpore	28.27	718.0	29.57	751.0	103.2	39.6	13	Calm	3.8	1.7			4		E	0	0		D. clouds

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.43	747.5	29.84	757.9	64.8	18.2	53	S	1.3	0.6			9			0	0		Prof. Giovanni Clodig.
Milan	29.32	744.8	29.84	757.9	67.3	19.6	38	SW			4		2			0.063	1.6		Prof. Schiaparelli.
Padua	29.74	755.4	29.85	758.1	64.8	18.2	45	ESE	6.9	3.1			5	N		0.008	0.2		Prof. Dott. Lorenzoni.
Moncalieri	28.94	735.0	29.84	758.0	65.1	18.4	43	ESE	4.9	2.2			1			0	0		Prof. P. F. Denza.
Genoa	29.67	753.6	29.86	758.4	66.6	19.2	45	NW	4.3	1.9			2	NE		0.067	1.7		Prof. G. M. Garibaldi
Mondovi	27.96	710.1	29.87	758.7	60.4	15.8	41	NW			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.79	756.6	29.84	757.8	59.4	15.2	74	NW	9.4	4.2			10	NW		0	0		Prof. Luigi Guidi.
Florence	29.59	751.5	29.84	758.0	64.9	18.3	46	NE			4		8	NE		0	0		Cav. F. Meucci
Leghorn	29.78	756.3	29.86	758.4	61.3	16.3	75	W			4		7			0.039	1.0		Prof. P. Monte.
Rome	29.63	752.5	29.80	757.0	64.4	18.0	64	W	11.9	5.3			10			0.063	1.6		Prof. P. S. Ferrari
Lecce	29.52	749.9	29.78	756.3	58.5	14.7	61	WSW	5.4	2.2			6	N		0.008	0.2		Prof. C. De Giorgi.
Cosenza	28.91	734.3	29.79	756.7	60.6	15.9	74	NW	1.3	0.6			7			0.012	0.3		Prof. D. Conti.
Cagliari	29.69	754.1	29.88	759.0	60.1	15.6	50	NW			4		9	N		0	0		Prof. A. Pacinotti.
Palermo	29.62	752.3	29.87	758.8	59.4	15.2	56	WNW	8.1	3.6			10			0.028	0.7		Prof. G. Cacciatore.
Syracuse	29.76	755.9	29.83	757.7	63.1	17.3	63	ESE	12.5	5.6			8	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.27	743.4	29.82	757.5	60.1	15.6	57	WSW	6.3	2.8			7			0.012	0.3		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.74	755.4	29.76	755.9	60.6	15.9	95	N	1.4	0.6			10n			1.704	43.28	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.37	746.0	29.57	751.1	63.0	17.2	96	ESE	13.1	5.9			10n			2.720	69.1	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.98	761.5	30.05	763.3	55.5	13.1	80	N	5.8	2.6			10s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.02	635.4	30.11	764.8	49.6	9.8	47	SW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.40	619.7	30.00	762.1	64.4	18.0	65	NW			1	0	0			0	0	Very hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.03	584.9	29.92	760.0	60.3	15.7	52	Calm	0	0		0	0			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					57.7	14.3	38	W			1	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.73	755.2	29.74	755.5	77.0	25.0	71	SE			3	0	0			0	0	Hazy	M. M. Chàzaro.
San Luis Potosi	24.13	613.0	29.99	761.7	64.9	18.3	51	SE			2	0	0			0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.50	571.6	29.98	761.5	64.0	17.8	26	W			1	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.37	593.7	30.14	765.5	59.0	15.0	43	NE	0.4	0.2		1c	0	N		0.004	0.1	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.34	719.9	29.99	761.7	75.2	24.0	67	NE			3	0	10		SW	0	0	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,498 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.04	762.9	30.04	762.9	46.6	8.1		NNW								0	0		
Groningen	29.83	757.7	29.89	759.1	44.6	7.0		NNW			5					0.063	1.6		
Helder	29.95	760.8	29.95	760.8	43.2	6.2		NE			5					0.035	0.9		
Hellevoetsluis	29.99	761.7	29.99	761.7	46.4	8.0	77	NNW			4					0	0		
Utrecht	29.92	759.9	29.96	761.1	48.7	9.3	63	NNW			4		10			0.110	2.8	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.70	754.3	29.75	755.7	41.7	5.4	52	NNW	39.4	17.6			1			0	0		
Brönö	29.52	749.8	29.59	750.8	33.8	1.0	85	N	36	16			6			0.197	5.0		
Christiania	29.36	745.6	29.50	749.3	48.6	9.2	27	NNE	18	8			9			0	0		
Tromsö	29.34	745.2	29.38	746.3	28.0	— 2.2	75	N	18	8			10			0.055	1.4		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.74	755.5	29.94	760.4	62.6	17.0	78	SE	5.6	2.5			3			0.335	8.5		Dr. J. A. Sampaio.
Campo Major	29.03	737.4	30.05	763.2	66.7	19.3	38	ESE	12.5	5.6			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.93	760.2	30.02	762.4	67.8	19.9	62	SW	3.1	1.4			5			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.04	762.9	67.5	19.7	35	NE	18.6	8.3			4	W		0	0		The Staff.
Ponta Delgada (Azores)	29.93	760.2	30.00	762.0	68.0	20.0	62	SE	3.1	1.4			4			0.228	5.8		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
Bartholomew Dias, N. 35° 14′, W. 15° 30′			30.00	762.0	69.1	20.6		NNE			1		10		NE	1	NE	Overcast	A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, N. 12° 39′18″, W. 18° 03′ 51″			29.98	761.5	82.4	28		NW			3		0			2		Blue sky	C. C. da Fonseca Ferreira, Com'd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.79	756.7	80.6	27.0		NW			2		9		ESE	1	NW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Porto de Bulama, Senegambia			29.87	758.6	83.1	28.4		WSW			2		0			0		Blue sky	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.80	756.8	80.6	27.0		SW			1		10		SW	0		Raining	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.42	747.2	29.84	757.8	60.3	15.7	30	S	11	5			0						Astronomical Obs.
Wilna	29.45	748.0	29.86	758.5	58.8	14.9	34	S	11	5			1					Light clouds	Astronomical Obs.
Dorpat	29.47	748.4	29.70	754.4	59.0	15.0	49	SW	16	7			2k						Prof. Dr. Weihrauch.
St. Petersburg	29.60	751.9	29.62	752.3	56.8	13.8	50	WSW	20	9			6cks						Central Physical Obs.
Kieff	29.26	743.3	29.89	759.3	54.7	12.6	37	ENE	4	2			7k;ks						Physical Cabinet.
Nikolaiev	29.80	756.8	29.87	758.6	58.5	14.7	34	NNE	13	6			4cs						Kurdakof.
Kertch	29.71	754.6	29.73	755.1	55.8	13.2	98	NNE	9	4			10						Lagorio.
Moscow	29.42	747.3	29.97	761.2	55.8	13.2	41	S	9	4			1ks						Meteorological Obs.
Lugan	29.46	748.3	29.66	753.4	55.9	13.3	86	Calm	0	0			10			Blank	Blank		Meteorological Obs.
Archangel	29.48	748.7	29.50	749.2	44.8	7.1	78	SSW	4	2			2cs						Capt. Sseliwerstow.
Tiflis	28.29	718.6	29.63	752.5	79.3	26.3	49	S	4	2			7ks						Physical Observatory.
Astrakhan	29.70	754.3	29.61	752.2	78.3	25.7	45	NE	2	1			2s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.72	754.9	29.99	761.7	54.1	12.3	34	Calm	0	0			3k						Physical Cabinet.
Ekaterinburg	29.01	736.8	29.98	761.5	43.9	6.6	47	Calm	0	0			9ck;ks						Meteorological Obs.
Nukuss	29.45	748.0	29.67	753.5	93.7	34.3	35	NNE	11	5			1c						
Tashkend	28.12	714.1	29.57	751.1	85.8	29.9	51	Calm	0	0			2						Teich, A. M.
Barnaul	29.50	749.2	30.00	762.0	45.1	7.3	44	SW	4	2			9						Meteorological Obs.
Yeniseisk	29.78	756.3	30.08	763.9	42.1	5.6	38	N	2	1			1						Marks.
Irkutsk																			
Peking (China)	29.56	750.9	29.71	754.5	61.0	16.1	40	Calm	0	0			3cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.81	757.2	29.91	759.7	39.6	4.2	66	SE	13	6			9ks						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.90	759.4	30.00	762.1	65.7	18.7	38	SW	6.0	2.67			0			0.006	0.15	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.11	764.9	30.17	766.3	66.6	19.2	64	NW	3.3	1.48		3	2	NE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.4			57.6	14.2	51	E	7.8	3.49			2			0	0	Light clouds	Domingo Martin y Peres.
Madrid, Royal Oservatory	27.86	707.5			66.6	19.2	43	E	4.5	2.00		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.05	763.2	69.3	20.7	42	NE	3.5	1.56			2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.06	763.6	66.2	19.0	46	NE	1.4	6.4			0			0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	75.8	24.3	66	E	9.2	4.1		0	0			Inap.	Inap.	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.74	755.5	29.79	756.8	86.5	30.3	79	SW	0	0			3k		E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.90	759.5	30.00	762 0	68.4	20.2	31	ESE	26.7	11.9		0	0						Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.89	759.2	29.98	761.5	78.4	25.8	74	E	3.8	1.70		4ck	3k	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch't Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.20	741.8	29.25	742.8	42.8	6.0	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.21	742.0	29.26	743.3	45.3	7.4	53	N	.....	.....	2	.....	5	.....	.....	0	0	.....	
Hernosand	29.29	743.9	29.34	745.2	47.1	8.4	86	WNW	.....	.....	4	.....	7	.....	.....	0.10	2.5	.....	
Stockholm	29.26	743.2	29.44	747.7	45.5	7.5	85	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.48	748.9	29.54	750.4	52.2	11.2	50	WSW	.....	.....	7	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.34	745.3	29.42	747.2	41.9	5.5	89	SW	8.5	3.9	.....	.....	10	.....	.....	0.289	7.36	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	725.0	29.97	761.2	54.1	12.3	58	N	.....	.....	3	.....	2	.....	.....	0	0	Clear	The Observatory.
Zurich	28.33	719.6	29.96	760.9	57.6	14.2	59	W	.....	.....	1	.....	3	.....	.....	0.157	4.0	Bright	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.4 mm.; Thermometer,—2.8 Cent.; Relative Humidity, 0 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.70	754.3	65.8	18.8	56	SW	8	3.5	.....	.....	9	.....	SW	0.181	4.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.04	763.0	84.2	29.0	.....	SE	.....	.....	6	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.82	757.3	63.7	17.6	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.77	756.1	29.89	759.1	78.8	26.0	66	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.61	752.1	29.91	759.7	43	6.1	.....	SW	1	0.4	.....	.....	10n	.....	SW	0.31	7.9	Light rain	W. R. Bigg.
*Chatham, N. B	29.84	757.9	29.91	759.7	46	7.8	96	Calm	0	0	.....	.....	10s	.....	SW	0.28	4.6	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.94	760.5	47	8.3	99	S	7	3.1	.....	.....	Fog	.....	.....	0.350	8.89	Foggy	H. J. Cundall, C. E.
Cornwall, Ontario	29.62	752.3	29.81	757.2	47.2	8.4	84	NW	.....	.....	1	.....	10s	.....	.....	0.13	3.3	Overcast	James Smith, M. A.
Dalhousie, N. B	29.75	755.6	29.92	760.0	38.7	3.7	100	E	.....	.....	1	.....	10n	.....	.....	0.31	7.9	Raining	H. A. Johnson.
Esquimault, B. C	29.58	751.3	29.63	752.6	49.3	9.6	93	NE	3	1.3	.....	9cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.87	758.7	29.89	759.2	38	3.3	97	NE	16	7.2	.....	.....	Fog	.....	Calm	0.20	5.1	Foggy	J. McWilliams.
Fredericton, N. B	29.87	758.7	29.94	760.5	43.1	6.2	87	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.61	752.1	30.47	773.9	34	1.1	89	NE	3	1.3	.....	5k	2ks	N	N	0	0	Clearing	James Stewart.
Granton, Ontario	28.87	733.3	30.00	762.0	40	4.4	.....	NW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.79	756.7	29.93	760.2	45	7.2	99	SE	1	0.4	.....	.....	Fog	.....	.....	0.562	14.25	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.63	752.6	30.01	762.2	43.5	6.4	77	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.90	759.4	44	6.7	89	S	10	4.5	.....	.....	10ks	.....	SW	0.09	2.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.08	764.0	30.12	765.0	47.1	8.4	98	S	6	2.7	.....	.....	10n	.....	.....	0.39	9.9	Raining	C. H. Rigby.
Moose Factory, Ontario	30.14	765.5	30.17	766.3	32.0	0.0	82	NW	.....	.....	4	.....	10k	.....	.....	0	0	Cloudy	J. R. Nason.
*Montreal, Quebec	29.63	752.6	29.84	757.9	46	7.8	92	N	3	1.3	.....	.....	10s	.....	N	0.06	1.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.95	760.7	38	3.3	95	W	2	0.9	.....	.....	10n	.....	W	0.32	8.1	Light rain	Rev. R. Mosly.
Peterboro, Ontario	29.16	740.7	29.92	760.0	42.7	5.9	65	W	.....	.....	1	.....	9ks	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	29.99	761.7	44	6.7	86	SW	8	3.6	.....	5k	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.94	760.5	29.99	761.7	44.7	7.1	.....	SE	5	2.2	.....	.....	.....	.....	.....	0.12	3.0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.99	761.7	45	7.2	76	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.64	750.3	29.87	758.7	40	4.4	91	NE	.....	.....	3	.....	10n	.....	NE	0.35	8.9	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.45	748.0	29.92	760.0	42	5.6	91	NW	3	1.3	.....	.....	8s	.....	N	0.04	1.0	Light rain	W. H. McIntyre.
St. Andrews, N. B	29.83	757.7	29.88	758.9	40	4.4	91	S	.....	.....	2	.....	Fog	.....	.....	0.01	0.3	Foggy	Dr. Gove.
St. John, N. B	29.74	755.4	29.91	759.7	46	7.8	100	SE	3	1.3	.....	.....	10ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.25	742.9	29.98	761.5	37	2.8	90	W	14	6.3	.....	.....	10ks	.....	W	0.08	2.0	Heavy rain	K. Stewart.
Stayner, Ontario	29.16	740.7	29.95	760.7	40	4.4	73	NW	10	4.5	.....	.....	10n	.....	NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.98	761.5	39.4	4.1	84	NW	7	3.1	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.8	30.07	763.8	45	7.2	97	S	9	4.0	.....	.....	10n	.....	.....	0.22	5.6	Light rain	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.98	761.5	44	6.7	65	W	9	4.0	.....	.....	8ks	.....	W	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	29.84	757.9	29.94	760.5	49.0	9.4	93	E	3	1.3	.....	.....	10n	.....	.....	0.14	3.6	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.20	767.1	30.46	773.6	44.0	6.7	76	NE	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.71	754.6	29.94	760.5	54	12.2	61	N	12	5.4		2c	5ks	W	W	0.03	0.8	Fair	
Alpena, Michigan	29.42	747.2	30.08	764.0	38	3.3	91	NW	16	7.2			10n		NW	0.15	3.8	Light rain	
Atlanta, Georgia	28.86	733.0	29.97	761.2	67	19 4	74	W	5	2.2		2c	8s	Calm	W	0	0	Cloudy	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	59	15.0	94	N	5	2.2		8c	0	W		0.25	6.3	Fair	
Augusta, Georgia	29.82	757.4	29.99	761.7	69	20.6	75	W	1	0.4		0	0			0.06	1.5	Clear	
Baltimore, Maryland	29.95	760.7	30.00	762.0	61	16.1	45	N	9	4.0		5c	5s	Calm	Calm	0.01	0.3	Cloudy	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	58	14.4	70	N	8	3.6		8c	0	Calm		Inap.	Inap.	Fair	
Bismarck, Dakota	28.52	724.4	30.38	771.9	35	1.7	70	E	8	3.6		1c	0	Calm		0	0	Clear	
Boerne, Texas	28.61	721.1	29.80	756.9	60	15.6	82	N	6	2.7		0	8ks		W	1.26	32.0	Cloudy	
Boise City, Idaho	26.93	684.0	29.89	759.2	54	12.2	55	E	8	3.6		5ck	0	W		Inap.	Inap.	Fair	
Boston, Massachusetts	29.73	755.1	29.88	758.9	60	15.6	65	SE	1	0.4		5c;hz	Haze	w;calm	Calm	Inap.	Inap.	Hazy	
Brackettville, Texas	28.86	733.0	29.88	758.9	64	17.8	89	NW	5	2.2		0	0			0.78	19.8	Clear	
Breckenridge, Minnesota	29.31	744.5	30.36	771.1	37	2.8	81	N	6	2.7			10ks		NE	0	0	Cloudy	
Brownsville, Texas	29.85	758.2	29.89	759.2	77	25.0	82	NE	4	1.8			10ks		Calm	0	0	Cloudy	
Buffalo, New York	29.28	743.7	29.99	761.7	41.5	5.3	65	SW	5	2.2			9s		SW	0	0	Cloudy	
Burkes, Arizona					63	17.2	Inap.	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.56	750.8	29.84	757.9	52	11.1	73	Calm	0	0			10ks		W	0.05	1.3	Cloudy	
Cairo, Illinois	29.80	756.9	30.20	767.1	56	13.3	51	W	12	5.4			10s		Calm	0	0	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.19	639.8	29.99	761.7	55	12.8	33	E	2	0.9		0	0			0	0	Clear	
Camp Verde, Arizona	26.73	678.0	30.07	763.8	50	10.0	45	W			1	0	0			0	0	Clear	
Campo, California	27.43	706.7	30.00	762.0	46	7.8	77	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.96	761.0	29.96	761.0	71	21.7	80	W	4	1.8		8c	Haze	NW		0	0	Fair	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	61	16.1	77	NW	9	4.0		5ck	Haze	W	Calm	0	0	Fair	
Cape Lookout, N. Carolina	29.97	761.2	29.98	761.5	69	20.6	85	SW	6	2.7		2ck	Haze	Calm	Calm	0	0	Hazy	
Cape May, New Jersey	29.89	759.2	29.92	760.0	56	13.3	87	NW	10	4.5		5ck	Haze	NW	NW	0	0	Fair	
Castroville, Texas	29.18	741.2	29.87	758.7	65	18.3	84	N	4	1.8		0	0			0.90	22.9	Clear	
Charleston, South Carolina	29.94	760.5	30.00	762.0	72	22.2	80	W	6	2.7		Haze	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	39	3.9	73	S	10	4.5			10s		Calm	0	0	Threatening	
Chicago, Illinois	29.50	749.3	30.21	767.3	43	6.1	67	N	9	4.0		5k	0	N		0	0	Fair	
Cincinnati, Ohio	29.50	749.3	30.16	766.1	52	11.1	54	NE	4	1.8		10cs	0	Calm		0	0	Cloudy	
Cleveland, Ohio	29.32	744.7	30.06	763.5	44	6.7	76	S	10	4.5		5k	0	W		0	0	Fair	
Coleman City, Texas	28.26	717.8	29.91	759.7	58	14.4	82	N	14	6.3			10s		NE	3.09	78.5	Cloudy	
Columbus, Ohio	29.26	743.2	30.11	764.8	48	8.9	56	NW	9	4.0		0	Haze		Calm	0	0	Clear	
Concho, Texas	28.16	715.3	29.83	757.7	58	14.4	82	N	8	3.6			10ks		N	0.97	24.6	Cloudy	
Corsicana, Texas	29.52	749.8	29.99	761.7	62	16.7	94	N	4	1.8			10s		Calm	4.50	114.3	Threatening	
Davenport, Iowa	29.60	751.8	30.26	768.6	38	3.3	63	N	10	4.5		0	0			0	0	Clear	
Deadwood, Dakota	25.39	644.9			39	3.9	73	SE	4	1.8			10n		Calm	0.07	1.8	Light rain	
Decatur, Texas	28.86	733.0	30.01	762.2	58	14.4	88	E	8	3.6		5cs	0	E		1.90	48.3	Fair	
Denison, Texas	29.23	742.4	30.02	762.5	58	14.4	82	NE	3	1.3		5k	2ks	NE	NE	0.77	19.6	Fair	
Denver, Colorado	24.75	628.6	29.97	761.2	41	5.0	82	NW	1	0.4		0	0			0	0	Clear	
Des Moines, Iowa	29.39	746.5	30.31	769.9	38	3.3	72	N	2	0.9		0	0			0	0	Clear	
Detroit, Michigan	29.38	746.2	30.06	763.5	42	5.6	66	NW	12	5.4		5k	0	NW		0	0	Fair	
Dodge City, Kansas	27.58	700.5	29.93	760.2	42	5.6	79	Calm	0	0		2ck	2s	W	Calm	0	0	Fair	
Dubuque, Iowa	29.55	750.6	30.28	769.1	37	2.8	38	N	2	0.9		0	0			0	0	Clear	
Duluth, Minnesota	29.63	752.6	30.34	770.6	40	4.4	65	N	6	2.7			10s		N	0.02	0.5	Cloudy	
Eagle Pass, Texa	29.21	741.9	29.92	760.0	65	18.3	89	SE	8	3.6		0	0			0.34	8.6	Clear	
Eastport, Maine	29.82	757.4	29.89	759.2	40	4.4	91	S	8	3.6			Fog		S	0.06	1.5	Dense fog	
Edinburg, Texas					70	21.1	90	N			1		8s		Calm	0	0	Cloudy	
El Paso, Texas	26.23	666.2			55	12.8	73	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.29	744.0	30.00	762.0	49	9.4	71	SW	4	1.8			10s		W	0	0	Cloudy	
Escanaba, Michigan	29.56	750.8	30.24	768.1	38	3.3	72	N	12	5.4			10ks		NW	0.06	1.5	Cloudy	
Florence, Arizona	28.42	721.9	30.02	762.5	65	18.3	26	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	28.23	717.0			33	0.6	79	E	11	4.9		0	0			0	0	Clear	
Fort Craig, New Mexico	25.49	647.4	29.55	750.6	47	8.3	33	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	55	12.8	81	NE	4	1.8			10s		NE	0	0	Cloudy	
Fort Gibson, Indian Ter	29.53	750.0	30.07	763.8	60	15.6	60	N	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.81	731.8	30.07	763.8	58	14.4	76	N	6	2.7			10s		Calm	0.08	2.0	Cloudy	
Fort Keogh, Montana	27.50	698.5			37	2.8	90	NW	2	0.9			10n		Calm	0.07	1.8	Light rain	
Fort McKavett, Texas	27.78	705.6	29.68	753.9	58	14.4	88	N	8	3.6			10s		N	0	0	Cloudy	
Fort St. Michael, Alaska	30.03	762.8	30.07	763.8	2	—16.7	100	NE	3	1.3		0	0			0	0	Clear	
Fort Sill, Indian Territory	28.86	733.0	29.98	761.5	53	11.7	80	NW	9	4.0		0	0			1.74	44.2	Clear	
Fort Stevenson, Dakota	28.54	724.9			36	2.2	62	E	6	2.7		2c	0			0	0	Fair	
Fredericksburg, Texas	28.28	718.3	29.80	756.9	64	17.8	78	N	8	3.6			10ks		Calm	0.55	14.0	Cloudy	
Galveston, Texas	29.93	760.2	29.97	761.2	69	20.6	90	NW	16	7.2			10s		NW	0.68	17.3	Cloudy	
Graham, Texas	28.98	736.1	30.03	762.8	58	14.4	88	NE	4	1.8			10s		Calm	0.41	10.4	Cloudy	
Grand Haven, Michigan	29.50	749.3	30.16	766.1	42	5.6	74	N	15	6.7			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.32	744.7	30.11	764.8	48	8.9	56	NW	4	1.8		0	0			0	0	Clear	
Indianola, Texas	29.95	760.7	29.98	761.5	68	20.0	95	S	15	6.7			10n		S	0.42	10.7	Light rain	
Jacksboro, Texas	28.95	735.3	30.07	763.8	62	16.7	77	N	4	1.8			10s		N	1.00	25.4	Cloudy	
Jacksonville, Florida	30.01	762.2	30.04	763.0	75	23.9	72	SW	3	1.3		0	0			0	0	Clear	
Keokuk, Iowa	29.59	751.6	30.23	767.8	44	6.7	60	N	7	3.1		0	0			0	0	Clear	
Key West, Florida	30.00	762.0	30.04	763.0	79	26.1	70	SE	10	4.5		1k	0	SE		0	0	Clear	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	66	18.9	89	W	10	4.5		5c	Haze	W	Calm	0.24	6.1	Fair	
Knoxville, Tennessee	29.08	738.6	30.07	763.8	58.5	14.7	62	N	3	1.3		8k	2s	SW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.55	750.6	30.32	770.1	39	3.9	64	N	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	55	12.8	68	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.51	749.5	29.84	757.9	75	23.9	77	NE	2	0.9		5k	0	SW		0	0	Fair	
Leavenworth, Kansas	29.38	746.2	30.25	768.3	43	6.1	59	NE	4	1.8		0	0			0	0	Clear	
Los Angeles, California	29.67	753.6	30.01	762.2	48.5	9.2	82	N	3	1.3		0	0			0	0	Clear	
Louisville, Kentuckey	29.56	750.8	30.12	765.0	52	11.1	66	NE	7	3.1		8cs	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.80	744.2	29.96	761.0	68	20.0	41	NW	4	1.8		0	0			0	0	Clear	
Madison, Wisconsin	29.24	742.7	30.27	768.8	38	3.3	63	N	15	6.7		0	0			0	0	Clear	
Marquette, Michigan	29.51	749.5	30.24	768.1	35	1.7	90	NW	8	3.6			10ks		NW	0.36	9.1	Cloudy	
Mason, Texas	28.38	720.8	30.13	765.3	58	14.4	88	NW	12	5.4			10s		W	0.22	5.6	Cloudy	
Memphis, Tennessee	29.79	756.7	30.10	764.5	60	15.6	61	NE	9	4.0			10s		Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.47	748.5	30.22	767.6	39	3.9	64	N	14	6.3			10s		N	0	0	Cloudy	
Mobile, Alabama	29.99	761.7	30.04	763.0	70	21.1	95	SE	3	1.3			10s;fg		Calm	1.64	41.7	Foggy	
Montgomery, Alabama	29.80	756.9	30.03	762.8	66	18.9	90	SE	1	0.4		2k	8s	W	W	0.15	3.8	Cloudy	
Morgantown, West Virginia	29.00	736.6	30.05	763.3	51	10.6	72	Calm	0	0			10s		Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	31	— 0.6	79	W	24	10.7		8c	0	W		0.17	4.3	Fair	
Nashville, Tennessee	29.57	751.1	30.10	764.5	59	15.0	59	N	2	0.9			10s		Calm	0	0	Cloudy	
New Haven, Connecticut	29.79	756.7	29.90	759.4	61	16.1	66	N	2	0.9		5cs	0	NW		0.31	7.9	Fair	
New London, Connecticut	29.85	758.2	29.90	759.4	57	13.9	87	W	2	0.9		5ck	2s	W	SW	0.02	0.5	Fair	
New Orleans, Louisiana	29.99	761.7	30.04	763.0	75	23.9	77	SW	16	7.2			10ks		SW	Inap.	Inap.	Threatening	
Newport, Rhode Island	29.83	757.7	29.88	758.9	51	10.6	86	SW	4	1.8		5ck	Haze	SW		0	0	Fair	
New York, New York	29.77	756.1	29.94	760.5	59	15.0	54	NW	7	3.1		5cs	Haze	S	Calm	0.06	1.5	Fair	
Norfolk, Virginia	29.92	760.0	29.98	761.5	65	18.3	54	N	14	6.3		1cs	2s	Calm	Calm	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.24	691.9	29.86	758.4	43	6.1	63	E	14	6.3			10s		Calm	0	0	Clear.	
Olympia, Washington Ter.	29.63	752.6	29.67	753.6	47.0	8.3	92	SW	1	0.4			10n		Calm	0.07	1.8	Light rain.	
Omaha, Nebraska	29.12	739.6	30.27	768.8	39	3.9	73	N	4	1.8		0	0			0	0	Clear.	
Oswego, New York	29.66	753.4	29.98	761.5	46	7.8	69	SW	14	6.3		0	0			0.01	0.3	Clear.	
Pembina, Dakota	29.54	750.3	30.40	772.1	32	0.0	80	N	5	2.2		0	0			0	0	Clear.	
Philadelphia, Pa	29.91	759.7	29.96	761.0	60	15.6	49	N	16	7.2		10cs	Haze	NW	Calm	0	0	Cloudy	
Phœnix, Arizona	28.71	729.2	30.47	773.9	63	17.2	33	NE	2	0.9		0	0			0	0	Clear.	
Pike's Peak, Colorado	17.75	450.8	29.96	761.0	19	— 7.2	25	SW	40	17.9		0	0			0	0	Clear.	
Pioche, Nevada	23.88	606.5	29.66	753.4	46	7.8	26	S	6	2.7		2c	0	SW		0	0	Fair.	
Pittsburg, Pennsylvania	29.24	742.7	30.06	763.5	47	8.3	62	W	6	2.7		0	0			0	0	Clear.	
Port Huron, Michigan	29.35	745.5	30.02	762.5	41	5.0	65	W	12	5.4			10ks		NW	0	0	Cloudy	
Portland, Maine	29.80	756.9	29.84	757.9	58	14.4	70	Calm	0	0		1k	Haze	Calm		Inap	Inap.	Clear.	
Portland, Oregon	29.68	753.9	29.78	756.4	50.5	10.3	83	S	10	4.5			10n		SW	0.04	1.0	Light rain.	
Prescott, Arizona	24.66	626.4	30.02	762.5	41	5.0	41	W	2	0.9		0	0			0	0	Clear.	
Pilot Point, Texas	29.24	742.7	30.06	763.5	59	15.0	87	N	3	1.3		Haze	Haze			0.11	2.8	Hazy	
Punta Rassa, Florida	30.03	762.8	30.05	763.3	77	25.0	77	SE	10	4.5		5k	0	SE		0	0	Fair.	
Red Bluff, California	29.62	749.8	29.88	758.9	54.5	12.5	71	SE	24	10.7			10ks		SW	Inap	Inap.	Cloudy	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	77	25.0	82	NE			2		10s		Calm	0	0	Cloudy	
Rochester, New York	29.36	745.7	29.98	761.5	46	7.8	62	W	14	6.3		5k	0	W		Inap.	Inap.	Fair.	
Roseburg, Oregon	29.21	741.9	29.77	756.1	48	8.9	92	SW	1	0.4			10n		Calm	0.08	2.0	Light rain.	
Sacramento, California	29.91	759.7	30.00	762.0	54	12.2	80	SW	8	3.6			10s		SW	0	0	Cloudy	
St. Louis, Missouri	29.65	753.1	30.24	768.1	46	7.8	54	N	12	5.4		5c	0	W		0	0	Fair.	
St. Marks, Florida	30.02	762.5	30.03	762.8	71	21.7	85	N	8	3.6		1k	0	NW		0.02	0.5	Clear.	
St. Paul, Minnesota	29.44	747.8	30.29	769.4	42	5.6	65	NW	1	0.4			10ks		NW	0	0	Cloudy	
Salt Lake City, Utah	25.46	646.7	29.80	756.9	48	8.9	43	SE	9	4.0		4k	0	W		0	0	Fair	
San Antonio, Texas	29.28	743.7	29.85	758.2	68	20.0	79	N	8	3.6		0	0			0.17	4.3	Clear.	
San Diego, California	29.96	761.0	30.03	762.8	56	13.3	81	SW	4	1.8		0	0			0	0	Clear.	
Sandusky, Ohio	29.41	747.0	30.09	764.3	45	7.2	68	NW	14	6.3		0	0			0	0	Clear.	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	60	15.6	60	NW	10	4.5		5c	Haze	NW	Calm	Inap.	Inap.	Hazy	
San Francisco, California	29.95	760.2	30.00	762.0	55.5	12.9	76	S	7	3.1			10ks		SW	0	0	Cloudy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	46	7.8	69	SE	8	3.6		0	1ks		SE	0	0	Clear.	
Savannah, Georgia	29.93	760.2	30.02	762.5	77	25.0	65	NW	8	3.6		2ck	0	W		0	0	Fair.	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	64	17.8	94	N	4	1.8			10s		Calm	1.60	40.6	Cloudy	
Silver City, New Mexico	24.28	616.7	30.48	774.2	45	7.2	60	NW	1	0.4		0	0			0	0	Clear.	
Smithville, North Carolina	29.97	761.2	30.00	762.0	70	21.1	95	W	4	1.8		3cs;k	0	Calm;SW		0	0	Fair.	
Springfield, Massachusetts	29.78	756.4	29.91	759.7	58	14.4	82	SW	1	0.4		2cs	5ks	SW	Calm	0.07	1.8	Cloudy	
Stockton, Texas	27.01	686.0	30.01	762.2	59	15.0	76	NE	11	4.9			10ks		NE	0	0	Cloudy	
Thatcher's Island, Mass	29.83	757.7	29.88	758.9	55	12.8	87	SW	6	2.7		0	0			0	0	Clear	
Toledo, Ohio	29.38	746.2	30.07	763.8	47	8.3	62	NW	9	4.0		0	0			0	0	Clear	
Tucson, Arizona	27.38	695.4	29.93	760.2	59	15.0	48	S	3	1.3		0	0			0	0	Clear.	
Umatilla, Oregon	29.37	746.0	29.85	758.2	51.0	10.6	86	E	2	0.9		0	2ks		W	0	0	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.10	739.1	29.90	759.4	62	16.7	88	N	2	0.9		0	0			0.98	24.9	Clear.	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	67	19.4	95	E	3	1.3			10s		E	0.74	18.8	Cloudy	
Virginia City, Montana	24.17	613.9	29.65	753.1	37	2.8	71	SE	2	0.9			10s		Calm	0.40	10.2	Cloudy	
Visalia, California	29.63	752.6	30.00	762.0	50.7	10.4	76	NW	1	0.4		0	0			0	0	Cloudy	
Washington, D. C.	29.88	758.9	30.00	762.0	58	14.4	64	N	2	0.9		10cs	Haze	Calm	Calm	0	0	Cloudy	
Wickenburg, Arizona					55	12.8	33	SE			1	0	Haze		Calm	0	0	Hazy	
Wilmington, N. Carolina	29.90	759.4	29.97	761.2	74	23.3	72	W	4	1.8		0	0			0	0	Clear.	
Winnemucca, Nevada	25.50	647.7	29.86	758.4	44	6.7	84	SW	6	2.7		0	2ks		SE	Inap.	Inap.	Fair	
Wood's Holl, Mass	29.87	758.7	29.91	759.7	53	11.7	79	W	8	3.6			10s		SW	0	0	Cloudy	
Yankton, Dakota	29.03	737.3	30.39	771.9	34	1.1	61	NE	1	0.4		5ck	0	NW		0	0	Fair	
Yuma, Arizona	29.72	754.9	29.88	758.9	63	17.2	47	W	4	1.8		0	0			0	0	Clear.	
SUB-SERIES.																			
Fayetteville, Ark	28.51	724.1	29.92	760.0	54	12.2	49											Clear.	J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	78	25.6	61	SE	2.4	1.1		0	0			0	0	Clear.	Chas. Hasselbr nk
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.23	640.8			67.0	19.4	82	Calm			0		10ks			0	0		Thomas Herran.
Navassa, W. I	29.89	759.2	29.97	761.2	78	25.6		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.5	29.98	761.5	81	27.2	87	E			3	3c	5k	E		0.300	7.62	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.14	765.5	30.19	766.8	26.0	— 3.3	94	N	16	7.2		0	2s		N	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 7,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,861 (?) ft., or 2,088.1 (?) m.; Silver City, 6,396 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 n.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.99‡	761.7‡			54	12.2	80	SSW	13	5.8			10		SSW	0	0			Cloudy	
Navy Yard, Pensacola, Fla.	30.03‡	762.8‡			74	23.3	90	SSE	3	1.3			5		W					Fair	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital. Yokohama, Japan	30.04‡	763.0‡			56.2	13.4	75	NNE			2		10s		NE	Slight	Slight			Overcast	
Adams, Panama	29.86‡	758.4‡			78	25.6	95	N			2		2		N					Clear	
Alaska, Sitka, Alaska	29.79‡	756.7‡			38	3.3	81	W			1		0			0	0			Blue sky	
Alliance, N. 37° 09′, E. 10° 15′	30.00‡	762.0‡			56	13.3	69	NW			5–6		7		NW			Light	N; W	Showery	
Ashuelot, Canton, China	29.76‡	755.9‡			75	23.9	90	Calm			0		10					Smooth		Cloudy	
Canonicus, New Orleans, La.	30.04‡	763.0‡			69	20.6	95	SW			3		10		SW					Raining	
Colorado, New York, N. Y.	29.92‡	760.0‡			60	15.6	82	WNW	2	0.9			8		WNW	0.08	2.0			Hazy	
Constitution, N. 23° 54′, W. 53° 00	29.86‡	758.4‡			75	23.9	77	SW			1		3		NE			Smooth	SE	Clear	
Despatch, Genoa, Italy	29.85‡	758.2‡			69	20.6	47	N			2		5		N	0	0	Smooth		Fair	
Enterprise, N. 43° 37′, W. 11° 46′	30.21‡	767.3‡			55	12.8	93	ENE			5		0					Rough		Hazy	
Franklin, Norfolk, Va.	29.95‡	760.7‡			66	18.9	64	NNE	9.6	4.3			5		Calm	0	0			Fair	
Hartford, Colonia, Uruguay*.	29.84‡	757.9‡			57	13.9	81	S			5		5?		S	0	0			Clear?	
Michigan, Erie, Pa.					48	8.9	78	S			4		10							Overcast	
Monongahela, Yokohama, Japan	30.02‡	762.5‡			59	15.0	70	NNW			2		10			0	0			Overcast	
New Hampshire, Port Royal, S. C.	30.01‡	762.2‡			73	22.8	81	S	9	4.0			1		S					Clear	
Onward, Callao, Peru †*.	30.07‡	763.8‡			65	18.3	71	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.71‡	754.6‡			67	19.4	100	E			1		10		NW					Cloudy	
Passaic, Washington, D. C.					64	17.8	83	N			1		2		S					Clear	
Pensacola, Callao, Peru	29.98‡	761.5‡			63	17.2	89	Calm	0	0			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	29.97‡	761.2‡			65	18.3	58	N			4		0			0	0	Slight	N; W	Clear	
Powhatan, Norfolk, Va.	30.14‡	765.5‡			60	15.6	65	NNE			3		2		Calm	0	0			Fair	
Quinnebaug, Alexandria, Egypt *.	29.77‡	756.1‡			71	21.7	80	NE			4		2		NE					Fair	
Ranger, Amoy, China	29.73‡	755.1‡			77	25.0	91	NE			2		10		Calm			Smooth		Raining	
Richmond, N. 1° 28′, E. 104° 38′	29.74‡	755.4‡			85	29.4	83	Calm			0		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.85‡	758.2‡			77	25.0	95	E			1		10		E					Cloudy	
Santee, Annapolis, Md.	29.99‡	761.7‡			62	16.7	56	N			3		10		W	0.04	1.0			Cloudy	
Saratoga, N. 35° 10′, W. 28° 23′	30.00‡	762.0‡			69	20.6	65	W			3		8		E	Heavy	Heavy	Smooth		D. clouds	
St. Louis, League Island, Pa.	29.98‡	761.5‡			62	16.7	61	NNW	10	4.5			8		WNW	0	0			Hazy	
Trenton, Genoa, Italy	29.87‡	758.7‡			73	22.8	46	E			2		5		Calm	0	0	Smooth		Fair	
Tuscarora, N. 16° 40′, W 96° 09′	29.91‡	759.7‡			75	23.9	81	W			1		0			0	0	Smooth		Hazy	
Vandalia, N. 11° 54′, W. 78° 20′	29.84‡	759.2‡			77	25.0	100	NE			3		10		S	Blank	Blank	Mod'ate	SE	Cloudy	
Wabash Boston, Mass.	29.86‡	758.4‡			68	20.0	70	Calm	0	0			2			0	0			Foggy	
Wyoming, N. 41° 50′, E. 11° 13′	29.85‡	758.2‡			60	15.6	74	NW			3–4		2		NW			Smooth	NW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, Liverpool, Eng.....†*				50	10.0		W			2		8		N				Cloudy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.85‡	758.2‡				S			2		10			0.25 in. or 6.3 mm.			Squally	L. B. Walls.
S. S. Colima, N. 35° 24′, W. 121° 38′ †.		30.10‡	764.5‡	60	15.6		Calm			0		3		Calm	0	Small	NW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†.		30.13‡	765.3‡	48	8.9	70	NW			2		0						Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly
S. S. Granada, Capt. Austin.																			F.W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		30.09‡	764.3‡				W			4		k		W				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 33° 46′, E. 146° 09′		29.72‡	754.9‡	68	20 0	84	Calm			0		6s			0	Smooth		Misty	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf. N. 23° 30′, E. 117° 42′		29.74‡	755.4‡	76	24.4	100	Var.			1–2		6		SW		Smooth		D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 43° 07′, W. 49° 04′		30.32‡	770.1‡	46.0	7.8	69	NE			3		10				Smooth	NE	Foggy	Capt. C. Undütsch.
S. S. Leipzig, N. 40° 24′, W. 51° 54′		30.36‡	771.1‡	51.0	10.6	72	E			4		8		E		Mod'ate	E	Drizzling	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.91‡	759.7‡				W			5		10		NW		Rough		Raining	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True Course Toward.	Barometer Reduced to Sea-Level. Inches.	Barometer Reduced to Sea-Level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 54′, W. 47° 44′		30.23‡	767.8‡	59	15.0	82	NNW			3		2		NW	0	Smooth		Clear	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 83° 20′, W. 71° 00′		30.10‡	764.5‡	72	22.2	76	SSW	15	6.7			10k		WSW	0	Rough	SW	Overcast	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 19° 28′, W. 65° 09′		29.71‡	754.6‡				NE	20	8.9			1		NE	0	Mod'ate	NE	Clear	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg, and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 7, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.75	755.6	69.3	20.7	68	S			1		2			0	0	Fair	Kesxuche.
Algiers			29.71	754.6	75.9	24.4	31	SW			1		10			0	0	Covered	Tourliiere.
La Calle			29.82	757.4	61.2	16.2	86	ENE			6		8			0.008	0.20	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.96	761.0															Gau.
Saida			29.81	757.1	69.1	20.6	26	NW			2		10			0	0	Covered	Herbin.
Tebessa			29.93	760.2	68.7	20.4	36	S			3		5			0	0	Cloudy	Watrin.
Geriville			29.82	757.4	61.8	16.3	40	NNW			2		10			0	0	Covered	Brugniaux.
Laghouat			29.86	758.5	70.2	21.2	38	SE			3		5			0	0	Cloudy	Bertrand.
Biskra			29.89	759.1	77.2	25.1	29	SE			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.14	740.1	29.67	753.7	64.0	17.8	63	SE			1		1			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.89	733.8	29.64	752.9	58.6	14.8	78	WNW			3		4			0.008	0.2		Dr. Wierzbiski.
Eperies	28.75	730.2	29.60	751.8	63.0	17.2	51	S			3		7cks			0	0		Julius Mikolik.
Gratz	28.39	721.1	29.60	751.8	61.9	16.6	60	SE			3		7			0	0		Andreas Rospini.
Hermannstadt	28.26	717.8	29.67	753.5	56.3	13.5	60	NW			3		9			0	0		Prof. A. Gottschling.
Kremsmünster	28.18	715.8	29.47	748.6	62.6	17.0	57	NE			2		7			0	0		Prof. C. Wagner.
Lemberg	28.60	726.3	29.55	750.6	61.5	16.4	54	W			2		4			0	0		Dr. T. Stanecki.
Pola	29.59	751.5	29.70	754.3	64.6	18.1	63	SSE			2		0			0	0		I.R.Hydrographic Office
Szathmar	29.24	742.7	29.69	754.1	64.9	18.3	41	SW			2		7			0	0		Julius Csics, S. J.
Szegedin	29.44	747.8	29.72	754.8	61.0	16.1	68	S			1		6			0	0		Karl Stancel.
Trieste	29.61	752.1	29.71	754.7	64.4	18.0	64	W			1		3			0.094	2.4	Almost clear	P. Busin.
Vienna	29.59	733.8	29.59	751.5	62.6	17.0	48	ESE			2		5			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	30.08	764.0	30.18	766.6	41.7	5.4		N	17	7.6			6			0.030	0.76	Squally	W. Boswell.
Ardrossan	30.20	767.1	30.22	767.6	44	6.7		NW			3		8					Overcast	William McNeil.
Armagh, Observatory			30.28	769.1	45.0	7.2		N	12	5.4			3					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.17	766.3	42.2	5.7		NNW	19	8.5			10					Overcast	John Hartnup.
Bolton (Sharples)			30.14	765.5	36.8	2.7		NNE	42	18.8			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.72	754.9	30.12	765.0	39.9	4.4		E			6		7			0.01	0.3	D. clouds	J. McLandsboroug.
Bridgetown (Barbadoes)	29.89	759.2	29.92	760.0	83	28.3		SE			1		2					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.02	762.5	46.0	7.8		N			2		7					Hailing	H. Todd.
Cardington			30.03	762.8	43.0	6.1		N			4		8					Overcast	John McLaren.
Chatham, School M. E.	29.87	758.7	30.00	762.0	42.4	5.8		N			1		7					D. clouds	J. Carmoll, Sapper, R. E.
Donaghadee	30.21	767.3	30.26	768.6	48	8.9		NNE			5		5					D. clouded	J. Mac Gowan.
Dover	29.93	760.2	29.96	761.0	45	7.2		NE			5		5					¾ clouded	J. Costello.
Falmouth, Observatory	29.90	759.4	30.13	765.3	44.9	7.2		N			5		9					Overcast	The Staff.
Fort Napier (Natal)	27.60	701.0	29.90	759.4	79.0	26.1		E			3		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.61	752.1	29.84	757.9	85	29.4		W			1		3					D. clouds	
Galway, Queen's College			30.28	769.1	48	8.9		NNW			5		8					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.74	755.4	29.79	756.7	58.7	14.8		W			2		6					D. clouds	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	30.00	762.0	30.20	767.1	42.8	6.0		N			4		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.98	761.5	29.98	761.5	43	6.1		NNE			5		5					Squally	G. T. Watson.
Greenwich, Royal Obs'y	29.84	757.9	30.01	762.2	44.8	7.1		N			4		10			Blank	Blank	Overcast	The Staff, for G.B.Airy.
Guernsey	29.79	756.7	30.02	762.5	45	7.2		NNE			4		5			Blank	Blank	D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.07	763.8	30.19	766.8	48	8.9		NE			6		2ck			0	0	Fine	M. P. Moyle.
Holyhead	30.18	766.6	30.22	767.6	44	6.7		N			5		5					D. clouds	John Tilston.
Jersey	29.72	754.9	30.02	762.5	44.3	6.8		NE			6		8n			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	30.10	764.5	30.14	765.5	42.8	6.0		N	20	8.9			8					Threatening	The Meteorological Of.
Leicester, Museum.	29.82	757.4	30.08	764.0	42.1	5.6		N			4		10			Inap.	Inap.	Overcast	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.91	759.7	29.99	761.7	65	18.3		NW			2		2k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.13	765.3	30.22	767.6	41	5.0		NNW			4		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.02	762.5	78.8	26.0		NE			1		8			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.91	759.7	30.10	764.5	42.3	5.7		N			5		0k;ok;d		N	0.008	0.20	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.56	750.8	30.09	764.3	41.4	5.2		NNE			5		10					Threatening	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.07	763.8	41	5.0		N			2		10					Rain & snow	H. E. Bellamy.
Plymouth	30.02	762.5	30.10	764.5	48.0	8.9		NNE			5		10					Overcast	John Merrifield.
Prince Town	28.64	727.4	30.17	766.3	36.0	2.2		E			5		7					Showery	W. H. Tooker.
*Roche's Point	30.23	767.8	30.32	770.1	48	8.9		NNE			6		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	30.02	762.5	30.19	766.8	41	5.0		NE			4		7					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			30.20	767.1	38.7	3.7		NNW	24	10.7			10					Showery	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.64	752.8	29.70	754.4	56.2	13.4		NE			2		9					D. clouds	Serg't W. H.Lyne.
Sheffield	29.84	757.9	30.12	765.0	43.3	6.3		NNE			2		7			Blank	Blank	D. clouds	W. F. Cooper.
Silloth Rectory	30.16	766.1	30.20	767.1	44.3	6.8	55	NE			3		9			Inap.	Inap.	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.74	755.4	30.14	765.5	42.0	5.6		NNW			2		8			Blank	Blank	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.83	757.7	30.06	763.5	43.7	6.5		N			2–3		10					Hailing	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.10	764.5	30.14	765.5	48	8.9		N			7		5					D. clouds	W. Newcombe.
Valencia, Observatory	30.32	770.1	30.34	770.6	49.7	9.8		N	30	13.4			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.99	761.7	30.03	762.8	64.2	17.9	69	NW	3	1.3		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania).			29.98	761.5	47.5	8.6	81	NW			2		10kn					Raining	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			30.21	767.3	47.5	8.6		NW			3		10k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.75	755.6	29.94	760.4	78.7	25.9	69	SW	10.6	4.7		1	2		WSW	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.08	764.0	30.17	766.3	53.4	11.9	82	WNW	11	4.9			7			0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)			30.31	769.9	43	6.1		N			4	3	0	N		0.1	.2.		J. Youngclause.
North Unst (Shetland Is.)			30.03	762.8	35	1.7		N			8		7					Sleeting	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
Brig Alliance																			Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore, N. 42° 05′. W. 39° 28′			30.13	765.3	62	16.7		NE			5		6			5	NE	Raining	Capt. J. W. Thorne.
—— City of Agra,																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole.																			Capt. E. W. Turner.
S. S. Nizam, N. 16° 42′. E. 113° 14′,			29.85‡	758.2‡	83	28.3		S			2		2					D. clouds	Capt. Barlow.
S. S. Strathleven,																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7	29.93	760.2	67.6	19.8	95	NE			1	8c;s	1s			Inap.	Inap.		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.69	754.6	29.73	755.2	43.9	6.6	26	NNE			4		0						
Fanöe	29.75	755.7	29.77	756.2	48.4	9.1	68	N			6		3						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.18	766.6	30.22	767.5	39.9	4.4	50	W			2		10					Raining	
Vestervig	29.68	753.9	29.85	758.2	44.2	6.8	60	NW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	40.6	4.8	74	NNE			3		10	NE	NE	0.087	2.2	Raining	Collignon, Director.
Amiens, Normal School	29.78	756.3	29.89	759.1	47.5	8.6	57	NE			3		10			0	0	Covered	Bouvallet, Director
Avignon, Normal School	29.63	752.5	29.71	754.5	59.0	15	68	WNW			1		10			0	0	Covered	Giraud, Director
Bar-sur-Seine	29.26	743.2	29.83	757.7	40.8	4.9	77	ENE			2		10		NE	0.512	13.0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.63	752.7	29.90	759.5	44.4	6.9	57	NE			3		8		NE	0.024	0.60	Very cloudy	Frere Eugene Marie, Dr,
Besançon, Normal School	28.88	733.6	29.79	756.7	42.3	5.7	83	W			2		10		NW	0.236	6.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.86	733.0	29.76	756.0	45.5	7.5	85	N			1		5n	N	N	0.322	8.2	Cloudy	Marlot, Director
Bourges, Normal School	29.27	743.5	29.84	757.8	43.5	6.4	70	NE			1		5	N	N	0.35	9.	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.72	755.0	29.97	761.2	46.8	8.2	66	N			4		10		N	0.030	0.75		De Rermaree, Director
Carcassonne, Normal School	29.39	746.4	29.80	756.8	57.6	14.2	58	W			1		10	W	W	0.256	6.5	Covered	September, Director.
Caen, Normal School	29.88	758.9	29.95	760.8	44.2	6.8	55	NE			4		8		NNE	0.346	8.8	Very cloudy	Lair, Director.
Chartres, Normal School	29.32	744.8	29.90	759.5	42.8	6	85	N			3		10					Snowing	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.53	750.0	29.89	759.2	46.0	7.8	46	NW			2		5	NW	NW			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.40	721.4	29.79	756.6	40.6	4.8	84	NNE			1		10		N	0.130	3.3		Alluard, Director.
Commercy, Normal School.	28.96	735.6	29.85	758.2	37.2	2.9	86	N			4		10			0.39	10.	Covered	Dr. Coulet, Director.
Commune de Grésque*	28.62	727.0	29.76	756.0	58.1	14.5	55	NW			2		10		NW	0	0	Covered	L. Kina, Director.
Grenoble, Normal School	28.96	735.6	29.72	755.0	52.9	11.6	69	NW			1		10ck		NE	0	0	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.67	753.5	29.88	759.0	44.6	7.0	66	N			6		10			0.031	0.8	Covered	Mouillot, Director.
Le Mans, Normal School	29.60	751.7	29.91	759.6	49.1	9.5	44	NW			3		8		NW	0.207	5.25	Very cloudy	Poirrier, Director.
Lens-Le-Saulnier, N.School	28.84	732.5	29.77	756.2	43.0	6.1	25	NNE			2		10n		NE	0.28	7.	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.88	758.9	29.98	761.4	46.4	8.0	67	NNE			4			N	NE	0.047	1.2		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.72	729.4	29.80	756.8	36.0	2.2	93	S			4		10		N			Snowy	Barbier, Director.
Nismes, Normal School	29.48	748.9	29.69	754.0	59.7	15.4	62	W			2		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.69	728.7	29.75	755.6	53.6	12	65	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.84	631.0			28.2	— 2.1	100	N			1					0.157	4.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.80	756.8	29.83	757.6	44.1	6.7	72	ENE			2		10	ENE	ENE	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.86	758.5	29.95	760.7	48.0	8.9	52	NE			3		10		N	0.118	3.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.94	760.5	29.97	761.3	45.0	7.2	66	NE			4		10	NE	NE	0.131	3.33	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.71	754.6	29.87	758.8	48.2	9.0	48	NE			3		10	NNE	NNE	0.016	0.4	Rainy	E. Renou, Director.
Tarbes, Normal School	28.73	729.7	29.81	757.2	50.0	10	62	W			2		10			0.16	4.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.05	737.8	29.76	756.0	50.4	10.2	79	NW			1		10			0.780	19.8		Mercadier Julier.
Versailles, Observatory	29.38	746.3	29.87	758.8	43.2	6.2	58	NE			3					0.008	0.20		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.05	737.8	29.77	756.1	47.3	8.5	82	N			2		8		NW	0.04	1.	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.76	755.8	29.78	756.5	75.2	24										0.83	21.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.12	739.7	29.74	755.4	45.5	7.5	89	NNE			1		10			0.102	2.60	Raining	Mr. Jays.
Mont-Louis	24.55	623.5	29.86	758.5	43.2	6.2	78	NE	24.2	10.8			6		NE	0	0		M. Cave.
Nice			29.69	754.1	65.8	18.8	66	W			4		10			0	0	Foggy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y			29.59	751.6	45.9	7.7	50	NNE			4		10		NNE	0.071	1.8		Marié Davy, Director.
Perpignan	29.63	752.6	29.74	755.3	56.8	13.8	55	N	3.8	1.7			10			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.14	562.4			34.9	1.6		W			6		10			0.018	0.45	Snowy	Gen'l de Nansouty.
Tours	29.65	753.2	29.85	758.2	49.3	9.6	59	NE			3		7		N	0.173	4.4		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.84	757.8	29.86	758.5	57.4	14.1	79	ESE	10.3	4.6		0	0			0	0	Clear	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grésque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5,315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–1	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.86	733.0	29 69	754.2	37.9	3.3	85	NW			6		10			0.16	4.	Raining	Prof. Dr. Hoh.
Berlin	29.55	750.5	29.72	754.9	51.8	11.0	49	NW			2		8			0	0		Prof. Arndt.
Breslau	29.21	742.0	29.74	755.3	45.3	7.4	65	NNW			3		10			0.011	0.27		Royal University Obs'y
Carlsruhe	29.31	744.4	29.74	755.5	37.0	2.8	92	N			1		10	N		0.579	14.7	Rain & snow	Albert Senz.
Cassel	29.17	741.0	29.78	756.3	47.5	8.6	35	N			7		8	SE		0.015	0.38		Dr. H. Möhl.
Crefeld	29.65	753.2	29.82	757.3	45.3	7.4	44	N			5		9			0.08	2.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.67?	753.5?	30.03?	762.8?	43.7	6.5		NNE			2		10			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	29.67	753.5	29.71	754.5	50.7	10.4	64	NW			3		5c;k	NNW		Inap.	Inap.		Assmann., M. D.
Friedrichshafen	28.22	716.9	29.66	753.3	48.0	8.9	86	W			2		10	W		0.213	5.4	Raining	M. Wilhelm.
Hamburg	29.67	753.6	29.74	755.4	47.5	8.6	60	NNW			2		10kn			0.091	2.3	Showery	Captain F. Hegeman.
Kiel	29.73	755.2	29.75	755.6	47.7	8.7	41	NNE			4		5			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.57	751.0	29.65	753.1	43.7	6.5	67	W			5		6			0	0		Prof. E. Luther.
Köslin			29.65	753.2	45.7	7.6		N			4		1	S		0	0		H. Müller.
Leipsic Observatory	29.30	744.3	29.72	755.0	48.2	9.0	44	NNW			1		9			0.043	1.1		Prof. Bruhns, Privy Counselor.
Memel,	29.61	752.1	29.66	753.3	40.3	4.6	74	NW			5		4cs						Skalweit.
Neufahrwasser	29.70	754.3	29.74	754.7	42.3	5.7	73	NNE			4		6	NW		0	0		A. Lothes.
Posen	29.44	747.9	29.73	755.2	53.2	11.8	41	W			4		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.21	741.9	29.77	756.2	37.2	2.9	91	NNE			4		10	N		0.203	5.16		Imp. University Observatory.
Stuttgart	28.73	729 8	29.70	754.3	37.4	3.0	91	N			1		10			0.287	7.3	Raining	Prof. Schoder.
Treves (Trier)	29.24	742.6	29.75	755.7	44.2	6.8	51	N			6		10			0.063	1.60		Prof. Flesch.
Weissenburg (Bavaria)	28.14	714.7	29.66	753.4	42.6	5.9	91	NNE	2	1			10			0.079	2.0		Dr. Van Bebber.
Wustrow	29.71	754.5	29.73	755.1	45.7	7.6	77	N			3		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.41	747.0	29.80	757.0	59.5	15.3		SE			0.5							Sprinkling	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.69	754.1	29.74	755.4	84.1	28.9	65	SSW					0			0	0	Blue sky	
Deesa					98.2	36.8	16	W	10.4	4.6			0			0	0	Blue sky	
Bombay	29.72	754.9	29.76	755.9	84.3	29.1	75	NW	20.0	8.9			0			0	0	Blue sky	
Poona	27.78	705.6	29.72	754.8	94.0	34.4	29	NW					0			0	0	Blue sky	
Lahore	28.92	734.4	29.63	752.5	97.8	36.6	16	W	3.2	1.4			0			0	0	Blue sky	
Belgaum	27.24	692.0	29.71	754.7	89.1	31.7	63	W	11.0	4.9			1		E	0	0	D. clouds	
Roorkee	28.72	729.5	29.58	751.4	97.9	36.6	16	SW	3.6	1.6			0			0	0	Misty	
Agra	29.07	738.3	29.60	752.0	101.6	38.7	15	W					0			0	0		
Nagpur	28.62	727.0	29.62	752.4	101.7	38.7	25	N	6.0	2.7			9		NE	0	0	Drizzling	
Lucknow	29.23	742.5	29.59	751.6	99.1	37.3	39	NW	3.4	1.5			0			0	0	Blue sky	
Allahabad	29.29	744.0	29.59	751.6	102.1	38.9	17	Calm	4.5	2.0			9			0	0	D. clouds	
Patna	29.41	747.0	29.58	751.4	93.3	34.1	47	E	1.4	0.6			2	E	E	0	0		
Hazaribagh	27.64	702.0	29.56	750.8	98.3	36 8	9	NW	8.4	3.8			0			0	0	Blue sky	
Cuttack	29.55	750.6	29.63	752.7	90.1	32.3		SSW	7.0	3.1			3			0	0	D. clouds	
Calcutta (Alipore)	29.61	752.1	29.63	752.6	87.2	30.7	71	S	11.0	4.9			0			0	0	Blue sky	
Goalpara	29.32	744.7	29.72	754.8	70.8	21.6	95	E	7.4	3.3			10		SW	1.44	36.6	Thunder-storm.	
Chittagong	29.64	753.0	29.74	755.3	81.4	27.4	74	E	5.5	2.5			2			0	0	Misty	
Sibsagar	29.41	746.9	29.74	755.5	76.8	24.9	82	SW	2.5	1.1			10	W	W	0.37	9.4	D. clouds	
Jubbulpore	28.32	719.4	29.64	752.8	98.7	37.1	18	NW	4.5	2.0			8		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.30	744.2	29.71	754.6	62.6	17.0	55	SW	2.5	1.1			9			0	0		Prof. Giovanni Clodig.
Milan	29.10	739.2	29.61	752.2	62.2	16.8	64	SSE			2		9			0.043	1.1		Prof. Schiaparelli.
Padua	29.56	750.7	29.66	753.4	63.9	17.7	57	E	10.5	4.7			5	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.71	729.1	29.61	752.1	61.0	16.1	60	ESE	2.5	1.1			10	NNE		0	0		Prof. P. F. Denza.
Genoa	29.49	749.0	29.68	753.8	59.7	15.4	84	SE	11.2	5.0			10	SE		0.035	0.9		Prof. G. M. Garibaldi.
Mondovi	27.71	703.9	29.62	752.4	60.1	15.6	59	NW			2		8			0	0		Prof. D. C. Bruno.
Pesaro	29.63	752.7	29.68	753.9	61.7	16.5	67	E	14.3	6.4			8	SW		0	0		Prof. Luigi Guidi.
Florence	29.46	748.2	29.71	754.7	67.1	19.5	44	WSW			2		10	WSW		0.012	0.3		Cav. F. Meucci
Leghorn	29.63	752.5	29.71	754.6	63.7	17.6	64	S			6		4			0	0		Prof. P. Monte.
Rome	29.63	752.5	29.80	757.0	64.6	18.1	65	W	13.7	6.1			4			0	0		Prof. P. S. Ferrari
Lecce	29.57	751.0	29.82	757.4	59.4	15.2	62	ENE	1.3	0.6			7	NW		0	0		Prof. C. De Giorgi.
Cosenza	28.97	735.8	29 85	758.2	62.8	17.1	72	NW	0.7	0.3			8			0.098	2.5		Prof. D. Conti.
Cagliari	29.60	751.9	29.80	756.8	66.2	19.0	60	S			2		2	W		0	0		Prof. A. Facinotti.
Palermo	29.61	752.2	29.87	758.6	62.8	17.1	59	N	4.3	1.9			4			0.429	10.9		Prof. G. Cacciatore.
Syracuse	29.79	756.6	29.86	758.4	68.7	20.4	53	ESE	11.2	5.0			4	W		0.087	2.2		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.30	744.3	29.86	758.4	61.2	16.2	77	SW	1.3	0.6			4			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.64	752.8	29.65	753.1	59.9	15.5	63	NNW	14.0	6.3			10s;cs		W	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.60	751.8	29.80	756.9	56.5	13.6	73	W	2.1	0.9			6cs;s			0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.41	747.0	29.48	748.8	61.3	16.3	98	WNW	5.4	2.4			10n			2.035	51.69	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.6	30.13	765.2	53.2	11.8	52	SW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.43	620.5	30.04	762.9	65.1	18.4	73	SW			1	0	0			Inap.	Inap	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.01	762.3	58.1	14.5	63	Calm	0	0		0	0			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					64.4	18.0	66	Calm			0	0	0			0	0	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.92	759.9	29.93	760.2	77.9	25.5	92	W			2	0	5		N	0	0	Foggy	M. M. Chàzaro.
San Luis Potosi	24.17	613.8	30.01	762.3	66.0	18.9	73	SE			2	0	0			0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.5	30.05	763.2	62.4	16.9	57	Calm			0	0	0			0	0	Hazy	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.5	30.21	767.3	53.2	11.8	49	N	1.3	0.6		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.37	720.7	30.03	762.7	74.1	23.4	67	NE			1	0	10			0	0	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.93	760.1	29.93	760.1	45.3	7.4		N								0.154	3.9		
Groningen	29.78	756.4	29.84	757.8	44.6	7.0		NNW			3					0	0		
Helder	29.88	758.9	29.88	758.9	41.7	5.4		NNE			5					0	0		
Hellevoetsluis	29.88	758.9	29.88	758.9	47.3	8.5	57	N			4					0.071	1.8		
Utrecht	29.82	757.5	29.87	758.7	46.2	7.9	54	NNE			4		8			0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.84	757.8	29.89	759.2	39.6	4.2	58	NNW	23.3	10.4			3			0	0		
Brönö	29.60	751.9	29.64	752.9	29.8	— 1.2	80	NW	31	14			8						
Christiania	29.59	751.5	29.74	755.3	39.9	4.4	35	NNW	20	9			8			0.079	2.0	Light snow..	
Tromsö	29.48	748.8	29.52	749.0	27.7	— 2.4	71	S	9	4			4					Hailing	
																0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m. local time,

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.89	759.2	30.08	764.1	63.3	17.4	84	ESE	14.3	6.4			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.71	729.2	29.71	754.6	73.0	22.8	31	W	9.8	4.4			3			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.86	758.4	29.94	760.6	70.2	21.2	61	SE	3.1	1.4			3			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.42	747.2	29.77	756.2	64.9	18.3	55	N	21.0	9.4			0			0	0		The Staff.
Ponta Delgada (Azores)	30.01	762.3	30.08	764.1	67.3	19.6	77	E	1.3	0.6			3			0.031	0.8		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias, N. 35° 18′, W. 14° 15′			29.91	759.7	66.2	19.0		NNE			2		3		NE	1	NE	D. clouds	A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 13° 24′, W. 20° 53′			30.02	762.5	77.0	25		NW			3		5		N	4	NW	D. clouds	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.77	756.1	82.4	28.0		NW			2		3		ESE	1	NW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.86	758.5	86.4	30.2		SSW			1		0			0		Blue sky	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.84	758.0	78.8	26.0		E			1		3		E	0		Raining	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.24	742.6	29.66	753.3	52.3	11.3	48	NW	9	4			9ks						Astronomical Obs.
Wilna	29.15	740.4	29.56	750.9	53.6	12.0	57	W	9	4			2						Astronomical Obs.
Dorpat	29.21	741.9	29.45	748.0	49.8	9.9	69	WSW	13	6			5k					Light clouds	
St. Petersburg	29.33	745.0	29.35	745.4	60.6	15.9	38	S	22	10			7ksn						Prof. Dr. Weihrauch.
Kieff	28.97	735.8	29.59	751.5	60.1	15.6	39	SW	7	3			10k						Central Physical Obs.
Nikolaiev	29.61	752.1	29.68	753.9	59.2	15.1	42	ENE	13	6			5cs						Physical Cabinet.
Kertch	29.60	751.9	29.62	752.4	61.5	16.4	86	SW	7	3			9						Kurdakof.
Moscow	28.92	734.5	29.46	748.3	48.6	9.2	88	S	9	4			8ks						Lagorio.
Lugan	29.44	747.8	29.64	752.9	55.9	13.3	70	Calm	0	0			7						Meteorological Obs.
Archangel	29.54	750.2	29.56	750.7	49.8	9.9	68	S	4	2			6ks			Blank	Blank		Meteorological Obs.
Tiflis	28.30	718.7	29.62	752.3	82.6	28.1	36	NW	13	6			4k						Capt. Sseliwerstow.
Astrakhan	29.71	754.5	29.62	752.4	83.7	28.7	46	Calm	0	0			1cs						Physical Observatory.
Krotkowo*																		Raining	Capt. Wisganow.
Kasan	29.59	751.6	29.85	758.2	61.3	16.3	39	ESE	4	2			8						Cand. Fatjanow.
Ekaterinburg	29.15	740.3	30.10	764.6	56.3	13.5	40	SSE	4	2			1c					Light clouds	Physical Cabinet.
Nukuss	29.48	748.8	29.70	754.3	92.3	33.5	32	N	11	5			0						Meteorological Obs.
Tashkend	28.12	714.1	29.56	750.9	89.6	32.0	46	Calm	0	0			6						
Barnaul	29.41	746.9	29.91	759.8	40.1	4.5	71	NNW	9	4			10					Raining	Teich, A. M.
Yeniseisk	29.61	752.0	29.90	759.5	43.9	6.6	36	NNW	4	2			0						Meteorological Obs.
Irkutsk																			Marks.
Peking (China)	29.52	749.9	29.67	753.5	65.7	18.7	47	NE	4	2			8n						
Nertchinsk																			Physical Observatory.
Vladivostock	29.81	757.2	29.91	759.7	40.8	4.9	78	Calm	0	0			4c						Meteorological Obs.
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.58	751.3	29.69	754.0	65.3	18.5	51	SSW	5.4	2.42			3			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	29.81	757.1	29.87	758.6	50.5	10.3	87	NW	2.7	1.19			10			0.417	10.6	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.79	680.5			41.9	5.5	61	NE	7.4	3.31			8					Drizzling	Domingo Martin y Perez.
Madrid, Royal Observatory	27.40	696.0			69.4	20.8	35	SW	19.4	8.67			1			0	0	Slightly cl'dy	The Staff.
Murcia, Met. Obs'y	29.52	749.8	29.67	753.5	74.3	23.5	38	NE	2.7	1.22		0	4	SE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.95	735.4	29.56	758.4	49.3	9.6	64	NNE	21.7	9.7		4	7			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.3	75.0	23.9	70	E	8.5	3.8		0	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.82	757.4	29.87	758.7	87.8	31.0	77	S	6.3	2.8			3k		S	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.71	754.6	29.80	757.0	66.0	18.9	68	S	12.4	5.6		0	10		S				Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.87	758.8	29.96	761.1	77.4	25.2	71	NE	0	0		2k	2k			0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda																			
Umea																			
Hernosand	29.35	745.5	29.40	746.8	32.4	0.2	71	N			6		8			0.079	2.0		
Stockholm	29.41	747.0	29.46	748.3	37.0	2.8	34	NNW			6		7			0	0		
Wisby	29.42	747.3	29.60	751.8	38.5	3.6	41	NNW			2		6			0.283	7.2		
Sub-Series.	29.57	751.1	29.63	752.6	38.1	3.4	63	NNW			4		0			0.228	5.8		
Upsala	29.51	749.5	29.58	751.4	36.9	2.7	96	NNW	10.5	4.7			5			0	0		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.28	718.3	29.72	754.9	48.6	9.2	69	SSW			3		10			0.079	2.0	Covered	The Observatory.
Zurich	28.04	712.1	29.70	754.4	46.4	8.0	89	NW			1		10			0.264	6.7	Raining	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —6.4 mm.; Thermometer,—6.0 Cent.; Relative Humidity, +11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.74	755.3	52.7	11.5	73	NNE	12	5.5			10		NE	0	0		The Observatory.
Fao, Persian Gulf			30.16	766.0	87.8	31.0		SE			2		0						
Valona			29.87	758.6	65.5	18.6		S			2		5			0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.64	752.8	29.75	755.7	77.9	25.5	65	W			5		10cs			0	0	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.89	759.2	30.20	767.1	44	6.7		W	5	2.2			8s		W	0.12	3.0	Cloudy	W. R. Bigg
*Chatham, N. B	29.71	754.6	29.77	756.1	41	5.0	95	NE	3	1.3			10n		NE	0.64	16.3	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.68	753.9	29.72	754.9	50	10.0	95	SE	10	4.5			10n			0.010	0.25	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.08	764.0	44.7	7.1	68	NW			2	0	6s			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.61	752.1	29.76	756.4	40.0	4.4	98	W			1		10ks			0.67	17.0	Clearing	H. A. Johnson.
Esquimault, B. C	29.86	758.4	29.90	759.4	43.3	6.3	92	W	2	0.9		10cs	0			0.11	2.8	Overcast	W. H. Bevis.
*Father Point, Quebec	29.87	758.7	29.90	759.4	37	2.8	98	N	24	10.7			10n		Calm	0.15	3.8	Heavy rain	J. McWilliams.
Fredericton, N. B	29.70	754.4	29.76	755.9	45.1	7.3	86	Calm	0	0			10s			0.11	2.8	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.59	751.6	30.45	773.4	37	2.8	85	S	4	1.8		0	0			0	0	Clear	James Stewart.
Granton, Ontario	29.17	740.9	30.31	769.9	38	3.3		N			1		10n			Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	29.64	752.8	29.77	756.1	48	8.9	97	SW	4	1.8			10n		SW	0.016	0.40	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.93	760.2	30.31	769.9	43.7	6.5	84	NW			1	10cs	0	NW		0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.84	757.9	30.18	766.6	45	7.2	74	W	9	4.0		0	0			Inap.	Inap.	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.92	760.0	29.96	761.0	48.1	8.9	98	S	8	3.6			10n			0.21	5.3	Raining	C. H. Rigby.
Moose Factory, Ontario	30.34	770.6	30.37	771.4	41.2	5.1	65	W			1	0	0			0	0	Clear	J. R. Nason.
*Montreal, Quebec	29.85	758.2	30.06	763.5	46	7.8	73	NW	12	5.4			8ks		NW	0.12	3.0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.60	751.8	30.31	769.9	40	4.4	68	N	8	3.6		0	0			0.17	4.3	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.50	749.3	30.26	768.6	43.7	6.5	58	W			1	0	0			0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.57	751.1	30.28	769.1	41	5.0	93	NW	6	2.7		10k	0	NW		0	0	Fair	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.89	759.9	49.7	9.8		S	10	4.5						0	0	Raining	Peter Grant.
Port Stanley, Ontario	29.63	752.6	30.30	769.6	38	3.3	90	W	6	2.7		5k	0	NW		0	0	Fair	M. Payne.
*Quebec, Quebec	29.65	753.1	29.98	761.5	40	4.4	91	Calm			0		10n			0.32	8.1	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.79	756.7	30.26	768.6	41	5.0	57	NW	4	1.8			8s		N	Inap.	Inap.	Fair	W. H. McIntyre.
St. Andrews, N. B	29.70	754.4	29.75	755.6	43	6.1	98	Calm			0		10n			0	0	Cloudy	Dr. Gove.
St. John, N. B	29.61	752.1	29.78	756.4	42	5.6	100	SW	8	3.6			Fog			0.03	0.8	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.60	751.8	30.33	770.4	41	5.0	69	NW	7	3.1		2cs	0			0.06	1.5	Clear	K. Stewart.
Stayner, Ontario	29.50	749.3	30.30	769.6	41	5.0	65	NW	10	4.5		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	28.97	735.8	30.31	769.9	37.4	3.0	91	NW	4	1.8			10s			0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.90	759.4	29.94	760.5	48	8.9	99	S	10	4.5			10n			0.05	1.3	Light rain	T. C. Hill.
*Toronto, Ontario	29.90	759.4	30.29	769.4	42	5.6	71	N	5	2.2			10ks		NW	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.66	753.4	29.75	755.6	52.0	11.1	93	S	5	2.2		4k	0			0.02	0.5	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.13	765.5	30.39	771.9	43.0	6.1	92	NE								0	0	Overcast	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.94	760.5	30.17	766.3	50	10.0	58	W	20	8.9		1k	0	W		0	0	Clear	
Alpena, Michigan	29.72	754.9	30.39	771.9	41	5.0	65	NW	9	4.0		0	0			0.02	0.5	Clear	
Atlanta, Georgia	28.91	734.3	30.05	763.3	55	12.8	93	NE	8	3.6			10n		Calm	0.34	8.6	Light rain	
Atlantic City, New Jersey	30.22	767.6	30.23	767.8	52	11.1	60	N	7	3.1		0	0			0	0	Clear	
Augusta, Georgia	29.88	758.9	30.05	763.3	67	19.4	69	Calm	0	0			10s		Calm	0.07	1.8	Cloudy	
Baltimore, Maryland	30.21	767.3	30.26	768.6	52	11.1	51	N	5	2.2		Haze	5s	Calm	NW	0	0	Fair	
Barnegat, New Jersey	30.17	766.3	30.19	766.8	52	11.1	60	N	8	3.6		5c	0	Calm		0	0	Fair	
Bismarck, Dakota	28.42	721.9	30.27	768.8	42	5.6	65	E	16	7.2			10s		SE	0	0	Cloudy	
Boerne, Texas	28.61	726.7	29.90	759.4	62	16.7	100	NE	6	2.7			Fog		Calm	0	0	Dense fog	
Boise City, Idaho	27.22	691.4	30.18	766.6	39	3.9	64	NW	5	2.2		0	5s		W	0	0	Fair	
Boston, Massachusetts	29.90	759.4	30.05	763.3	51	10.6	53	NW	18	8.0		1k	0	Calm		0	0	Clear	
Brackettville, Texas	28.90	734.0	29.91	759.7	66	18.9	89	NE	6	2.7			10s		NE	0	0	Cloudy	
Breckenridge, Minnesota	29.37	746.0	30.42	772.6	35	1.7	75	SE	11	4.9		2cs	0	Calm		0	0	Clear	
Brownsville, Texas	29.93	760.2	29.98	761.5	72	22.2	90	Calm	0	0		10k	0	E		0	0	Cloudy	
Buffalo, New York	29.55	750.6	30.27	768.8	38.5	3.6	86	SW	4	1.8		2ck	2s	N	N	Inap.	Inap.	Fair	
Burkes, Arizona					66	18.9	28	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.80	756.9	30.10	764.5	44	6.7	68	NW	8	3.6			10ks		NW	0.01	0.3	Cloudy	
Cairo, Illinois	29.90	759.4	30.30	769.6	53	11.7	66	N	13	5.8		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.24	641.1	30.04	763.0	55	12.8	74	E	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona	26.78	680.2	30.11	764.8	49	9.4	37	NW			1	0	0			0	0	Clear	
Campo, California	27.49	698.2	30.06	763.5	46	7.8	92	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	59	15.0	65	NE	24	10.7		5cs	Haze	NW		Inap.	Inap.	Fair	
Cape Henry, Virginia	30.16	766.1	30.18	766.6	58	14.4	64	NE	27	12.1		2ck	Haze	SE	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763.0	64	17.8	53	NE	40	17.9			10s		NW	0	0	Cloudy	
Cape May, New Jersey	30.16	766.1	30.19	766.8	52	11.1	53	N	13	5.8		5c	0	W		0	0	Fair	
Castroville, Texas	29.27	743.4	29.96	761.0	64	17.8	89	SE	4	1.8			10s		SE	0	0	Cloudy	
Charleston, South Carolina	29.96	761.0	30.02	762.5	66	18.9	79	N	10	4.5		8cs	0	NW		0.45	11.4	Cloudy	
Cheyenne, Wyoming	24.01	609.6	29.94	760.5	37	2.8	81	NW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.67	753.6	30.39	771.9	42	5.6	74	N	8	3.6		0	0			0	0	Clear	
Cincinnati, Ohio	29.63	752.6	30.30	769.3	49	9.4	64	NE	4	1.8		5c	0	W		0	0	Fair	
Cleveland, Ohio	29.58	751.3	30.33	770.4	43	6.1	67	N	4	1.8			10ks		NW	0	0	Cloudy	
Coleman City, Texas	28.28	718.3	29.92	760.0	61	16.1	82	Calm	0	0		0	8ks		SE	0	0	Cloudy	
Columbus, Ohio	29.44	747.8	30.30	769.6	48	8.9	56	NE	6	2.7		0	Sm'e		Calm	0	0	Clear	
Concho, Texas	28.14	714.7	29.80	756.9	58	14.4	76	NE	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.63	752.6	30.10	764.5	60	15.6	94	Calm	0	0		0	0			0.03	0.8	Clear	
Davenport, Iowa	29.73	755.1	30.39	771.9	45	7.2	61	NE	6	2.7		0	0			0	0	Clear	
Deadwood, Dakota	25.34	643.6			40	4.4	82	SW	4	1.8		5k	0	SW		0.01	0.3	Fair	
Decatur, Texas	28.96	735.6	30.13	765.3	60	15.6	77	SE	6	2.7		5ck	0	SE		0	0	Fair	
Denison, Texas	29.36	745.7	30.15	765.8	58	14.4	88	E	4	1.8		0	0			Inap.	Inap.	Clear	
Denver, Colorado	24.75	628.6	29.97	761.2	49	9.4	71	NW	3	1.3		0	0			0	0	Clear	
Des Moines, Iowa	29.43	747.5	30.33	770.4	46	7.8	62	E	6	2.7		5cs	0	NW		0	0	Fair	
Detroit, Michigan	29.65	753.1	30.34	770.6	42	5.6	66	NE	5	2.2			10s		NE	0	0	Cloudy	
Dodge City, Kansas	27.46	697.5	29.71	754.6	56	13.3	75	S	20	8.9		2ck	5ks	W	S	0	0	Fair	
Dubuque, Iowa	29.69	754.1	30.42	772.6	40	4.4	56	E	1	0.4		10k	0	E		0	0	Cloudy	
Duluth, Minnesota	29.77	756.1	30.48	774.2	38	3.3	81	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.28	743.7	29.98	761.5	69	20.6	75	E	8	3.6			10s		E	0	0	Cloudy	
Eastport, Maine	29.71	754.6	29.78	756.4	44	6.7	92	SW	7	3.1			10s		SW	0.04	1.0	Cloudy	
Edinburg, Texas					75	23.9	90	E			1		10s		S	0	0	Cloudy	
El Paso, Texas	26.22	666.0			54	12.2	61	NW	4	1.8		0	0			0	0	Clear	
Erie, Pennsylvania	29.57	751.1	30.30	769.6	44	6.7	76	Calm	0	0			10s		Calm	0	0	Cloudy	
Escanaba, Michigan	29.77	756.1	30.46	773.7	38	3.3	63	N	15	6.7		0	0			0	0	Clear	
Florence, Arizona	28.46	722.9	30.06	763.5	65	18.3	49	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	28.05	712.5			40	4.4	82	SE	16	7.2			10s		SE	0	0	Cloudy	
Fort Craig, New Mexico	25.52	648.2	29.58	751.3	45	7.2	19	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	61	16.1	77	SW	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.62	752.3	30.16	766.1	61	16.1	71	E	5	2.2		1c	0	N		0	0	Clear	
Fort Griffin, Texas	28.85	732.8	30.10	764.5	62	16.7	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.38	695.4			42	5.6	83	Calm	0	0			10s		Calm	0.24	6.1	Cloudy	
Fort McKavett, Texas	27.79	705.8	29.68	753.9	60	15.6	82	E	4	1.8			10s		E	0	0	Cloudy	
Fort St. Michael, Alaska	29.78	756.4	29.82	757.4	28	− 2.2	100	E	15	6.7			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.89	733.8	29.99	761.7	59	15.0	82	SE	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.37	720.6			40	4.4	82	SE	14	6.3			10s		SE	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.33	719.6	29.87	758.7	63	17.2	94	SE	3	1.3			10ks		Calm	0	0	Cloudy	
Galveston, Texas	30.02	762.5	30.06	763.5	65	18.3	89	N	16	7.2			10s		Calm	0	0	Cloudy	
Graham, Texas	29.02	737.1	30.06	763.5	62	16.7	83	NE	2	0.9			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.72	754.9	30.40	772.1	43	6.1	59	NE	7	3.1		0	0			0	0	Clear	
Indianapolis, Indiana	29.46	748.3	30.26	768.6	44	6.7	68	N	2	0.9		5c;ck	0	W		0	0	Fair	
Indianola, Texas	30.03	762.8	30.05	763.3	69	20.6	90	NE	16	7.2		0	10s		NE	0.02	0.5	Cloudy	
Jacksboro, Texas	28.98	736.1	30.11	764.8	62	16.7	67	SE	12	5.4			10s		SE	0	0	Cloudy	
Jacksonville, Florida	29.98	761.5	30.01	762.2	75	23.9	72	SW	4	1.8		5cs	0	SW		0	0	Fair	
Keokuk, Iowa	29.69	754.1	30.32	770.1	48	8.9	56	E	8	3.6		1c	0	Calm		0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	79	26.1	70	NE	3	1.3		0	1ks		Calm	0	0	Clear	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	56	13.3	75	NE	18	8.0		8cs	0	Calm		0	0	Fair	
Knoxville, Tennessee	29.13	739.9	30.12	765.0	57.5	14.2	53	NE	4	1.8		0	2s		NE	0	0	Fair	
La Crosse, Wisconsin	29.65	753.1	30.42	772.6	43	6.1	67	N	2	0.9		5k	0	E		0	0	Fair	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	47	8.3	48	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.69	751.8	29.93	760.2	75	23.9	64	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.37	746.0	30.22	767.6	51	10.6	53	SE	5	2.2		5ck	4ks	W		0	0	Cloudy	
Los Angeles, California	29.73	755.1	30.07	763.8	56.0	13.3	87	E	3	1.3			10n		E	0.03	0.8	Light rain	
Louisville, Kentucky	29.67	753.6	30.24	768.1	48	8.9	63	NE	8	3.6		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.53	750.0	30.21	767.3	58	14.4	47	NE	4	1.8		0	8ks		NE	0	0	Cloudy	
Madison, Wisconsin	29.40	746.7	30.43	772.9	41	5.0	65	NE	3	1.3		1ck	0	NW		0	0	Clear	
Marquette, Michigan	29.70	754.4	30.43	772.9	38	3.3	72	E	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.44	722.4	30.18	766.6	61	16.1	88	E	1	0.4			10s		S	0	0	Cloudy	
Memphis, Tennessee	29.86	758.4	30.19	766.8	56	13.3	57	NE	8	3.6		0	Sm'e		Calm	0.09	2.3	Clear	
Milwaukee, Wisconsin	29.66	753.4	30.42	772.6	40	4.4	56	N	8	3.6		0	0			0	0	Clear	
Mobile, Alabama	29.99	761.7	30.03	762.8	64	17.8	89	N	8	3.6			10s		N	0.62	15.7	Cloudy	
Montgomery, Alabama	29.83	757.7	30.06	763.5	61	16.1	88	NE	4	1.8			10ks		E	0.87	22.1	Threatening	
Morgantown, West Virginia	29.18	741.2	30.26	768.6	46	7.8	69	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	23.59	699.2	29.95	760.7	23	− 5.0	100	W	54	24.1			Fog		W	0.42	10.7	Foggy	
Nashville, Tennessee	29.64	752.8	30.18	766.6	59	15.0	48	NE	4	1.8		0	0			0	0	Clear	
New Haven, Connecticut	30.02	762.5	30.14	765.5	54	12.2	49	N	10	4.5		0	0			0	0	Clear	
New London, Connecticut	30.08	764.0	30.13	765.3	53	11.7	51	NW	14	6.3		2cs	0	Calm		0	0	Clear	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	72	22.2	76	NE	7	3.1		2cs	5ks	NE	NE	1.78	45.2	Fair	
Newport, Rhode Island	30.04	763.0	30.09	764.3	51	10.6	59	W	12	5.4		0	0			0	0	Clear	
New York, New York	30.02	762.5	30.20	767.1	54	12.2	49	NW	8	3.6		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.11	764.8	30.17	766.3	60	15.6	44	NE	12	5.4		2c	0	Calm		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.13	689.1	29.73	755.1	43	6.1	79	E	24	10.7			10s		Calm	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	40.2	4.6	91	S	3	1.3			10s		S	0.42	10.7	Cloudy	
Omaha, Nebraska	29.10	739.1	30.22	767.6	48	8.9	56	E	10	4.5		5k	5s	SW	Calm	0	0	Cloudy	
Oswego, New York	29.93	760.2	30.26	768.6	43	6.1	75	NW	8	3.6		0	0			0	0	Clear	
Pembina, Dakota	29.56	750.8	30.43	772.9	31	— 0.6	89	SE	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa	30.17	766.3	30.22	767.6	51	10.6	53	N	14	6.3		0	0			0	0	Clear	
Phœnix, Arizona	28.78	731.0	30.57	776.5	60	15.6	34	E	2	0.9		0	Haze		Calm	0	0	Clear	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	24	— 4.4	36	SW	30	13.4		0	0			0	0	Clear	
Pioche, Nevada	23.93	607.8	29.70	754.4	44	6.7	30	S	11	4.9		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.45	748.0	30.29	769.4	43	6.1	67	NE	5	2.2		5ck	0	W		0	0	Fair	
Port Huron, Michigan	29.65	753.1	30.34	770.6	41	5.0	74	N	12	5.4			10ks		N	0	0	Cloudy	
Portland, Maine	29.92	760.0	29.97	761.2	52	11.1	60	W	5	2.2		1k	0	Calm		0	0	Clear	
Portland, Oregon	30.08	764.0	30.18	766.6	41.8	5.4	83	S	14	6.3			10ks		SW	0.35	8.9	Threatening	
Prescott, Arizona	24.70	627.4	30.06	763.5	38	3.3	45	SW	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.37	746.0	30.19	766.8	60	15.6	77	E	3	1.3		0	0			0.01	0.3	Clear	
Punta Rassa, Florida	30.01	762.2	30.02	762.5	77	25.0	69	SE	8	3.6		5k	0	SE		0	0	Fair	
Red Bluff, California	29.88	758.9	30.26	768.6	39.5	4.2	69	NW	4	1.8		0	0			0.58	14.7	Clear	
Rio Grande City, Texas	29.82	757.4	30.02	762.5	73	22.8	81	NE			1	5ck	2s	E	Calm	0	0	Fair	
Rochester, New York	29.63	752.6	30.26	768.6	45	7.2	68	W	6	2.7		5k	0	W		0	0	Fair	
Roseburg, Oregon	29.66	753.4	30.26	768.3	38	3.3	90	Calm	0	0		0	5ks		W	0.26	6.6	Fair	
Sacramento, California	30.14	765.5	30.22	767.6	48	8.9	49	N	14	6.3		0	0			0.20	5.1	Clear	
St. Louis, Missouri	29.74	755.4	30.33	770.4	47	8.3	48	NE	7	3.1		1c	Haze	Calm		0	0	Clear	
St. Marks, Florida	29.99	761.7	30.01	762.2	71	21.7	95	S	1	0.4			10s		S	0	0	Cloudy	
St. Paul, Minnesota	29.52	749.8	30.38	771.6	40	4.4	56	E	6	2.7		0	0			0	0	Clear	
Salt Lake City, Utah	25.46	646.7	29.79	756.7	55	12.8	39	SE	16	7.2		4k	0	SW		0	0	Fair	
San Antonio, Texas	29.37	746.0	29.95	760.7	66	18.9	89	NE	8	3.6			10s		NE	0	0	Cloudy	
San Diego, California	30.03	762.8	30.10	764.5	56	13.3	87	W	4	1.8		0	8ks		Calm	0	0	Fair	
Sandusky, Ohio	29.66	753.4	30.35	770.9	46	7.8	62	NE	9	4.0			10ks		NE	0	0	Cloudy	
Sandy Hook, New Jersey	30.22	767.6	30.25	768.3	54	12.2	49	NW	10	4.5		2c	0	NW		0	0	Clear	
San Francisco, California	30.19	766.8	30.26	768.6	46.8	8.2	48	S	10	4.5		0	0			0.05	1.3	Clear	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	44	6.7	60	NE	2	0.9		0	0			Inap.	Inap.	Clear	
Savannah, Georgia	29.93	760.2	30.03	762.8	69	20.6	80	NE	6	2.7		5cs	5s	NE	NE	0.74	18.8	Cloudy	
Shreveport, Louisiana	29.90	759.4	30.12	765.0	63	17.2	72	NE	6	2.7		0	2ks		NE	Inap.	Inap.	Fair	
Silver City, New Mexico	24.31	617.5	30.55	776.0	42	5.6	49	NW	4	1.8		0	0			0	0	Clear	
Smithville, North Carolina	30.05	763.3	30.08	764.0	61	16.1	88	NE	18	8.0			10s		SW	0.74	18.8	Cloudy	
Springfield, Massachusetts	30.00	762.0	30.14	765.5	53	11.7	54	NW	10	4.5		0	5ks		W	0	0	Fair	
Stockton, Texas	26.97	685.0	29.97	761.2	66	18.9	84	SE	6	2.7		5k	0	S		0	0	Fair	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	50	10.0	72	W	18	8.0		0	0			0	0	Clear	
Toledo, Ohio	29.62	752.3	30.33	770.4	46	7.8	69	NE	8	3.6			10s		Calm	0	0	Cloudy	
Tucson, Arizona	27.51	698.7	30.06	763.5	57	13.9	46	N	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.76	755.9	30.27	768.8	39.0	3.9	73	S	14	6.3		0	5s		S	0.04	1.0	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.16	740.7	29.96	761.0	67	19.4	84	SE	1	0.4		5k	0	SE		0	0	Fair	
Vicksburg, Mississippi	29.87	758.7	30.13	765.3	60	15.6	77	NE	5	2.2		0	0			0.02	0.5	Clear	
Virginia City, Montana	24.02	610.1	29.50	749.3	45	7.2	61	SE	1	0.4		0	5s		Calm	0.04	1.0	Fair	
Visalia, California	29.78	756.4	30.16	766.1	47.5	8.6	60	NW	6	2.7			10ks		NW	0	0	Cloudy	
Washington, D. C.	30.15	765.8	30.26	768.6	59	16.0	58	N	7	3.1		5c	Haze	W	Calm	0	0	Fair	
Wickenburg, Arizona					62	16.6	47	Calm			0	0	Haze		Calm	0	0	Hazy	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	58	14.4	88	N	9	4.0			10s		W	0.31	7.9	Cloudy	
Winnemucca, Nevada	25.09	652.5	30.05	763.3	36	2.2	45	NW	12	5.4			10ks		SW	0	0	Cloudy	
Wood's Holl, Mass	30.04	763.0	30.07	763.8	51	10.6	65	NW	18	8.0		0	2s			0	0	Clear	
Yankton, Dakota	29.00	736.6	30.32	770.1	46	7.8	47	SE	11	4.9			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.76	755.9	29.92	760.0	64	17.8	39	W.	4	1.8		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.60	726.4	30.02	762.5	50	10.0	71											Clear	J. B. Gordon.
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	77	25.0	72	SE	2.4	1.1		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.22	640.6			67.5	19.7	80	Calm			0	7k	3ks			0	0		Thomas Herran.
Navassa, W. I.	29.85	758.2	29.93	760.2	77	25.0		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	78	25.6	86	E			2	5k	7ks	E		0.030	0.76	½ clouded	G. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.07	763.8	30.12	765.0	42.0	5.6	92	W	18	8.0		3c	0	W		0	0	Squally	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are at Atlanta 1,181.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Bourne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,600 (?) ft., or 792.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.600 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.46 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.21‡	767.3‡			39	3.9	90	WNW	5	2.2			0			0.14	3.6			Clear	
Navy Yard, Pensacola, Fla.	30.04‡	763.0‡			68	20.0	90	NW	3	1.3			8		SW					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.53‡	750.0‡			60.5	15.8	97	NNW			1		10n		ENE	3.43	87.1			Raining	
Adams, Panama	29.85‡	758.2‡			78	25.6	95	NW			2–3		5		NW					Fair	
Alaska, Sitka, Alaska	29.78‡	756.4‡			41	5.0	83	Calm			0		5			0	0			D. clouds	
Alliance, N. 37° 27′, E. 9° 39′	29.94‡	760.5‡			62	16.7	66	NNW			1		1							Pleasant	
Ashuelot, Canton, China	29.79‡	756.7‡			79	26.1	86	E			2		5					Smooth		Fair	
Canonicus, New Orleans, La.	30.04‡	763.0‡			68	20.0	100	N			4		5		N					Fair	
Colorado, New York, N. Y.	30.20‡	767.1‡			54	12.2	93	NW	8	3.6			0			0	0			Clear.	
Constitution, N. 23° 58′, W. 53° 44′	29.94‡	760.5‡			78	25.6	73	SE			1		3		Calm			Smooth	SE	Clear	
Despatch, Genoa, Italy	29.71‡	754.6‡			63	17.2	83	ESE			3		10			0	0	Long	SE	Cloudy	
Enterprise, N. 44° 39′, W. 11° 29′	30.11‡	764.8‡			51	10.6	72	NE			5–7		8		NE			Rough		Showery	
Franklin, Norfolk, Va.	30.16‡	766.1‡			60	15.6	71	NNE	9.6	4.3			10		Calm	0	0			Cloudy	
Hartford, La Plata River, between Colonia and Montevideo, Uruguay *.	29.85‡	758.2‡			58	14.4	82	S			3		5?		S	0	0			Clear?	
Michigan, Erie, Pa.					42	5.6	83	SW			2		10							Overcast	
Monongahela, Yokohama, Japan	29.51‡	749.5‡			63	17.2	94	NNW			1		10			Heavy	Heavy			Drizzling	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡			69	20.6	85	ENE	12	5.4			8		S;W	0.7	18.			Cloudy	
Onward, Callao, Peru †*.	30.09‡	764.3‡			61	16.1	94	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.86‡	758.4‡			58	14.4	76	SE			2		0							Hazy	
Passaic, Washington, D. C.					54	12.2	67	NNW			2		2							Clear	
Pensacola, Callao, Peru	29.98‡	761.5‡			62	16.7	94	ESE	2	0.9			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	30.18‡	766.6‡			57	13.9	63	NNE			4		5		N	0	0	Slight	N;W	Fair	
Powhatan, Norfolk, Va.	30.19‡	766.8‡			58	14.4	70	NE			2		2		Calm	0	0			Cloudy?	
Quinnebaug, Alexandria, Egypt *.	29.84‡	757.9‡			72	22.2	67	WNW			2		2		NW					Fair	
Ranger, Amoy, China	29.89‡	759.2‡			73	22.8	90	SE			0–1		10		Calm			Smooth		Cloudy	
Richmond, N. 3° 09′, E. 105° 25′	29.77‡	756.1‡			86	30.0	84	NE			2		2		NE	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.97‡	761.2‡			73	22.8	95	N			1		10		N					Cloudy	
Santee, Annapolis, Md.	30.22‡	767.6‡			55	12.8	50	N			2		2		W	0	0			Clear	
Saratoga, N. 31° 55′, W. 26° 55′	30.05‡	763.3‡			64	17.8	78	SSW			3		8		NNW	0	0	Light	SW	D. clouds	
St. Louis, League Island, Pa.	30.21‡	767.3‡			55	12.8	68	NNW	8	3.6			2		NW	0	0			Clear	
Trenton, Genoa, Italy	29.70‡	754.4‡			64	17.8	73	SE			4		10		SE	0	0	Mod'ate	S	Cloudy	
Tuscarora, N. 15° 40′, W 96° 13′	29.90‡	759.4‡			75	23.9	72	ENE			1		9		Calm	0	0	Smooth		Hazy	
Vandalia, N. 9° 54′, W. 79° 15′	29.86‡	758.2‡			76	24.4	100	SW			3		2		SE			Smooth		Fair	
Wabash, Boston, Mass.	30.04‡	763.0‡			52	11.1	60	W	12	5.4			0			0	0			Clear	
Wyoming, Villafranca, France	29.64‡	752.8‡			60	15.6	94	WSW			4–5		5		W			Mod'ate	W	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, Mersey River, Eng....†*		30.08	764.0	47	8.3		N			3		0						Clear	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, Hong-Kong, China		29.83‡	757.7‡				NE			4		3k			0.5 in. or 13 mm			Rainy	L. B. Walls.
S. S. Colima, N. 31° 30′, W. 119° 08′..†		30.16‡	766.1‡	60	15.6		NW			3		8		SE	0	Mod'ate	NW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.16‡	766.1‡	52	11.1	54	NW			2		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W		29.98‡	761.5‡				W			5				W				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 34° 44′, E. 140° 09′		29.49‡	749.0‡	68	20.0	84	SSE			8		4n			Light	Heavy	SSE	Raining	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 25° 54′, E. 121° 46′		29.85‡	758.2‡	69	20.6	100	NNE			4		8		SE;SW		Smooth		D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 40° 59′, W. 53° 58′		30.30‡	769.6‡	59.0	15.0	76	S			1		10				Smooth	WNW	Hazy	Capt. C. Undütsch.
S. S. Leipzig, N. 41° 27′, W. 47° 36′		30.32‡	770.1‡	57.0	13.9	87	ENE			3		5		ENE		Mod'ate	ENE	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.88‡	758.9‡				NNW			5		8		N		Rough		Drizzling	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N 42° 36′, W. 54° 08′		30.22‡	767.6‡	55	12.8	80	SE			1		8		W	Mod'ate	Smooth		Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 32° 30,′ W. 69° 50′		30.17‡	766.3‡	71	21.7	75	SSW	7	3.1			8k		S	0	Smooth		Cloudy	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 18° 15′, W. 65° 10′		29.70‡	754.4‡																Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 8, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours																			
Algiers			29.83	757.7	65.1	18.4	90	WNW			2		10			0	0	Covered	Kesxuche.
La Calle			29.75	755.6	60.8	16.0	91	WNW			2		10			0.697	17.7	Raining	Tourilliere.
Tunis			29.72	754.9	71.8	22.1	64	S			4		10			0	0	Covered	Foufrede.
Sfax																			Jacques.
Saida			29.79	756.7															Gau.
Tebessa			29.84	758.0	61.2	16.2	46	W			3		10			0.118	3.0	Covered	Herbin.
Geriville			29.85	758.3	63.0	17.2	39	W			1		8			0	0	Very cloudy	Watrin.
Leghouat			29.82	757.5	57.6	14.2	37	ESE			2		8			0.118	3.0	Very cloudy	Brugniaux.
Biskra			29.80	756.8	71.2	21.8	46	E			5		2			0.004	0.1	Fair	Bertrand.
			29.79	756.6	78.6	25.9	38	SE			1		8			0	0	Very cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.26	743.3	29.80	756.8	66.4	19.1	53	SW			5		5			0.004	0.1		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.06	738.2	29.83	757.7	51.8	11.0	65	W			3		10			0	0		Dr. Wierzbiski.
Eperies	28.89	733.9	29.76	755.8	58.5	14.7	60	S			4		10ks		N	0	0		Julius Mikolik.
Gratz	28.56	725.4	29.78	756.4	59.2	15.1	74	NW			3		10			0	0		Andreas Rospini.
Hermannstadt	28.41	721.7	29.80	756.8	66.4	19.1	47	NW			2		5			0	0		Prof. A. Gottschling.
Kremsmünster	28.46	722.8	29.80	756.9	49.1	9.5	80	NE			2		9			0.079	2.0		Prof. C. Wagner.
Lemberg	28.74	730.1	29.70	754.5	60.4	15.8	54	W			2		8			0.003	1.6		Dr. T. Stanecki.
Pola	29.76	755.8	29.87	758.6	64.0	17.8	70	SSE			3		4			0	0		I.R.Hydrographic Office
Szathmar	29.41	747.0	29.86	758.5	66.2	19.0	43	SW			3		6			0	0		Julius Osics, S. J.
Szegedin	29.56	750.9	29.84	757.8	65.7	18.7	59	S			1		5			0	0		Karl Stancel.
Trieste	29.76	756.0	29.87	758.6	67.8	19.9	55	W			1		3			0.083	2.1	Almost clear	P. Busin.
Vienna	29.13	740.0	29.85	758.1	55.0	12.8	64	NE			1		10			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	29.61	752.1	29.70	754.4	51.0	10.6		NW	23	10.3			9			0.110	2.79	Overcast	W. Boswell.
Ardrossan	29.82	757.4	29.84	757.9	49	9.4		NW			5		8					D. clouds	William McNeil.
Armagh, Observatory			29.99	761.7	48.2	9.0		WSW	11	4.9			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.00	762.0	46.3	7.9		W	25	11.2			8					Overcast	John Hartnup.
Bolton (Sharples)			29.98	761.5	43.9	6.6		WSW	30	13.4			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.56	750.8	29.95	760.7	46.5	8.1		W			5		10			0	0	Overcast	J. McLahdsboroug.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	83	28.3		SE			2		3					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.02	762.5	48.9	9.4		WNW			1		7					D. clouds	H. Todd.
Cardington			30.01	762.2	48.0	8.9		N			1		5					D. clouds	John McLaren.
Chatham, School M. E.	29.91	759.7	30.04	763.0	43.6	6.4		Calm			0		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.91	759.7	29.95	760.7	50	10.0		WNW			4		10					Raining	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	45	7.2		ENE			3		5					½ clouded	J. Costello.
Falmouth, Observatory	29.90	759.4	30.14	765.5	48.5	9.2		NNW			2		5					D. clouds	The Staff.
Fort Napier (Natal)	27.63	701.8	29.94	760.5	77.0	25.0		E			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.61	752.1	29.84	757.9	86	30.0		E			0		3					D. clouds	
Galway, Queen's College			30.03	762.8	55	12.8		NW			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.76	755.9	29.82	757.4	63.7	17.6		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. [C.
Glasgow, Observatory	29.60	751.8	29.80	756.9	50.9	10.5		W			7		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.00	762.0	30.01	762.2	43	6.1		NE			2		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.87	758.7	30.04	763.0	44.5	6.9		N			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.09	764.3	43.3	6.3		NNE			8		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.12	765.0	30.24	768.1	51	10.6		NW			4		3ck			0	0	Fine	M. P. Moyle.
Holyhead	29.97	761.2	30.02	762.5	45	7.2		SW			3		10					Drizzling	John Tilston.
Jersey	29.79	756.7	30.09	764.3	45.1	7.3		NNE			4		5					D. clouds	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	44.1	6.7		NNW	6	2.7			10						The Meteorological Of.
Leicester, Museum.	29.74	755.4	30.00	762.0	47.9	8.8		NE			1		7					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.82	757.4	29.90	759.4	63	17.2		SE			4		4cs			0	0	D. clouds	Sergt. H. J. Beckett, A. H. C.
Nairn	29.63	752.6	29.72	754.9	51	10.6		NNW			5		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.97	761.2	79.2	26.2		NE			1		5			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.79	756.7	29.98	761.5	52.7	11.5		WSW			2		8k		WNW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.47	748.5	30.00	762.0	49.9	9.9		WNW			3		6					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	29.93		30.02	762.5	46	7.8		W			1		10					Squally	H. E. Bellamy.
Plymouth	30.03	762.8	30.10	764.5	49.3	9.6		NE			2		10					Overcast	John Merrifield.
Prince Town	28.60	726.4	30.09	764.3	37	2.8		N			1		8					Gloomy	W. H. Tooker.
*Roche's Point	30.09	764.3	30.18	766.6	50	10.0		NW			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.94	760.5	30.11	764.8	43	6.1		NW			1		7					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.67	753.6	43	6.1		NNW	28	12.5			10					Showery	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.95	760.7	30.01	762.2	65.0	18.3		SW			1		2					Blue sky	Serg't W. H. Lyne.
Sheffield	29.68	753.9	29.98	761.5	49.9	9.9		W			5		7			0.10	2.5	Overcast	W. F. Cooper.
Silloth Rectory	29.87	758.7	29.90	759.4	45.0	7.2	85	W			6		10			0.093	2.37	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.57	751.1	29.98	761.5	44.1	6.7		SW			3		10			Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.86	758.4	30.08	764.0	44.6	7.0		NW			2–3		8					D. clouds	Rev. C.H. Griffith, F.M.S.
Truro, Royal Institution	30.12	765.0	30.16	766.1	52	11.1		N			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	30.17	766.3	30.19	766.8	48.6	9.2		NW	12	5.4			10			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.01	762.2	30.05	763.3	70.7	21.5	59	SSE	11	4.9		0	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.17	766.3	53.0	11.7	83	NW			2		7k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.79	756.7	48.2	9.0		W			4		10s			0.05	1.3	Overcast	Andrew Gibb.
Mauritius, Observatory	29.79	756.7	29.98	761.5	77.0	25.0	60	SW	7.5	3.4		1	1			0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.29	769.3	30.38	771.6	52.0	11.1	64	SE	3	1.3			10			0.08	2.0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.85	758.2	46	7.8		NW			4	8	3	NW		0.2	5.		J. Youngclause.
North Unst (Shetland Is.)			29.54	750.3	37	2.8		N			7		10					Snowing	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Barometer corrected. Inches.	Millimeters.	Reduced. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper from—	Lower from—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 8° 52', W. 55° 52'			29.94‡	760.5‡	82.9	28.3		E			4		4					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle.																			Capt. A. J. Brown.
Ship British Commodore, N. 39° 45', W. 37° 25'			30.19	766.8	62	16.7		ENE			6		3			5	ENE	Misty	Capt. J. W. Thorne.
—— City of Agra,																			Capt. Thos. Young.
Barque Commewyne.																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole, N. 36° 24', W. 8° 52'			29.87‡	758.7‡	56.2	13.4		WNW			6		1					Blue sky	Capt. E. W. Turner.
S. S. Nizam, N. 13° 04', E. 111° 08'			29.82‡	757.4‡	83	28.3		S			2		2			Long	W	Lightning	Capt. Barlow.
S. S. Strathleven,																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2	29.95	760.7	66.6	19.2	98	SE			1	10s				0.3	8.		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.82	757.4	29.87	758.6	45.5	7.5	38	SSE			2		10						
Fanöe	29.85	758.1	29.87	758.6	44.2	6.8	81	W			4		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.69	754.0	29.72	754.9	36.1	2.3	61	N			6		10						
Vestervig	29.57	751.0	29.74	755.3	44.6	7.0	55	SW			4		6					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.2	30.01	762.2	44.2	6.8	46	NE			2		8		NE	0	0	Very cloudy	Colignon, Director.
Amiens, Normal School	29.85	758.3	29.97	761.2	55.0	12.8	68	NW			1		5		NE	0	0	Cloudy	Bonvallet, Director
Avignon, Normal School	29.64	752.8	29.72	754.8	50.0	10	86	N			2		10			0.252	6.4	Covered	Giraud, Director.
Bar-sur-Seine	29.32	744.6	29.88	758.9	46.6	8.1	79	ESE			1		10n			0	0	Covered	G. Saillard, Director.
Beauvais, Normal School	29.71	754.5	29.97	761.3	47.5	8.6	41	N			2		8		NE	0.010	0.25	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	28.95	735.3	29.86	758.4	42.1	5.6	87	NNE			2		10			0.059	1.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.97	735.8	29.87	758.8	42.4	5.8	82	NW			2		5n	NW	NW	0.307	7.8	Cloudy	Marlot, Director.
Bourges, Normal School	29.22	742.1	29.78	756.3	43.2	6.2	77	N			1		10	N	N	0	0	Covered	A. Waquet, Director
Brest, Naval Observatory	29.81	757.1	30.05	763.2	45.3	7.4	42	NNE			2		10		NE	0.010	0.25		De Rermaree, Director.
Carcassonne, Normal School	29.38	746.2	29.80	756.8	46.0	7.8	86	NW			2		10	NW	NW	0	0	Covered	September, Director.
Caen, Normal School	29.94	760.5	30.02	762.4	43.9	6.6	67	NE			3		5		NE	0.150	3.8	Cloudy	Lair, Director.
Chartres, Normal School	29.40	746.8	29.98	761.4	46.4	8	89	N			1		10		S	0.12	3.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.61	752.1	29.93	760.3	47.1	8.4	52	NE			2		2	NE	NE			Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.44	722.3	29.83	757.7	37.6	3.1	90	N			1		10		N	0.276	7.0	Raining	Alluard, Director.
Commercy, Normal School	29.02	737.2	29.90	759.4	43.5	6.4	65	NE			4		10n		NE	0.20	5.	Covered	Dr. Coulet, Director
Commune de Grésque*	28.58	726.0	29.72	754.9	58.8	14.9	56	SE			2		10		SE			Raining	L. Kina, Director.
Grenoble, Normal School	29.08	738.6	29.86	758.5	42.4	5.8	88	NW			1		10n			0.417	10.60	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.76	755.9	29.98	761.6	46.2	7.9	48	NW			3		8		NNE	0.008	0.2	Very cloudy	Mouillot, Director
Le Mans, Normal School	29.65	753.2	29.96	760.9	44.8	7.1	60	NW			3		8		NW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.84	732.6	29.81	757.1	42.6	5.9	91	NE			2		10		NE			Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.2	30.07	763.7	46.4	8.0	64	N			3			N	NE	0.004	0.11		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.75	730.3	29.77	756.2	44.2	6.8	72	S			1		10kn		N	0.425	10.8	Covered	Barbier, Director.
Nismes, Normal School	29.54	750.3	29.75	755.6	46.8	8.2	81	NW			4		10		S	1.043	26.50	Covered	Boyer, Director.
Privas, Normal School	28.76	730.4	29.85	758.1	41.7	5.4	82	N			1		n	N	N	0.47	12.		Cantier, Director.
Puy de Dome (Summit) Obs	24.82	630.4			26.8	— 2.9	100	NE			3		10			0.969	24.6	Snow-fog	Alluard, Director.
Rochefort, Naval Obs'y	29.90	759.4	29.93	760.2	44.6	7.0	62	NE			3		10	NE	NE	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.93	760.3	30.02	762.5	40.4	8.0	49	NNE			3		10		N	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.01	762.3	30.04	763.0	47.3	8.5	51	NNE			4		5	NNE	NNE	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.78	756.3	29.94	760.5	47.7	8.7	45	NE			2–3				NE	0	0		E. Renou, Director.
Tarbes, Normal School	28.77	730.8	29.87	758.7	41.0	5.	84	W			4		2	SW	W	0.12	3.	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.12	739.7	29.84	757.9	42.1	5.6	87	WNW			3		10			0.067	1.7		Mercadier Julier.
Versailles, Observatory	29.45	748.0	29.95	760.6	45.0	7.2	40	NE			3					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.11	739.4	29.83	757.7	44.6	7	86	NNE			1		10		N	0.55	14.	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.73	755.2	29.76	755.9	75.6	24.2										0	0		L'Abbé Marchéal.
Lyons Obs'y (Park Station)	29.20	741.8	29.83	757.7	41.5	5.3	91	N			1		10		NNW	0.532	13.5	Raining	Mr. Jays.
Mont-Louis	24.47	621.6	29.79	756.6	28.0	— 2.2	76	NNE	28.0	12.5			10			0.268	6.8	Snowing	M. Cave.
Nice			29.74	755.5	63.3	17.4	72	S			4		8			0	0	Rainy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y			29.67	753.5	45.7	7.6	48	NE			4		10		NE	0.012	0.3		Marié Davy, Director.
Perpignan	29.65	753.2	29.76	755.9	49.6	9.8	65	N	16.8	7.5			10			0.382	9.7	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.13	562.1			31.5	— 0.3		W			2		10			0.124	3.16	Snowy	Gen'l de Nansouty.
Tours								NNE			2		10		N	0.008	0.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.77	756.2	29.80	756.8	66.4	19.1	89	ESE	7.4	3.3		2ks	0			0	0	Fine	MarcDeche vrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grésque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.00	736.5	29.84	757.8	48.2	9.0	58	N			5		6			0.020	0.5		Prof. Dr. Hoh.
Berlin	29.72	754.8	29.89	759.2	54.1	12.3	34	NE			1		5			0	0		Prof. Arndt.
Breslau	29.39	746.4	29.91	759.8	43.9	6.6	78	NNE			2		10	NW		0.810	20.57		Royal University Obs'y
Carlsruhe	29.44	747.8	29.87	758.7	48.9	9.4	60	NE			1		10	N		0	0		Albert Senz.
Cassel	29.33	745.0	29.94	760.4	49.6	9.8	59	SE			2		8	N		0	0		Dr. H. Möhl.
Crefeld	29.76	755.9	29.92	760.0	49.6	9.8	51	N			4		8k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.52	749.9	29.89	759.2	50.5	10.3		NE			2		7			0.055	1.4		Physical Society.
Freienwalde on the Oder	29.83	757.7	29.87	758.7	57.0	13.9	51	NW			3	3c		SW		0	0		Assmann., M. D.
Friedrichshafen	28.38	720.8	29.83	757.7	44.6	7.0	72	NE			5		10	NE		0	0		M. Wilhelm.
Hamburg	29.85	758.2	29.92	760.0	50.4	10.2	41	SW			3		6ck	S		0	0	Fair	Captain F. Hegeman.
Kiel	29.87	758.7	29.89	759.1	47.3	8.5	47	WNW			2		10			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.82	757.5	30.91	759.6	46.4	8.0	40	NE			2		6			0	0		Prof. E. Luther.
Kösiin			29.84	758.0	46.2	7.9		N			4		3			0	0		H. Müller.
Leipsic Observatory	29.48	748.8	29.90	759.5	51.4	10.8	41	NE			1		8			0.008	0.2		Prof. Bruhns, Privy Counselor.
Memel,	29.85	758.2	29.90	759.4	42.6	5.9	35	WNW			4		3cs						Skalweit.
Neufahrwasser	29.91	759.7	29.93	760.1	41.5	5.3	69	NE			2		6	W		0	0		A. Lothes.
Posen	29.65	753.0	29.94	760.4	47.5	8.6	65	W			2		9			0.075	1.9		Dr. Magener.
Strassburg (in Alsace)	29.34	745.2	29.89	759.3	47.8	8.8	62	NE			3		10	E		0.142	3.61	Raining	Imp. University Observatory.
Stuttgart	28.91	734.2	29.86	758.4	46.4	8.0	54	E			1		10			0.008	0.2		Prof. Schoder.
Treves (Trier)	29.35	745.5	29.88	758.9	50.0	10.0	51	NE			4		10			0.018	0.45		Prof. Flesch.
Weissenburg (Bavaria)	28.36	720.3	29.89	759.1	45.0	7.2	66	ENE	1.1	0.5			10		E	0.035	0.9		Dr. Van Bebber.
Wustrow	29.88	759.0	29.91	759.6	44.8	7.1	38	N			3		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.66	753.4	30.05	763.2	67.1	19.5		SW			2.5							Smoky	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.68	753.9	29.73	755.2	84.8	29.3	71	SSW											
Deesa					98.2	36.8	21	W	8.4	3.8			5			0	0	D. clouds	
Bombay	29.73	755.2	29.77	756.1	85.7	29.8	60	WNW	20.0	8.9			1	SW		0	0	D. clouds	
Poona	27.79	705.9	29.73	755.1	94.3	34.6	28	NW					4	WNW	NW	0	0	D. clouds	
Lahore	28.92	734.6	29.63	752.6	97.0	36.1	15	SW	4.5	2.0			0			0	0	Blue sky	
Belgaum	27.27	692.6	29.77	756.0	83.3	28.3	68	W	25.0	11.2			0			0	0	Blue sky	
Roorkee	28.75	730.2	29.61	752.1	97.7	36.5	14	NW	2.1	0.9			0			0	0	Blue sky	
Agra	29.10	739.0	29.64	752.7	102.6	39.2	17	W					0			0	0	Misty	
Nagpur	28.64	727.4	29.63	752.6	102.7	39.3	25	Calm	4.1	1.8			0			0	0		
Lucknow	29.27	743.3	29.63	752.5	101.0	38.3	38	NW	2.3	1.0			5		E	0	0	D. clouds	
Allahabad	29.32	744.7	29.62	752.3	103.1	39.5	14	NW	4.1	1.8			0			0	0	Blue sky	
Patna	29.42	747.4	29.60	751.8	99.8	37.7	26	W	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.66	702.5	29.59	751.5	97.8	36.6	16	NW	9.0	4.0			0			0	0	Blue sky	
Cuttack	29.61	752.0	29.69	754.0	91.1	32.8		S	9.0	4.0			2			0	0		
Calcutta (Alipore)	29.65	753.1	29.67	753.6	87.2	30.7	76	S	13.0	5.8			3			0	0		
Goalpara	29.26	743.3	29.66	753.2	76.8	24.9	88	Calm	6.0	2.7			4	SW		0	0	D. clouds	
Chittagong	29.67	753.7	29.76	756.0	85.7	29.8	80	S	6.9	3.1			7		W	0.29	7.4	D. clouds	
Sibsagar	29.38	746.2	29.71	754.7	80.6	27.0	73	SW	2.1	0.9			0			0	0	Misty	
Jubbulpore	28.34	719.9	29.66	753.3	97.9	36.6	20	NW	4.6	2.1			10	SW	SW	0	0	D. clouds	
													8		E	0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.45	748.1	29.86	758.5	63.0	17.2	67	S	8.7	3.9			9			0.236	6.0		Prof. Giovanni Clodig.
Milan	29.24	742.8	29.76	755.8	60.8	16.0	63	SSE			4		10			0.630	16.0		Prof. Schiaparelli.
Padua	29.70	754.3	29.80	757.0	66.7	19.3	54	SSE	11.2	5.0			8	SW		0.016	0.4		Prof. Dott. Lorenzoni.
Moncalieri	28.83	732.2	29.73	755.2	56.5	13.6	73	NNE	4.3	1.9			10	SSE		0.512	13.0		Prof. P. F. Denza.
Genoa	29.60	751.8	29.77	756.2	61.3	16.3	96	SE	16.8	7.5			10	SE		0.004	0.1		Prof. G. M. Garibaldi
Mondovi	27.80	706.1	29.71	754.7	62.8	17.1	41	SE			4		7	SW		0	0		Prof. D. C. Bruno.
Pesaro	29.78	756.5	29.84	757.8	62.8	17.1	60	E	11.2	5.0			10	SW		0	0		Prof. Luigi Guidi.
Florence	29.58	751.4	29.84	757.9	62.6	17.0	70	S			2		10	S		0	0		Cav. F. Meucci
Leghorn	29.69	754.0	29.77	756.2	63.9	17.7	70	S			6		10	S		0.039	1.0		Prof. P. Monte.
Rome	29.71	754.7	29.89	759.2	66.4	19.1	52	S	18.6	8.3			9			0	0		Prof. P. S. Ferrari.
Lecce	29.75	755.7	30.00	762.1	66.7	19.3	63	NNE	18.6	8.3			6	S		0.059	1.5		Prof. C. De Giorgi.
Cosenza	29.04	737.5	29.92	760.0	60.8	16.0	67	SE	3.1	1.4			5			0	0		Prof. D. Conti.
Cagliari	29.51	749.6	29.71	754.5	68.0	20.0	66	SE			2		9	W		0	0		Prof. A. Pacinotti.
Palermo	29.61	752.0	29.86	758.4	73.0	22.8	28	S	8.7	3.9			10			0	0		Prof. G. Cacciatore.
Syracuse	29.93	760.3	30.01	762.2	67.1	19.5	59	S	9.8	4.4			10	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	65.1	18.4	53	SE	1.3	0.6			3			0.322	8.2		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.86	758.4	58.8	14.9	86	Calm	0	0			1s			0	0	Fine	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	59.4	15.2	88	SE	0.4	0.2			2cs;s			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.57	751.1	29.63	752.6	62.3	16.8	77	WSW	8.7	3.9		0	0			0	0	Very clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.08	637.0	30.04	763.0	62.6	17.0	43	Calm			0	4	0	Calm		0	0	Hazy	Prof. L. Perez.
Leon	24.45	621.1	30.00	762.0	66.9	19.4	71	SW			1	1c	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.1	30.10	764.6	55.9	13.3	73	Calm	0	0		0	0			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					64.9	18.3	68	Calm			0	0	0			Inap.	Inap.	Fine	M. V. de Leon, M. E.
Tlacotalpam	29.97	761.2	29.98	761.5	77.0	25.0	90	W			1	2	0	NNE		0	0	Clear	M. M. Chàzaro.
San Luis Potosi	24.26	616.1	30.18	766.5	62.1	16.7	29	ESE			1	0	5		SE	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.2	30.08	763.9	63.5	17.5	52	E			1	1cs	0			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.47	596.0	30.23	767.8	52.7	11.5	51	NE	0.9	0.4		0	0			0.68	17.3	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.37	720.6	30.02	762.5	74.7	23.7	68	NE			1	0	4		SW	0	0	Fair	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.01	762.2	30.01	762.2	47.8	8.8		N								0.020	0.5		
Groningen	29.90	759.4	29.95	760.8	45.5	7.5		NW			2					0	0		
Helder	29.97	761.2	29.97	761.2	41.4	5.2		WNW			2					0	0		
Hellevoetsluis	29.98	761.4	29.98	761.4	49.1	9.5	50	NNW			3					0.004	0.1		
Utrecht	29.94	760.4	29.98	761.6	48.0	8.9	43	NNE			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.52	749.9	29.58	751.3	39.2	4.0	87	S	30.6	13.7			10			0.433	11.0	Rain & snow	
Brönø	29.34	745.2	29.38	746.2	34.9	1.6	80	WSW	18	8			10			0	0		
Christiania	29.47	748.6	29.62	752.3	46.2	7.9	36	SW	13	6			10			0	0		
Tromsö	29.20	741.6	29.24	742.7	30.2	— 1.0	61	SSW	11	5			1			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m. local time,

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.04	762.9	30.23	767.8	63.3	17.4	88	ENE	17.4	7.8			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.80	731.4	29.83	757.6	58.1	14.5	30	N	20.6	9.2			5	W		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.96	761.0	30.05	763 2	67.6	19.8	55	SW	3.1	1.4			5			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.56	750.7	29.92	760.0	56.1	13.4	33	N	21.0	9.4			1			0	0		The Staff.
Ponta Delgada (Azores)	30.13	765.2	30.20	767.0	65.8	18.8	66	ESE	12.5	5.6			4			0.236	6.0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-5	Direction from—		
Bartholomew Dias, N. 35° 35′, W. 14° 30′			29.92	759.9	62.6	17.0		NNE			4		5		NE	4	NE	Drizzling	A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 14° 44′, W. 23° 23′			30.00	762.1	75.2	24		N			3		3		N	4	NW	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.79	756.6	82.0	27.8		W			2		8		SE	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.90	759.5	79.5	26.4		SSW			1		10			0	E	Raining	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.85	758.2	78.8	26.0		E			2		3		E	1	SE	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.3	29.82	757.3	38.5	3.6	88	NE	13	6			10n					Light rain	Astronomical Obs.
Wilna	29.44	747.8	29.87	758.7	40.3	4.6	74	Calm	0	0			10					Raining	Astronomical Obs.
Dorpat	29.63	752.5	29.87	758.8	43.0	6.1	43	WNW	9	4			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.80	756.8	29.81	757.2	39.2	4.0	46	WNW	13	6			6k						Central Physical Obs.
Kieff	29.08	738.6	29.69	754.2	64.8	18.2	29	NNE	4	2			2k;ks					Light clouds	Physical Cabinet.
Nikolaiev	29.79	756.7	29.86	758.5	64.6	18.1	44	SW	31	14			8kn						Kurdakof.
Kertch	29.92	760.0	29.94	760.5	56.3	13.5	87	Calm	0	0			10					Raining	Lagorio.
Moscow	29.20	741.8	29.74	755.3	64.2	17.9	39	N	4	2			8ks			Blank	Blank		Meteorological Obs.
Lugan	29.38	746.3	29.58	751.4	58.3	14.6	70	SW	34	15			10						Meteorological Obs.
Archangel	29.44	747.8	29.46	748.3	39.0	3.9	82	WNW	4	2			10						Capt. Sseliwerstow.
Tiflis	28.47	723.0	29.85	758.3	63.9	17.7	57	NW	18	8			10n						Physical Observatory.
Astrakhan.*	29.72	755.0	29.64	752.9	81.7	27.6	49	WSW	2	1			10s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.48	748.7	29.74	755.3	64.8	18.2	66	W	4	2			9						Physical Cabinet.
Ekaterinburg	28.95	735.2	29.89	759.2	59.7	15.4	55	SSE	22	10			8c;cs						Meteorological Obs.
Nukuss								N	18	8			0						
Tashkend	28.13	714.6	29.59	751.6	85.3	29.6	53	Calm	0	0			1						Teich, A. M.
Barnaul	29.74	755.4	30.24	768.2	47.5	8.6	35	NW	18	8			3						Meteorological Obs.
Yeniseisk	29.87	758.6	30.17	766.2	42.4	5.8	50	NNE	9	4			0						Marks.
Irkutsk																			
Peking (China)	29.65	753.0	29.79	756.6	64.0	17.8	35	SW	7	3			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.71	754.6	29.81	757.1	37.4	3.0	83	Calm	0	0			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.54	750.4	29.65	753.1	49.3	9.6	75	E	3.0	1.33			10			0.006	2.44	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.89	759.2	29.95	760.7	50.4	10.2	74	N	3.2	1.41		1	8	N		0.429	10.9	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.6			41.4	5.2	58	NE	11.1	4.96			6			0.071	1.8	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.53	699.3			53.1	11.7	46	N	17.2	7.67		0	7			0.024	0.6	Cloudy	The Staff.
Murcia, Met. Obs'y	29.48	748.9	29.63	752.7	67.1	19.5	61	SE	3.7	1.67		4	4	ENE		0.137	3.48	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.8	29.99	761.8	51.3	10.7	46	NNE	2.1	9.2			7			0	0	Almost cov'd	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.91	759.6	29.97	761.3	76.2	24.6	73	E	3.6	1.6		0	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.78	756.5	29.83	757.9	86.0	30.0	80	E	0	0			8k		E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.75	755.7	29.85	758.2	59.5	15.3	46	WNW	17.6	7.9		0	0						Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.84	758.0	29.93	760.3	77.7	25.4	78	NE	0	0		4ks	3k			0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.42	747.3	29.46	748.3	33.1	0.6	.....	S	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	29.44	747.9	29.50	749.2	38.1	3.4	67	SW	.....	.....	7	.....	8	.....	.....	0	0	.....	
Hernosand	29.52	749.7	29.57	751.0	43.5	6.4	59	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Stockholm	29.54	750.2	29.71	754.7	45.0	7.2	37	SW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Wisby	29.75	755.6	29.81	757.1	42.8	6.0	45	W	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.63	752.7	29.71	754.6	43.9	6.6	30	SW	14.8	6.6	.....	.....	8	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.40	721.3	29.88	758.9	36.5	2.5	100	SSW	.....	.....	2	.....	10	.....	.....	0.634	16.1	Raining	The Observatory.
Zurich	28.19	716.1	29.86	758.6	43.2	6.2	80	NE	.....	.....	2	.....	10	.....	.....	0.024	0.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.4 mm.; Thermometer,—12.9 Cent.; Relative Humidity, +42 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.6	63.7	17.6	56	SW	9	4.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	763.9	65.3	18.5	.....	S	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.93	760.2	30.05	763.2	71.8	22.1	56	NW	.....	.....	2	.....	5c	.....	.....	0	0	D. Clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.08	764.0	30.38	771.6	51	10.6	.....	N	1	0.4	.....	0	0	.....	.....	0.09	2.3	Clear	W. R. Bigg
*Chatham, N. B	30.04	763.0	30.10	764.5	49	9.4	60	W	6	2.7	.....	0	0	.....	.....	0.16	4.1	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.03	762.8	30.07	763.8	49	9.4	61	W	9	4.0	.....	0	0	.....	.....	Inap.	Inap	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.11	764.8	30.30	769.6	48.4	9.1	52	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.89	759.2	30.05	763.3	45.0	7.2	91	W	.....	.....	1	1cs	0	.....	.....	0.69	17.5	Fine	H. A. Johnson.
Esquimault, B. C	30.06	763.5	30.10	764.5	44.3	6.8	84	NNE	2	0.9	.....	8cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.16	766.1	30.19	766.8	41	5.0	74	SW	12	5.4	.....	2k	0	NW	.....	0.12	3.0	Fair	J. McWilliams.
Fredericton, N. B	30.12	765.0	30.18	766.6	47.2	8.4	75	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.40	746.7	30.25	768.3	40	4.4	82	S	7	3.1	.....	2k	2ks	S	S	0	0	Fair	James Stewart.
Granton, Ontario	29.31	744.5	30.44	773.2	45	7.2	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.97	761.2	30.10	764.5	54	12.2	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	30.07	763.8	30.45	773.4	44.7	7.1	71	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.04	763.0	30.38	771.6	50	10.0	51	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.07	763.8	30.11	764.8	54.5	12.5	74	SW	8	3.6	.....	3k	0	SW	.....	0.34	8.6	Fair	C. H. Rigby.
Moose Factory, Ontario	30.24	768.1	30.28	769.1	49.8	9.9	45	SW	.....	.....	3	2c	0	.....	.....	0	0	Fair	J. R. Nason.
*Montreal, Quebec	30.13	765.8	30.33	770.4	49	9.4	46	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.74	755.4	30.45	773.4	43	6.1	67	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.66	753.4	30.41	772.4	51.7	10.9	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.72	754.9	30.43	772.9	41	5.0	76	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.02	762.5	30.07	763.8	47.3	8.5	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.76	755.9	30.42	772.6	41	5.0	78	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.94	760.5	30.27	768.8	46	7.8	54	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.98	761.5	30.44	773.2	50	10.0	28	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.10	764.5	30.15	765.8	48	8.9	70	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.99	761.7	30.15	765.8	50	10.0	65	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.72	754.9	30.45	773.4	43	6.1	67	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.65	753.1	30.44	773.2	48	8.9	60	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	29.11	739.4	30.43	772.9	42.0	5.6	59	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.01	762.2	30.05	763.3	56	13.3	65	W	12	5.4	.....	0	2ks	.....	W	0.35	8.9	Clear	T. C. Hill.
*Toronto, Ontario	30.05	763.3	30.44	773.2	49	9.4	44	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.11	764.8	50.0	10.0	79	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.97	761.2	30.23	767.8	48.0	8.9	92	S	.....	.....	.....	10k	10s	.....	.....	Inap.	Inap.	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.11	764.8	30.34	770.6	54	12.2	55	NW	8	3.6		0	0			0	0	Clear	
Alpena, Michigan	29.80	756.9	30.48	774.2	43	6.1	59	NW	4	1.8		0	0			0	0	Clear	
Atlanta, Georgia	28.98	736.1	30.12	765.0	57	13.9	81	NE	10	4.5		Haze	Haze	NE	NE	0.03	0.8	Hazy	
Atlantic City, New Jersey	30.29	769.4	30.31	769.9	52	11.1	60	N	10	4.5		2c	0	W		0	0	Clear	
Augusta, Georgia	29.98	761.5	30.14	765.5	62	16.7	77	NE	4	1.8			10s		NE	Inap.	Inap.	Cloudy	
Baltimore, Maryland	30.31	769.9	30.36	771.1	54	12.2	43	NE	9	4.0		2c	5s	NW	NE	0	0	Fair	
Barnegat, New Jersey	30.25	768.3	30.27	768.8	52	11.1	60	N	20	8.9		5c	0	W		0	0	Fair	
Bismarck, Dakota	28.31	719.1	30.17	766.3	44	6.7	92	SE	6	2.7			10s		Calm	0.10	2.5	Cloudy	
Boerne, Texas	28.63	727.2	29.93	760.2	64	17.8	89	E	3	1.3			10ks		SE	0	0	Cloudy	
Boise City, Idaho	27.17	690.1	30.13	765.3	34	1.1	61	S	1	0.4		8cs	0	Calm		0	0	Fair	
Boston, Massachusetts	30.12	765.0	30.27	768.8	52.5	11.4	60	NW	11	4.9		1k	0	Calm		0	0	Clear	
Brackettville, Texas	28.93	734.8	29.94	760.5	68	20.0	90	NE	4	1.8			10s		NE	0	0	Cloudy	
Breckenridge, Minnesota	29.22	742.2	30.23	767.8	44	6.7	92	SE	14	6.3			10n		SE	0.12	3.0	Light rain	
Brownsville, Texas	29.96	761.0	30.00	762.0	75	23.9	86	E	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.70	754.4	30.44	773.2	38.5	3.6	81	SW	4	1.8		0	Haze		Calm	0	0	Clear	
Burkes, Arizona					61	16.1	31	S			1	0	0			0	0	Clear	
Burlington, Vermont	30.04	763.0	30.34	770.6	47	8.3	41	N	12	5.4		0	0			0	0	Clear	
Cairo, Illinois	29.93	760.2	30.33	770.4	55	12.8	74	NE	8	3.6		2c	0	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.15	638.8	29.95	760.7	56	13.3	46	E	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona	26.76	679.7	30.10	764.5	50	10.0	26	NW			2	5k	0	W		0	0	Fair	
Campo, California	27.40	696.0	29.97	761.2	33	0.6	70	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.14	765.5	56	13.3	81	NE	27	12.1			10n		NE	0.73	18.5	Light rain	
Cape Henry, Virginia	30.23	767.8	30.25	768.3	56	13.3	69	NL	19	8.5			10s		Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	57	13.9	75	NE	36	16.1			10s		NE	0.66	16.8	Cloudy	
Cape May, New Jersey	30.21	767.3	30.24	768.1	54	12.2	43	N	12	5.4		2c	0	W		0	0	Fair	
Castroville, Texas	29.28	743.7	29.97	761.2	68	20.0	90	SE	1	0.4			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.03	762.8	30.08	764.6	59	15.0	94	NE	16	7.2			10n		Calm	0.35	8.9	Light rain	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	47	8.3	85	NE	5	2.2			10s		Calm	0	0	Threatening	
Chicago, Illinois	29.71	754.6	30.42	772.6	51	10.6	65	S	2	0.9		0	0			0	0	Clear	
Cincinnati, Ohio	29.73	755.1	30.40	772.1	48	8.9	56	NE	8	3.6		1cs	0	W		0	0	Clear	
Cleveland, Ohio	29.69	754.1	30.44	773.2	45	7.2	76	N	5	2.2		0	Sm'e		Calm	0	0	Clear	
Coleman City, Texas	28.28	718.3	29.92	760.0	61	16.1	94	SE	10	4.5			10s		SE	0	0	Cloudy	
Columbus, Ohio	29.54	750.3	30.40	772.1	46	7.8	54	NE	4	1.8		0	0			0	0	Clear	
Concho, Texas	28.12	714.2	29.75	755.6	67	19.4	74	SE	12	5.4			10s		SE	0	0	Cloudy	
Corsicana, Texas	29.67	753.6	30.14	765.5	60	15.6	94	SE	1	0.4		0	0			0	0	Clear	
Davenport, Iowa	29.74	755.4	30.40	772.1	45	7.2	53	E	10	4.5		1ck	0	W		0	0	Clear	
Deadwood, Dakota	25.44	646.2			41	5.0	91	S	1	0.4			10s		W	0.23	5.8	Cloudy	
Decatur, Texas	28.96	735.6	30.12	765.0	65	18.3	63	E	5	2.2		0	0			0	0	Clear	
Denison, Texas	29.35	745.5	30.14	765.5	62	16.7	72	E	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.82	730.4	30.04	763.0	51	10.6	79	N	8	3.6			10s		Calm	0	0	Cloudy	
Des Moines, Iowa																			
Detroit, Michigan	29.78	756.4	30.48	774.2	41	5.0	57	NE	4	1.8		0	Sm'e		Calm	0	0	Clear	
Dodge City, Kansas	27.41	696.2	29.65	753.1	58	14.4	94	S	22	9.8			10s		S	0	0	Cloudy	
Dubuque, Iowa	29.72	754.9	30.46	773.7	41	5.0	57	SE	2	0.9		8c;k	0	SW;SE		0	0	Fair	
Duluth, Minnesota	29.70	754.4	30.40	772.1	44	6.7	52	NE	2	0.9		5k	2s	N	Calm	0	0	Cloudy	
Eagle Pass, Texa	29.26	743.2	29.96	761.0	72	22.2	80	NE	11	4.9			10s		E	0	0	Cloudy	
Eastport, Maine	30.09	764.3	30.16	766.1	48	8.9	70	N	9	4.0		2c	0	W		0	0	Clear	
Edinburg, Texas					76	24.4	86	E			1		8s		S	0	0	Cloudy	
El Paso, Texas	26.20	665.5			50	10.0	44	E	2	0.9		5cs	0	W		0	0	Fair	
Erie, Pennsylvania	29.70	754.4	30.43	772.9	46	7.8	62	NE	1	0.4		0	0			0	0	Clear	
Escanaba, Michigan	29.81	757.2	30.50	774.7	40	4.4	65	NE	3	1.3		0	0			0	0	Clear	
Florence, Arizona	28.43	722.1	30.03	762.8	64	17.8	30	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	28.04	712.2			46	7.8	92	S	1	0.4		1k	0	S		Inap.	Inap.	Clear	
Fort Craig, New Mexico	25.50	647.7	29.56	750.8	46	7.8	34	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.21	640.3	30.18	766.6	66	18.9	64	SW	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.63	752.6	30.16	766.1	62	16.7	46	E	9	4.0		0	0			0	0	Clear	
Fort Griffin, Texas	28.81	731.8	30.07	763.8	62	16.7	88	E	6	2.7		5k	0	W		0	0	Fair	
Fort Keogh, Montana	27.56	700.0			46	7.8	76	SE	4	1.8		0	2s		Calm	0.18	4.6	Clear	
Fort McKavett, Texas	27.80	706.1	29.67	753.6	65	18.3	78	SE	12	5.4			10s		SE	0	0	Cloudy	
Fort St. Michael, Alaska	29.65	753.1	29.68	753.9	34	1.1	100	E	18	8.0			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.89	733.8	29.98	761.5	63	17.2	78	E	10	4.5		10ck	0	Calm		0	0	Cloudy	
Fort Stevenson, Dakota	28.26	717.8			44	6.7	83	S	4	1.8			10s		S	0.02	0.5	Cloudy	
Fredericksburg, Texas	28.35	720.1	29.89	759.2	65	18.3	89	S	3	1.3			10ks		Calm	0	0	Cloudy	
Galveston, Texas	30.05	763.3	30.09	764.3	69	20.6	85	NE	8	3.6		0	2ks		S	0	0	Clear	
Graham, Texas	29.01	736.8	30.05	763.3	62	16.7	83	SE	4	1.8		0	4s		Calm	0	0	Fair	
Grand Haven, Michigan	29.78	756.4	30.44	773.2	51	10.6	53	E	8	3.6		0	0			0	0	Clear	
Indianapolis, Indiana	29.56	750.8	30.35	770.9	49	9.4	51	NE	4	1.8		0	0			0	0	Clear	
Indianola, Texas	30.08	764.0	30.10	764.5	74	23.3	86	E	12	5.4		2k	0	E		0	0	Fair	
Jacksboro, Texas	28.95	735.3	30.06	763.5	65	18.3	78	S				0	0			0	0	Clear	
Jacksonville, Florida	29.99	761.7	30.01	762.2	68	20.0	90	NW	2	0.9		2cs	5s	Calm	NW	1.10	27.9	Cloudy	
Keokuk, Iowa	29.72	754.9	30.36	771.1	45	7.2	61	E	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Key West, Florida	29.94	760.5	29.97	761.2	78	25.6	73	SE	5	2.2		0	1ks		Calm	0.22	5.6	Clear	
Kittyhawk, North Carolina	30.16	766.1	30.19	766.8	54	12.2	74	NE	28	12.5		8cs	0	Calm		0.15	3.8	Fair	
Knoxville, Tennessee	30.21	741.9	30.22	767.6	54	12.2	49	NE	8	3.6		2ck	Haze	Calm	Calm	0	0	Fair	
La Crosse, Wisconsin	29.66	753.4	30.42	772.6	47	8.3	48	S	3	1.3			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	49	9.4	31	Calm	0	0		5c	0	Calm		0	0	Fair	
Laredo, Texas	29.60	751.8	29.94	760.5	72	22.2	67	E	4	1.8			10ks		E	0	0	Cloudy	
Leavenworth, Kansas	29.38	746.2	30.23	767.8	53	11.7	48	SE	7	3.1			9s		SW	0	0	Cloudy	
Los Angeles, California	29.66	753.4	30.00	762.0	43.0	6.1	75	NE	3	1.3		0	0			0.01	0.3	Clear	
Louisville, Kentucky	29.77	756.1	30.35	770.9	49	9.4	55	NE	11	4.9		2c	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.61	752.1	30.30	769.6	56	13.3	45	NE	4	1.8		0	8ks		Calm	0	0	Cloudy	
Madison, Wisconsin	29.40	746.7	30.43	772.9	40	4.4	56	SE	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	28.68	728.5	30.41	772.4	45	7.2	61	Calm	0	0		0	0			0	0	Clear	
Mason, Texas	28.44	722.4	30.18	766.6	64	17.8	83	E	4	1.8			10s		SE	0	0	Cloudy	
Memphis, Tennessee	29.92	760.0	30.24	768.1	57	13.9	53	NE	4	1.8		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.66	753.4	30.41	772.4	45	7.2	53	NE	4	1.8		0	Sm'e			0	0	Clear	
Mobile, Alabama	30.05	763.3	30.09	764.3	64	17.8	89	N	12	5.4		0	0			0	0	Clear	
Montgomery, Alabama	29.90	759.4	30.14	765.5	63	17.2	78	NE	6	2.7		0	0			0	0	Clear	
Morgantown, West Virginia	29.28	743.7	30.37	771.4	46	7.8	69	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	23.87	606.3	30.23	767.8	24	— 4.4	74	NW	30	13.4		0	5ks		NW	0.20	5.1	Fair	
Nashville, Tennessee	29.72	754.9	30.26	768.6	56	13.3	51	NE	7	3.1		0	0			0	0	Clear	
New Haven, Connecticut	30.17	766.3	30.28	769.1	56	13.3	60	N	14	6.3		0	0			0	0	Clear	
New London, Connecticut	30.21	767.3	30.26	768.6	59	15.0	48	N	8	3.6		2cs	0	Calm		0	0	Clear	
New Orleans, Louisiana	30.03	762.8	30.09	764.3	70	21.1	75	NE	6	2.7		0	8s		NE	0	0	Fair	
Newport, Rhode Island	30.20	767.1	30.25	768.3	63.5	11.9	64	N	10	4.5		0	0			0	0	Clear	
New York, New York	30.14	765.5	30.32	770.1	53	11.7	53	N	11	4.9		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.19	766.8	30.24	768.1	57	13.9	63	NE	12	5.4			10s		Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.10	688.3	29.67	753.6	47	8.3	96	E	24	10.7			10s		E	0.02	0.5	Cloudy	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	41.2	5.1	91	S	2	0.9			8ks		S	0.19	4.8	Cloudy	
Omaha, Nebraska	29.05	737.9	30.15	765.8	54	12.2	43	SE	13	5.8			10s		SE	0	0	Threatening	
Oswego, New York	30.08	764.0	30.41	772.4	44	6.7	76	NW	6	2.7		0	0			0	0	Clear	
Pembina, Dakota	29.37	746.0	30.22	767.6	38	3.3	81	S	6	2.7			10s		S	0	0	Cloudy	
Philadelphia, Pa	30.26	768.6	30.31	769.9	53	11.7	54	N	12	5.4		2cs	Haze	W	Calm	0	0	Fair	
Phœnix, Arizona	28.75	730.2	30.53	775.4	61	16.1	36	E	2	0.9		10c	0	W		0	0	Cloudy	
Pike's Peak, Colorado	17.87	453.9	30.08	764.0	23	— 5.0	21	SW	44	19.7		0	8s		Calm	0	0	Cloudy	
Ploche, Nevada	23.97	608.8	29.74	755.4	42	5.6	27	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.56	750.8	30.41	772.4	43	6.1	75	NE	2	0.9		0	0			0	0	Clear	
Port Huron, Michigan	29.77	756.1	30.46	773.7	44	6.7	60	N	4	1.8		0	0			0	0	Clear	
Portland, Maine	30.18	766.6	30.23	767.8	53	11.7	67	NW	4	1.8		2k	0	Calm		0	0	Fair	
Portland, Oregon	30.09	764.3	30.19	766.8	42.0	5.6	87	SE	2	0.9			10s		SE	0.32	8.1	Cloudy	
Prescott, Arizona	24.71	727.6	30.07	763.8	39	3.9	31	SW	2	0.9		8c	0	W		0	0	Fair	
Pilot Point, Texas	29.36	745.7	30.18	766.6	62	16.7	77	SE	3	1.3		0	0			0	0	Clear	
Punta Rassa, Florida	29.97	761.2	29.99	761.7	69	20.6	85	NE	5	2.2			10s		Calm	0	0	Cloudy	
Red Bluff, California	29.71	754.6	30.07	763.8	47.5	8.6	62	NW	2	0.9		1cs	0	S		0	0	Clear	
Rio Grande City, Texas	29.87	758.7	30.08	764.0	73	22.8	90	E			2		10s		E	0	0	Cloudy	
Rochester, New York	29.77	756.1	30.41	772.4	46	7.8	54	NW	4	1.8		0	0			0	0	Clear	
Roseburg, Oregon	29.58	751.3	30.16	766.1	43	6.1	96	N	1	0.4			10s		Calm	0.15	3.8	Cloudy	
Sacramento, California	29.99	761.7	30.08	764.0	43	6.1	92	Calm	0	0		5c	0	Calm		0	0	Fair	
St. Louis, Missouri	29.77	756.1	30.36	771.1	49	9.4	57	E	10	4.5		1c	Sm'e	Calm		Inap.	Inap.	Clear	
St. Marks, Florida	30.02	762.5	30.04	763.0	68	20.0	84	NE	10	4.5		5k	0	NE		0.72	18.3	Fair	
St. Paul, Minnesota	29.47	748.5	30.31	769.9	47	8.3	55	SE	8	3.6		10cs	0	Calm		0	0	Cloudy	
Salt Lake City, Utah	25.58	649.7	29.92	760.0	44	6.7	45	NE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.38	746.2	29.96	761.0	68	20.0	84	E	4	1.8			10s		E	0	0	Cloudy	
San Diego, California	29.97	761.2	30.04	763.0	49	9.4	85	NE	4	1.8		0	2ks		Calm	0	0	Clear	
Sandusky, Ohio	29.78	756.4	30.47	773.9	46	7.8	69	NE	13	5.8		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.26	768.6	30.30	769.6	49	9.4	71	NW	12	5.4		2c	Haze	NW	Calm	0	0	Hazy	
San Francisco, California	30.05	763.3	30.11	764.8	45	8.9	67	W	7	3.1		0	5s		Calm	0	0	Fair	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	45	7.2	39	Calm	0	0		5cs	0	SW		0	0	Fair	
Savannah, Georgia	30.00	762.0	30.10	764.5	61	16.1	88	N	10	4.5			10s		NE	0.35	8.9	Cloudy	
Shreveport, Louisiana	29.84	757.9	30.06	763.5	61	16.1	71	NE	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico	24.32	617.7	30.53	775.4	45	7.2	38	NW	2	0.9		2k	2s	SW	Calm	0	0	Fair	
Smithville, North Carolina	30.13	765.3	30.16	766.1	58	14.4	94	NE	8	3.6			10n		NE	0.02	0.5	Light rain	
Springfield, Massachusetts	30.17	766.3	30.30	769.6	56	13.3	57	N	9	4.0		0	2ks		Calm	0	0	Fair	
Stockton, Texas	26.96	684.8	29.96	761.0	65	18.3	84	SE	18	8.0		0	0			0.15	3.8	Clear	
Thatcher's Island, Mass	30.21	767.3	30.27	768.8	52	11.1	73	N	4	1.8		0	0			0	0	Clear	
Toledo, Ohio	29.74	755.4	30.44	773.2	46	7.8	62	NE	10	4.5		0	0			0	0	Clear	
Tucson, Arizona	27.50	698.5	30.05	763.3	60	15.6	44	S	1	0.4		5c	0	Calm		0	0	Fair	
Umatilla, Oregon	29.76	755.9	30.26	768.6	44.0	6.7	76	SE	4	1.8		0	8ks		Calm	0	0	Fair	
Unalashka, Aleutian Islands													0						
Uvalde, Texas	29.17	740.9	29.98	761.5	67	19.4	84	E	3	1.3			10s		E	0	0	Cloudy	
Vicksburg, Mississippi	29.93	760.2	30.19	766.8	61	16.1	71	NE	2	0.9		0	0			0	0	Clear	
Virginia City, Montana	24.27	716.4	29.75	755.6	30	— 1.1	68	SE	4	1.8		0	0			0.03	0.8	Clear	
Visalia, California	29.69	754.1	30.07	763.8	43.4	6.3	70	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.	30.22	767.6	30.34	770.6	51	10.6	53	N	8	3.6		5c;cs	Haze	NW	Calm	0	0	Fair	
Wickenburg, Arizona					53	11.7	65	NW			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	56	13.3	63	NE	7	3.1			10s		Calm	0.16	4.1	Cloudy	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	33	0.6	32	E	10	4.5		0	5s		Calm	0	0	Fair	
Wood's Holl, Mass	30.22	767.6	30.26	768.6	53	11.7	66	N	8	3.6		0	2s		Calm	0	0	Clear	
Yankton, Dakota	28.88	733.5	30.18	766.6	47	8.3	70	SE	20	8.9		10ck	0	NW		0.88	22.4	Cloudy	
Yuma, Arizona	29.72	754.9	29.88	758.9	59	15.0	59	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.62	726.9	30.03	762.8	55	12.8	50											Clear	J. B. Gordon.
Havana, Cuba, W. I	29.92	760.0	29.97	761.2	78	25.6	65	SE	1.2	0.5		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.22	740.6			66.5	19.2	82	Calm			0	4k	4ks			0.05	1.3		Thomas Herran.
Navassa, W. I	29.85	758.2	29.93	760.2	77	25.0		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	661.5	29.98	761.5	81	27.2	87	E			2	0	5k			0.030	0.76	Clear	O. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.17	766.3	30.22	767.6	23.5	— 4.7	100	NE	16	7.2			10n		NE	0.10	2.5	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are at Atlanta 1,181.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,861 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.45 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.14‡	765.5‡			45	7.2	76	NNW	6	2.7			5								
Navy Yard, Pensacola, Fla.	30.07‡	763.8‡			69	20.6	85	NE	7	3.1			0							Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.62‡	752.3‡			62.8	17.1	89	SW			1		0			0.05	1.3			Clear	
Adams, Panama	29.85‡	758.2‡			79	26.1	95	SE			1		5		S;E					Fair	
Alaska, Sitka, Alaska	30.16‡	766.1‡			36	2.2	81	NE			1		0			0	0			Hazy	
Alliance, N. 37° 43′, E. 7° 37′	29.79‡	756.7‡			65	18.3	78	WNW			0–1		10							Cloudy	
Ashuelot, Canton, China	29.78‡	756.4‡			81	27.2	87	SE			1		10		Calm			Smooth		Cloudy	
Canonicus, New Orleans, La	30.09‡	764.3‡			67	19.4	95	N			4		10		N					Cloudy	
Colorado, New York, N. Y	30.31‡	769.9‡			55	12.8	56	NW	5	2.2			2			0	0			Clear	
Constitution, N. 23° 17′, W. 55° 32′	29.95‡	760.7‡			77	25.0	77	S			3		7		Calm			Smooth	S	Fair	
Despatch, Genoa, Italy	29.81‡	757.2‡			60	15.6	94	SE			3		9			0	0	Long	SE	Cloudy	
Enterprise, N. 45° 27′, W. 12° 34′	30.24‡	768.1‡			50	10.0	72	NE			4–5		7		NE			Rough		Squally	
Franklin, Norfolk, Va	30.26‡	768.6‡			57	13.9	81	N	9.6	4.3			10		Calm	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	29.88‡	758.9‡			64	17.8	78	SSE			3		5		SSE	0	0			Fair	
Michigan, Erie, Pa					44	6.7	68	S			2		0							Clear	
Monongahela, Yokohama, Japan	29.50‡	749.3‡			66	18.9	84	Calm			0		0			0	0			Blue sky	
New Hampshire, Port Royal, S. C	30.07‡	763.8‡			63	17.2	94	NNE	22	9.8			10		NE	0.01	0.3			Cloudy	
Onward, Callao, Peru.†*	30.07‡	763.8‡			63	17.2	83	Calm			0		2					Long	W	Misty	
Palos, Shanghai, China	29.79‡	756.7‡			67	19.4	89	SE			2		0							Light haze	
Passaic, Washington, D. C					55	12.8	68	NE			2		2							Clear	
Pensacola, Callao, Peru	30.00‡	762.0‡			64	17.8	89	SE	2	0.9			8			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va	30.23‡	767.8‡			58	14.4	76	NNE			4		10		Calm	0	0	Mod'ate	N	Cloudy	
Powhatan, Norfolk, Va	30.31‡	769.9‡			55	12.8	68	NE			2		10		NE	0	0			Cloudy	
Quinnebaug, Alexandria, Egypt	30.05‡	763.3‡			69	20.6	65	N			3		2		NE					Fair	
Ranger, Amoy, China	29.90‡	759.4‡			74	23.3	90	SE			0–1		10		Calm			Smooth		Cloudy	
Richmond, N. 5° 53′, E. 106° 48′	29.79‡	756.7‡			85	29.4	79	NE			1		0?		N?	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.01‡	762.2‡			75	23.9	95	Calm			0		0							Clear	
Santee, Annapolis, Md	30.33‡	770.4‡			52	11.1	60	NNE			4		2		NE	0	0			Clear	
Saratoga, N. 35° 01′, W. 26° 04′	30.11‡	764.8‡			65	18.3	84	ESE			5		10		NW	Light	Light	Mod'ate	NW	Overcast	
St. Louis, League Island, Pa	30.29‡	769.4‡			57	13.9	63	N	14	6.3			0			0	0			Clear	
Trenton, Genoa, Italy	29.78‡	756.4‡			61	16.1	82	SE			5		5		SE	0.01	0.3	Mod'ate	S	Fair	
Tuscarora, N. 16° 59′, W 98° 02′	29.90‡	759.4‡			73	22.8	83	NW			1		0			0	0	Smooth		Misty	
Vandalia, Aspinwall, New Grenada	29.88‡	758.9‡			76	24.4	100	SSE			2		10		SSW			Smooth		Cloudy	
Wabash, Boston, Mass	30.27‡	768.8‡			52	11.1	86	SE	5	2.2			2			0	0			Fair	
Wyoming, Villafranca, France	29.72‡	754.9‡			62	16.7	88	SE			2		8		SE			Smooth	SE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria, Capt. T. Roberts, N. 51° 33′ W. 8° 26′.... †*		30.30	769.6	49	9.4		N			2		8		N		Smooth	N	Cloudy	M. C. Miles.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury Hong-Kong, China		29.72‡	754.9‡				E			3		10			0.5 in. or 13. mm.			D. clouds	L. B. Walls.
S. S. Colima, N. 28° 03′, W. 116° 53′.. †		30.06‡	763.5‡	59	15.0		N			3		7		NW	0	Mod'ate	NW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.10‡	764.5‡	55	12.8	50	NW			2		0						Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W		30.17‡	766.3‡				WSW			3				WSW				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokohama, Japan		29.60‡	751.8‡	65	18 3	94	NW			1		7c			0	Smooth		D. clouds	D. A. Joyce.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 27° 39′, E. 120° 07′		29.86‡	758.4‡	75	23.9	90	SSE			4		2		E		Smooth		D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 39° 06′, W. 58° 21′		30.25‡	768.3‡	69.0	20.6	75	SSW			1		5		SW		Smooth	NW	Hazy	Capt. C. Undütsch.
S. S. Leipzig, N. 48° 09′, W. 41° 33′		30.45‡	773.4‡	63.5	17.5	70	ESE			4		5		SE		Mod'ate	ESE	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 52° 37′, E. 3° 50′		30.02‡	762.5‡				NNE			3		5		NE		Long	NE	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 35′, W. 61° 16′		30.12‡	766.8‡	53	11.7	93	W			2		1		W	0	Smooth		Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 31° 35′, W. 70° 30′		30.16‡	766.1‡	72	22.2	76	SSE	11	4.9			2k		SE	0	Swell	SE	D. clouds	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 17° 59′, W. 65° 40′		29.60‡	751.8‡																Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

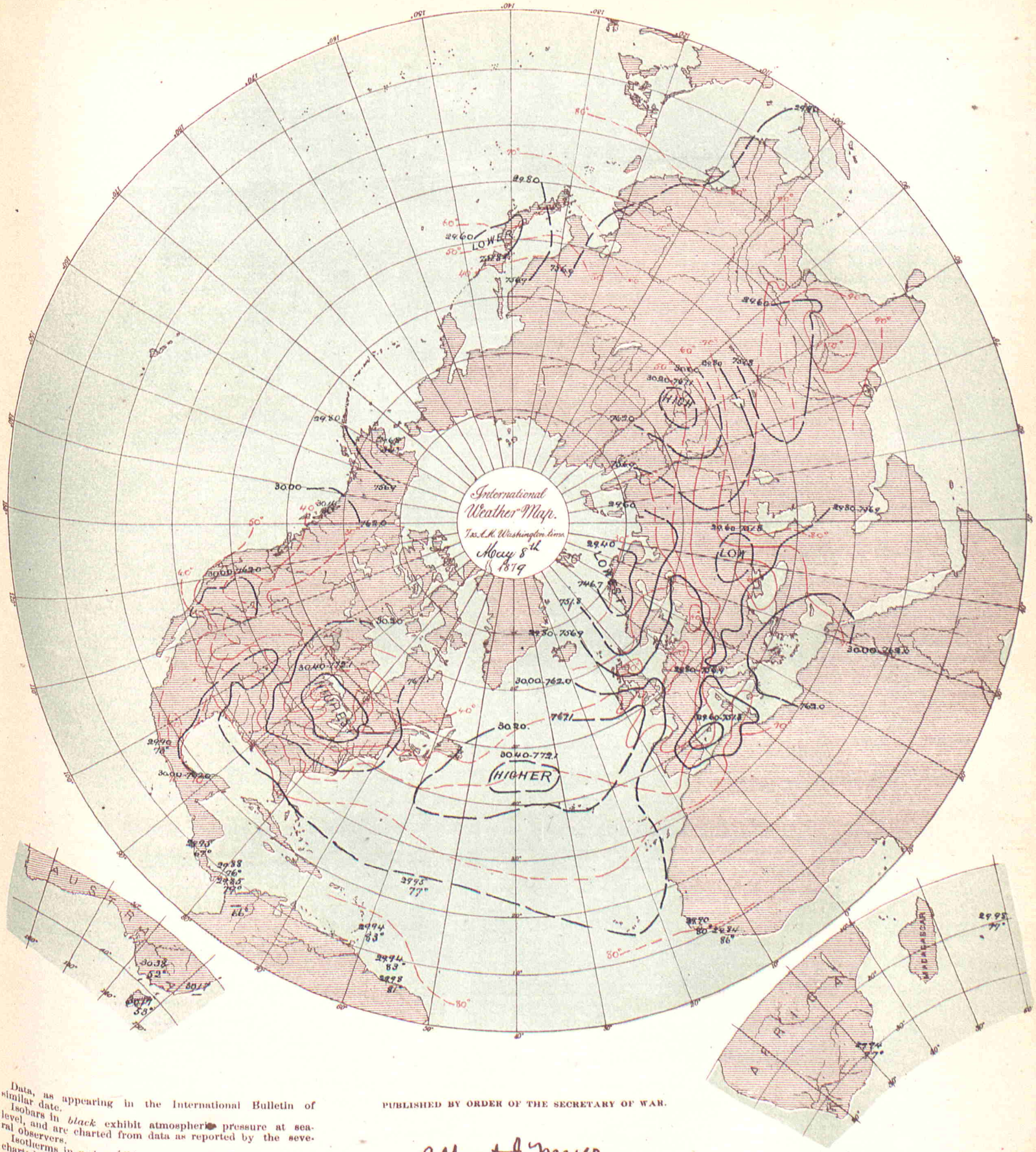
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 9, 1879.

7:35 A. M., WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.06	763.5	70.2	21.2	54	WNW			3		2			0	0	Fair	Kesxuche.
Algiers			29.91	759.7	60.8	16.0	53	W			4		5			0.024	0.6	Cloudy	Tourilliere.
La Calle			29.85	758.1	60.3	15.7	77	NNW			4		10			0.083	2.10	Covered	Foufrede.
Tunis																			Jacques.
Sfax			29.88	758.9															Gau.
Saida			30.00	762.0	58.1	14.5	29	W			4		5			0	0	Cloudy	Herbin.
Tebessa			29.93	760.2	64.0	17.8	40	W			5		10			0.059	1.5	Raining	Watrin.
Geriville			29.98	761.5	58.5	14.7	42	N			3		2			0.079	2.0	Fair	Brugniaux.
Laghouat			29.91	759.8	66.6	19.2	46	W			5		2			0	0	Fair	Bertrand.
Biskra			29.91	759.7	75.6	24.2	27	NW			4		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.13	740.0	29.66	753.4	69.1	20.6	46	W			2		8			0.252	6.4	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.93	734.9	29.68	753.9	60.4	15.8	71	NE			3		5			0.079	2.0		Dr. Wierzbiski.
Eperies	28.87	733.3	29.72	754.9	64.8	18.2	66	S			4		9cks		N				Julius Mikolik.
Gratz	28.41	721.6	29.61	752.1	65.8	18.8	51	SW			3		6			0	0		Andreas Rospini.
Hermannstadt	28.40	721.4	29.76	756.0	74.3	23.5	36	SE			3		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.17	715.4	29.46	748.3	61.3	16.3	78	SE			3		4			0	0		Prof. C. Wagner.
Lemberg	28.81	731.7	29.78	756.3	57.6	14.2	78	SE			1		10			0.244	6.2		Dr. T. Stanecki.
Pola					56.8	13.8	92	SE			7		10			0	0		I.R.Hydrographic Office
Szathmar	29.34	745.2	29.78	756.5	72.7	22.6	44	E			3		8			0.071	1.8		Julius Csics, S. J.
Szegedin	29.45	747.9	29.71	754.7	69.4	20.8	44	S			3		3			0.045	1.15		Karl Stancel.
Trieste	29.60	751.8	29.71	754.4	64.8	18.2	59	SE			2		10			1.142	29.0	Raining	P. Busin.
Vienna	28.87	733.4	29.56	750.8	70.0	21.1	44	SSE			4		1			0	0		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.78	756.4	29.88	758.9	38.6	3.7		NNW	20	8.9			6			0.010	0.25	Squally	W. Boswell.
Ardrossan	29.87	758.7	29.89	759.2	46	7.8		NNW			3		6					D. clouds	William McNeil.
Armagh, Observatory			29.96	761.0	44.5	6.9		N	13	5.8			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.83	757.7	42.5	5.8		NNE	17	7.6			10					Overcast	John Hartnup.
Bolton (Sharples)			29.83	757.7	42.0	5.6		NE	36	16.1			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.44	747.8	29.84	757.9	42.8	6.0		N			6		9			0.06	1.5	D. clouds	J. McLandsboroug.
Bridgetown (Barbadoes)	29.94	760.5	29.98	761.5	85	29.4		SE			2		6					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			29.79	756.7	45.0	7.2		N			1		10					Overcast	H. Todd.
Cardington			29.76	755.9	46.0	7.8		N			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.62	752.3	29.75	755.6	48.9	9.4		Calm			0		0					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.90	759.4	29.94	760.5	48	8.9		N			5		3					D. cloud's	J. Mac Gowan.
Dover	29.71	754.6	29.73	755.1	50	10.0		WSW			3		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.61	752.1	29.85	758.2	52.3	11.3		NNW			4		8					Overcast	The Staff.
Fort Napier (Natal)	27.70	703.6	30.01	762.2	77.5	25.3		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	84	28.9		SW			1		3					D. clouds	
Galway, Queen's College			29.93	760.2	48	8.9		N			5		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	29.99	761.7	30.05	763.3	65.7	18.7		W			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.69	754.1	29.89	759.2	44.8	7.1		N			4		3					D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.76	755.9	29.76	755.9	45	7.2		N			4		6					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.58	751.3	29.75	755.6	48.7	9.3		N			2		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.57	751.1	29.79	756.7	52.5	11.4		NW			2		8					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.80	756.9	29.92	760.0	55	12.8		NW			4		4ck			0.10	2.5	Fine	M. P. Moyle.
Holyhead	29.85	758.2	29.89	759.2	46	7.8		N			5		5					D. clouds	John Tilston.
Jersey	29.52	749.8	29.82	757.4	52.0	11.1		NW			3		10					Overcast	J. Fisher.
Kew, Observatory	29.72	754.9	29.76	755.9	50.2	10.1		N	17	7.6			10					Threatening	The Meteorological Of.
Leicester, Museum.	29.53	750.0	29.79	756.7	47.4	8.6		NE			1		10					Overcast	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.50	749.3	29.58	751.3	70	21.1		SE			3		2s			0.07	1.8	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.82	757.4	29.91	759.7	40	4.4		NNW			4		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.97	761.2	81.0	27.2		SE			1		8			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.63	752.6	29.82	757.4	43.8	6.6		NNW			3		10d		N	0.084	2.13	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.79	756.7	44.5	6.9		ENE			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.77	756.1	49	9.4		N			2		10					Overcast	H. E. Bellamy.
Plymouth	29.73	755.1	29.81	757.2	55.7	13.2		NW			2		10					Overcast	John Merrifield.
Prince Town	28.38	720.8	29.83	757.7	45	7.2		W			3		7					Fine	W. H. Tooker.
*Roche's Point	29.87	758.7	29.96	761.0	52	11.1		N			5		10			Blank	Blank	Overcast	Wm. Kennedy.
Saint Ann's Head	29.71	754.6	29.88	758.9	49	9.4		N			5		4						John C. Walker.
Sandwick Manse (Orkneys)			29.86	758.4	36.4	2.4		NNW	27	12.1			5					Showery	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.93	760.2	30.00	762.0	77.0	25.0		SW			1		3					D. clouds	Serg't W. H.Lyne.
Sheffield	29.56	750.8	29.84	757.9	44.0	6.7		NNE			3		10			Inap	Inap.	Overcast	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	45.8	7.7	58	E			3		8			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.44	747.8	29.84	757.9	44.6	7.0		NE			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.52	749.8	29.74	755.4	55.3	12.9		N			3		10					Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.87	758.7	29.91	759.7	56	13.3		N			6		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.95	760.7	29.98	761.5	53.8	12.1		NNE	20	8.9			7					D. clouds	The Meteorological Of.
SUB-SERIES.																			
Cape of Good Hope Obs'y	29.88	758.9	29.92	760.0	83.7	28.7	38	W	7	3.1		4	8			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.12	765.0	48.0	8.9	86	NW			2		3k			0.01	0.3		FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.93	760.2	44.0	6.7		N			2		8k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.99	761.6	77.3	25.2	67	WSW	4.0	1.8		1	6		Var.	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	30.28	769.1	30.37	771.4	50.9	10.5	79	SE	6	2.7			6			0	0	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)			30.03	762.8	43	6.1		N			6	3	5	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.08	753.9	36	2.2		N			7		10					Snowing	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 11° 09′, W. 55° 59′			D. clouds	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle.				Capt. A. J. Brown.
Ship British Commodore, N. 40° 45′, W. 36° 30′	4	E;ENE	Blue sky	Capt. J. W. Thorne.
—— City of Agra,				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole, N. 36° 13′, W. 11° 03′			D. clouds	Capt. E. W. Turner.
S. S. Nizam, N. 9° 16′, E. 108° 48′			Blue sky	Capt. Barlow.
S. S. Strathleven,				Capt. C. W. Pearson.
S. S. Wybe ton				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	67.6	19.8	88	SE			1	5cs				0.93	23.6		Federico Maison

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.57	751.0	29.61	752.2	49.6	9.8	47	SW			4		10						
Fanöe	29.58	751.2	29.60	751.7	44.1	6.7	78	W			4		7					Raining	
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.58	759.0	29.92	759.9	32.4	0.2	74	N			6		10					Snowing	
Vestervig	29.44	747.7	29.61	752.0	43.9	6.6	74	W			4							Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.26	743.2	29.81	757.2	52.9	11.6	43	NW			1		8		NNW	0.016	0.4	Very cloudy	Collignon, Director.
Amiens, Normal School	29.65	753.0	29.76	755.8	51.4	10.8	65	WNW			3		10			0	0	Covered	Bouvallet, Director.
Avignon, Normal School	29.57	751.1	29.65	753.1	45.7	7.6	91	NNW			1		10			0.51	13.	Raining	Giraud, Director.
Bar-sur-Seine	29.13	739.9	29.69	754.0	50.5	10.3	53	NE			2		10		E	0	0	Covered	O. Saillard, Director.
Beauvais, Normal School	29.48	748.8	29.74	755.5	53.2	11.8	45	NNW			2		10		NW	0	0	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	28.72	729.6	29.62	752.3	48.0	8.9	77	ENE			3		10		NE	0.28	7.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.74	730.1	29.65	753.0	44.1	6.7	82	W			2		5n	N	N	0.496	12.6	Cloudy	Marlot, Director.
Bourges, Normal School	29.20	741.7	29.76	755.8	46.8	8.2	68	NW			1		5	N	N	0	0	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.56	750.8	29.80	757.0	54.7	12.6	67	N			1		8		NW	0.059	1.50		De Rermaree, Director.
Carcassonne, Normal School	29.37	745.9	29.79	756.7	42.4	5.8	91	W			3		10	W	W	0.08	2.	Covered	September, Director.
Caen, Normal School	29.69	754.2	29.77	756.1	54.0	12.2	76	SSW			1		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.20	741.8	29.77	756.1	54.7	12.6	88	N			1		2	S	S	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.37	745.9	29.68	753.9	55.2	12.9	82	NW			2		5	NE	NE			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.32	719.3	29.71	754.7	37.4	3.0	97	NW			1		10		N	0.618	15.7	Raining	Alluard, Director.
Commercy, Normal School	28.78	731.1	29.63	752.7	49.8	9.9	86	NNE			1		10			0	0	Covered	Dr. Coulet, Director.
Commune de Grésque*	28.63	724.6	29.67	753.6	45.5	7.5	80	W			1		10		SW	0.55	14.	Rainy	L. Kina, Director.
Grenoble, Normal School	28.86	733.1	29.65	753.0	39.6	4.2	90	WNW			2		10		NW	0.524	13.30	Raining	Ablard, Director
La Roche-sur-Yon, N. School	29.67	753.6	29.88	759.0	50.7	10.4	68	W			3		10			0	0	Covered	Mouillot, Director
Le Mans, Normal School	29.50	749.2	29.80	757.0	52.8	11.3	54	NW			3		8		NW	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.64	727.4	29.56	750.7	47.3	8.5	72	NE			2		10n		NE	0.425	10.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.75	755.6	29.85	758.1	54.0	12.2	81	WSW			2				W	0.024	0.60		Lt. T. Carré, Director
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.53	724.6	29.57	751.1	48.6	9.2	63	SSW			3		5n		NNE	0	0	Cloudy	Barbier, Director.
Nismes, Normal School	29.45	748.0	29.65	753.2	48.2	9	76	NW			2		10		SE	0.532	13.50	Covered	Boyer, Director.
Privas, Normal School	28.65	727.6	29.73	755.1	48.2	6.2	94	N			1		n	N	N	0.79	20.		Cantier, Director.
Puy de Dome (Summit) Obs	24.70	627.4			23.9	—4.5	100	NW			4		10			1.835	46.6	Snow-fog	Alluard, Director.
Rochefort, Naval Obs'y	29.85	758.3	29.89	759.1	58.8	14.9	54	W			1		5	NNW	NNW	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.70	754.3	29.78	756.5	50.4	10.2	65	NNE			3		10		NW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.76	755.8	29.79	756.6	55.0	12.8	80	NNW			2		5	WNW	WNW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.58	751.2	29.74	755.4	55.4	13.0	40	NNW			2				N	0	0		E. Renou, Director.
Tarbes, Normal School	28.81	731.8	29.91	759.8	44.6	7	85	W			1		10			0.12	3.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.15	740.4	29.87	758.7	40.8	4.9	98	NW			4		10			0.346	8.8	Showery	Mercadier Julier.
Versailles, Observatory	29.26	743.1	29.75	755.6	52.9	11.6	39	N			1					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	28.97	735.8	29.65	753.2	44.6	7	85	NW			6		10		N	0.126	3.2	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	78.8	26										0	0		L'Abbé Marel ési.
Lyons Obs'y (Park Station)	29.02	737.0	29.64	752.8	40.3	4.6	90	W			2		10			0.992	25.2	Heavy rain	Mr. Jays.
Mont-Louis	24.48	621.7	29.79	756.7	30.6	—0.8	63	N	28.0	12.5			10			0.539	13.7	Snowing	M. Cave.
Nice			29.59	751.5	58.6	14.8	77	S			4		10			1.335	33.9	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y			29.47	748.4	53.6	12.0	49	N			3		5		N	0	0		Marié Davy, Director.
Perpignan	29.03	752.6	29.74	755.3	50.0	10.0	49	NW	39.1	17.5			4		W	0.039	1.0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.17	563.0			28.4	—2.0		NW			2		10			0.144	3.65	Snowy	Gen'l de Nansouty.
Tours	29.59	751.5	29.78	756.5	53.6	12.0	41	N			2		3		N	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.72	754.9	29.74	755.5	68.9	20.5	93	ESE	13.7	6.1			10n			0	0	Glooiny	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-12	Clouds. Amount. Up'er 0-10	Low'r 0-10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.77	730.8	29.60	751.9	56.7	13.7	58	NW			2		9	NW		0	0		Prof. Dr. Hoh.
Berlin	29.50	749.3	29.67	753.6	58.1	14.5	38	S			1		8			0	0		Prof. Arndt.
Breslau	29.17	740.9	29.69	754.2	54.7	12.6	72	ESE			2		10	SE		0	0		Royal University Obs'y
Carlsruhe	29.18	741.2	29.60	751.8	52.5	11.4	68	NE			0		10	N		0.197	5.0	Raining	Albert Senz.
Cassel	29.04	737.6	29.64	752.9	56.5	13.6	40	NNW			2		3	N		0	0		Dr. H. Möhl.
Crefeld	29.52	749.8	29.68	753.9	56.3	13.5	33	NW			2		5			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.26	743.2	29.62	752.4	59.0	15.0		NNE			2		7			0	0		Physical Society.
Freienwalde on the Oder	29.63	752.7	29.67	753.7	57.7	14.3	47	SE			3	4c		S		0	0		Assmann., M. D.
Friedrichshafen	28.14	714.8	29.57	751.0	50.4	10.2	75	NE			5		10	NE		1.169	29.7		M. Wilhelm.
Hamburg	29.59	751.5	29.66	753.3	54.3	12.4	44	WSW			3		7k			0	0	Fair	Captain F. Hegeman.
Kiel	29.63	752.5	29.64	752.9	48.0	8.9	56	SW			3		10			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.73	755.2	29.82	757.3	52.7	11.5	38	S			3		6			0	0		Prof. E. Luther.
Köslin			29.68	753.9	54.3	12.4		S			2		4			0.024	0.6		H. Müller.
Leipsic Observatory	29.22	742.2	29.63	752.7	58.6	14.8	47	SE			1		9			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.81	757.2	29.86	758.4	45.5	7.5	73	SW			2		1cs						Skalweit.
Neufahrwasser	29.77	756.2	29.79	756.6	52.5	11.4	47	S			3		9			0.028	0.7		A. Lothes.
Posen	29.47	748.6	29.76	756.0	51.4	10.8	61	E			6		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.08	738.7	29.63	752.6	50.9	10.5	65	NNE			3		10	NE		0.011	0.29	Raining	Imp. University Observatory.
Stuttgart	28.65	727.7	29.59	751.5	50.4	10.2	68	N			1		10			0.378	9.6		Prof. Schoder.
Treves (Trier)	29.11	739.4	29.63	752.5	55.6	13.1	42	E			5		10			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.65	712.5	29.52	749.8	56.7	13.1	57	NNW	4	2			8ck	SW	NE	0	0		Dr. Van Bebber.
Wustrow	29.61	752.2	29.64	752.8	48.4	9.1	62	N			3		6ks			0	0		E. Schütz, Dir.
GERMAN NAVAL SERIES.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.2	30.00	762.0	67.5	19.7		SW			1.5							⅛ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.69	754.0	29.74	755.3	86.3	30.2	70	SW					4			0	0	D. clouds	
Deesa					97.8	36.6	23	WSW	6.9	3.1			7	SW		0	0	D. clouds	
Bombay	29.74	755.1	29.78	756.4	83.7	28.7	83	WNW	14.0	6.3			2	WNW	NW	0	0	D. clouds	
Poona	27.80	706.2	29.76	755.8	90.8	32.7	49	NW					2	NW		0.03	0.8	Thunder	
Lahore	28.93	734.8	29.65	753.1	92.6	33.7	18	SW	3.1	1.4			3			0	0	Blue sky	
Belgaum	27.27	692.5	29.76	756.0	82.7	28.2	73	W	12.0	5.4			1	S		0	0	D. clouds	
Roorkee	28.73	729.7	29.60	751.7	95.9	35.5	12	SW	2.9	1.3			1			0	0	Misty	
Agra	29.07	738.4	29.61	752.2	100.6	38.1	14	W					0			0	0		
Nagpur	28.61	726.7	29.61	752.0	101.7	38.7	28	Calm	7.2	3.2			1			0	0	Blue sky	
Lucknow	29.22	742.1	29.58	751.2	102.0	38.9	36	WNW	1.8	0.8			0			0	0	Blue sky	
Allahabad	29.27	743.5	29.57	751.0	104.1	40.1	11	NW	3.9	1.7			2	W		0	0	D. clouds	
Patna	29.36	745.7	29.53	750.1	100.0	37.8	18	W	2.8	1.2			0			0	0	Blue sky	
Hazaribagh	27.62	701.6	29.55	750.4	98.0	36.7	10	NW	11.2	5.0			4			0	0		
Cuttack	29.55	750.6	29.63	752.6	90.4	32.4		SSW	8.0	3.6			1			0	0	Blue sky	
Calcutta (Alipore)	29.57	751.1	29.59	751.7	89.8	32.1	71	S	12.0	5.4			1			0	0	Blue sky	
Goalpara	29.11	739.4	29.49	749.0	88.7	21.5	63	S	4.2	1.9			0			0.84	21.3	Blue sky	
Chittagong	29.61	752.2	29.70	754.4	85.7	29.8	84	SSE	8.9	4.0			2			0	0	Misty	
Sibsagar	29.30	744.2	29.64	752.7	75.1	23.9	92	ENE	3.0	1.3			10	SW	SW	1.35	34.3	Overcast	
Jubbulpore	28.30	718.9	29.61	752.1	99.7	37.6	16	NW	5.2	2.3			3		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.30	744.2	29.71	754.6	60.6	15.9	75	S	6.3	2.8			10			0.575	14.6		Prof. Giovanni Clodig.
Milan	29.05	737.9	29.56	750.9	53.6	12.0	90	E			6		10	ESE		0.322	8.2		Prof. Schiaparelli.
Padua	29.54	750.2	29.64	752.9	58.3	14.6	92	SE	9.8	4.4			10	SE		0.232	5.9		Prof. Dott. Lorenzoni.
Moncalieri	28.65	727.7	29.56	750.7	52.0	11.1	89	NNW	3.1	1.4			10			0.807	20.5		Prof. P. F. Denza.
Genoa	29.41	746.9	29.60	751.7	56.7	13.7	86	SE	4.9	2.2			10	S		0.457	11.6		Prof. G. M. Garibaldi
Mondovi	27.63	701.9	29.55	750.5	50.7	10.4	71	N			2		9			0.909	23.1		Prof. D. C. Bruno.
Pesaro	29.58	751.4	29.63	752.6	60.1	15.6	87	E	10.5	4.7			10			0.016	0.4		Prof. Luigi Guidi.
Florence	29.36	745.6	29.61	752.1	62.6	17.0	78	SE			2		10			0.248	6.3		Cav. F. Meucci
Leghorn	29.50	749.3	29.59	751.5	56.5	13.6	54	W			8		10	W		0.350	8.9		Prof. P. Monte.
Rome	29.52	749.8	29.70	754.3	60.1	15.6	83	S	13.0	5.8			10			0.256	6.5		Prof. P. S. Ferrari.
Lecce	29.54	750.4	29.80	756.8	62.6	17.0	66	SW	18.6	8.3			8	SW		0.039	1.0		Prof. C. De Giorgi.
Cosenza	28.84	732.5	29.72	755.0	62.6	17.0	74	NE	0	0			10			0.142	3.6		Prof. D. Conti.
Cagliari	29.51	749.6	29.71	754.5	62.4	16.9	43	NW			4		5	W		0.059	1.5		Prof. A. Pacinotti.
Palermo	29.48	748.8	29.73	755.2	66.0	18.9	64	WSW	1.8	0.8			10			0.028	0.7		Prof. G. Cacciatore.
Syracuse	29.55	750.5	29.62	752.3	63.3	17.4	76	NNE	16.1	7.2			9	WNW		0.039	1.0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.20	741.8	29.76	755.9	57.2	14.0	93	SSW	1.3	0.6			10			0.299	7.6		Prof. F. Brioschi.

NOTE.—The original give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.94	760.5	62.6	17.0	68	NE	9.5	4.3			0			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.96	761.0	62.2	16.8	82	SSW	0.2	0.1			2cs			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.73	755.1	29.80	756.9	61.8	16.6	82	NE	5.4	2.4		0	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.12	638.1	30.10	764.4	62.2	16.8	47	Calm			0	0	0			0.008	0.2	Hazy	Prof. L. Perez.
Leon	24.50	622.3	30.12	765.1	65.1	18.4	75	SW			1	0	0		NW	0.004	0.1	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.16	588.2	30.16	766.1	55.8	13.2	78	Calm	0	0		0	8k			0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					61.3	16.3	78	Calm			0	0	0			0.26	6.5	Fine	M. V. de Leon, M. E.
Tlacotalpam	30.03	762.7	30.04	763.0	76.8	24.9	87	SW			2	5	5	E	SW	0	0	Threatening	M. M. Chazaro.
San Luis Potosi	24.35	618.5	30.34	770.6	59.0	15.0	77	ESE			1	9	0	SE		0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.61	574.2	30.12	765.0	55.0	12.8	70	ENE			1	2cs	0			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.48	596.5	30.25	768.3	50.0	10.0	8	NNE	1.3	0.6		0	0			0	0	Fine	Prof. P. Spina.
Durango															NE				M. V. de Leon, C. E.
Colima	28.37	720.5	30.01	762.2	76.1	24.5	68	NNE			2	0	2			Inap.	Inap	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.72	754.9	29.72	754.9	51.1	10.6		W								0	0		
Groningen	29.63	752.7	29.69	754.1	41.7	5.4		W			2					0.024	0.6		
Helder	29.69	754.0	29.69	754.0	42.6	5.9		N			4					0.020	0.5		
Hellevoetsluis	29.71	754.5	29.71	754.5	47.7	8.7	71	W			3					0	0		
Utrecht	29.66	753.3	29.71	754.5	48.9	9.4	74	WSW			2		10			0.012	0.3	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.46	748.2	29.51	749.6	38.5	3.6	54	NNW	19.0	8.5			3			0	0		
Brönö	29.34	745.2	29.38	746.2	40.1	4.5	52	SW	18	8			5			0	0		
Christiania	29.19	741.3	29.33	745.0	49.8	9.9	45	S	7	3			4			0.051	1.3		
Tromsö	29.20	741.6	29.24	742.7	37.0	2.8	52	E	4	2			10			0.051	1.3		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.21	767.3	30.40	772.2	61.9	16.6	66	E	18.6	8.3			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.08	764.1	60.8	16.0	28	NNW	7.4	3.3			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.15	765.9	30.24	768.1	62.6	17.0	52	NE	9.8	4.4			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.79	756.7	30.15	765.9	58.1	14.5	30	N	17.4	7.8			0			0	0		The Staff.
Ponta Delgada (Azores)	30.30	769.7	30.34	770.5	61.5	16.4	50	NE	17.4	7.8			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from —	Weather.	Observer.
Bartholomew Dias, N. 36° 23′, W. 15° 50′			30.41	772.4	61.7	16.5		ENE			5		4		ENE	4	NE	Drizzling	A. G. da Silva Costa, Com'd't
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 14° 52′, W. 23° 27′			30.03	762.8	72.5	22.5		Var.			4		0			0		Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.80	757.0	83.8	28.8		W			3		3		SE	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.96	761.0	81.3	27.4		E			2		10		E	1	E	Drizzling	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro da Costa, Com'd't.
Tejo. Macao, China			29.81	757.2	81.7	27.6		SW			5		10			2	SW	Overcast	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.39	746.5	29.82	757.3	48.7	9.3	58	SE	18	6			10ks						Astronomical Obs.
Wilna	29.50	749.3	29.92	760.0	50.4	10.2	41	S	2	1			9						Astronomical Obs.
Dorpat	29.62	752.3	29.86	758.5	47.5	8.6	43	W	7	3			7k					Heavy clouds	Prof. Dr. Welhrauch.
St. Petersburg	29.84	757.8	29.85	758.2	43.9	6.6	58	W	7	3			9ksn						Central Physical Obs.
Kieff	29.23	742.4	29.84	757.9	66.2	19.0	45	W	7	3			7cks;k						Physical Cabinet.
Nikolaiev	29.96	761.1	30.04	762.9	65.7	18.7	46	SSW	22	10			0						Kurdakof.
Kertch	30.15	765.9	30.17	766.4	61.7	16.5	78	SE	7	3			1						Lagorio.
Moscow	29.18	741.2	29.72	754.8	59.9	15.5	60	S	4	2			7n						Meteorological Obs.
Lugan	29.72	754.8	29.92	759.9	70.3	21.3	42	W	9	4			5						Meteorological Obs.
Archangel	29.90	759.4	29.92	759.9	48.0	8.9	42	S	2	1			0						Capt. Sseliwerstow.
Tiflis	28.62	726.9	30.02	762.4	64.9	18.3	42	NW	13	6			10n						Physical Observatory.
Astrakhan	30.18	766.5	30.10	764.4	68.4	20.2	38	NNW	7	3			9cs			Blank	Blank		Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.43	747.6	29.69	754.2	63.0	17.2	65	SSW	4	2			10						Physical Cabinet.
Ekaterinburg	28.88	733.6	29.78	756.3	86.4	30.2	20	SW	27	12			8c					Light clouds	Meteorological Obs.
Nukuss	29.56	750.7	29.78	756.3	84.7	29.3	16	NNE	18	8			0						
Tashkend	28.22	716.7	29.69	754.1	82.4	28.0	56	Calm	0	0			0						Teich, A. M.
Barnaul	29.67	753.7	30.17	766.3	57.6	13.9	45	SW	4	2			10						Meteorological Obs.
Yeniseisk	29.88	758.9	30.17	766.4	45.5	7.5	45	WNW	4	2			2						Marks.
Irkutsk																			
Peking (China)	29.61	752.1	29.75	755.7	64.9	18.3	32	NE	11	5			10n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.82	757.4	29.92	759.9	37.2	2.9	91	Calm	0	0			5k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.63	752.6	29.74	755.3	48.9	9.4	66	ENE	5.8	2.58			9			0.162	4.12	Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.95	760.8	30.01	762.3	48.4	9.1	92	NW	4.6	2.05			10			0.858	21.8	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.99	685.5			47.3	8.5	49	NW	11.1	4.95			7			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.76	705.2			52.9	11.6	44	N	8.9	4.00		0	4			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.93	760.1	62.1	16.7	35	SE	9.1	4.06		0	2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.4	30.09	764.3	53.8	12.1	71	W	6.9	3.1			10			0.012	0.3	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.9	29.98	761.5	75.1	23.9	81	ESE	1.3	0.6		2c	3k;n	NW	NE	0.134	3.4	Raining	Benito Vines, S. J
Manilla, Philippine Islands.	29.78	756.4	29.83	757.8	86.0	30.0	71	ESE	2.9	1.3		2c		E		0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.1	30.10	764.6	63.7	17.6	35	W	10.6	4.7		0	5		W				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.85	758.1	29.94	760.4	79.2	26.2	77	E	0	0		6ks	3k			0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.57	751.1	29.61	752.1	36.3	2.4	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.58	751.3	29.63	752.6	34.5	1.4	100	SW	.....	.....	7	.....	10	.....	.....	0.406	10.3	.....	
Hernosand	29.39	746.4	29.44	747.7	39.9	4.4	73	S	.....	.....	6	.....	8	.....	.....	0	0	.....	
Stockholm	29.39	746.5	29.57	751.0	46.8	8.2	44	SSW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.62	752.4	29.68	753.9	48.9	9.4	46	SW	.....	.....	7	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.46	748.2	29.53	753.1	45.9	7.7	55	SW	19.9	8.9	.....	.....	10	.....	SSW	0.043	1.10	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.23	714.4	29.58	751.3	45 8	7.6	82	NNE	.....	.....	4	.....	10	.....	.....	0.512	13.0	Covered	The Observatory.
Zurich	27.98	710.6	29.64	752.8	47.3	8.5	81	NW	.....	.....	2	.....	10	.....	.....	0.591	15.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —10.4 mm.; Thermometer,—7.9 Cent.; Relative Humidity, +24 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.0	69.8	21.0	36	SE	7	3.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.12	765.0	91.4	33.0	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	
Valona	.....	.....	29.83	757.6	66.7	19.3	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut (Syria) Lee Obs'y	29.93	760.2	30.04	763.1	70.5	21.4	66	NNW	.....	.....	2	.....	2c	.....	NW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.21	767.3	30.51	774.9	49	9.4	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.42	772.6	30.49	774.7	49	9.4	62	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.43	772.9	30.48	774.2	48	8.9	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.24	768.1	30.43	772.9	50.2	10.1	65	W	.....	.....	2	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.30	769.6	30.47	773.9	46.0	7.8	89	W	.....	.....	1	1cs	0	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	30.04	763.0	30.08	764.0	36.1	2.3	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.44	773.2	30.46	773.7	44	6.7	73	SW	3	1.3	.....	0	Haze	.....	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.46	773.7	30.52	775.2	46.9	8.3	64	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.25	742.9	30.09	764.3	45	7.2	88	S	6	2.7	.....	2cs	Haze	W	W	0.070	1.78	Fair	James Stewart.
Granton, Ontario	29.32	744.7	30.44	773.2	50	10.0	.....	E	.....	.....	1	1c	0	E	.....	0	0	Fine	James Grant.
*Halifax, N. S	30.32	770.1	30.45	773.4	54	12.2	59	Calm	0	0	.....	5cs	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	30.12	765.0	30.50	774.7	45.5	7.5	73	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.15	765.8	30.50	774.7	46	7.8	66	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.45	773.4	30.49	774.4	50.5	10.3	59	NW	9	4.0	.....	5ck	0	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	30.13	765.3	30.17	766.3	45.2	7.3	49	SW	.....	.....	3	0	5s	.....	.....	Inap.	Inap.	Fair	J. R. Nason.
*Montreal, Quebec	30.29	769.4	30.49	774.4	53	11.7	48	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.76	755.9	30.47	773.9	48	8.9	59	SE	4	1.8	.....	2cs	0	W	.....	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.72	754.9	30.48	774.2	50.7	10.4	64	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.75	755.6	30.46	773.7	46	7.8	78	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.39	771.9	30.44	773.2	44.7	7.1	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.77	756.1	30.43	772.9	49	9.4	66	E	7	3.1	.....	5ck	Haze	SW	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	30.18	766.6	30.51	774.9	44	6.7	68	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	30.02	762.5	30.49	774.4	43	6.1	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.44	773.2	30.49	774.4	52	11.1	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
*St. John, N. B	30.36	771.1	30.52	775.2	50	10.0	64	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.72	754.9	30.46	773.7	44	6.7	90	SE	4	1.8	.....	2cs	2ks	S	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.66	753.4	30.43	772.9	58	14.4	42	SE	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	29.14	740.1	30.45	773.4	47.3	8.5	53	SE	10	4.5	.....	3ck;cs	2s	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.41	772.4	30.45	773.4	53	11.7	47	N	6	2.7	.....	5c	0	SW	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	30.11	764.8	30.50	774.7	49	9.4	52	E	3	1.3	.....	5cs	Haze	Calm	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.39	771.9	30.49	774.4	35.0	1.7	84	NE	2	0.9	.....	2cs	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.15	765.8	30.41	772.4	49.0	9.4	64	N	.....	.....	.....	5k	5s	.....	.....	Inap.	Inap.	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.30	769.6	30.54	775.7	53	11.7	54	Calm	0	0		0	0			0	0	Clear	
Alpena, Michigan	29.75	755.6	30.41	772.4	48	8.9	56	S	4	1.8			8s		Calm	0	0	Cloudy	
Atlanta, Georgia	29.14	740.1	30.30	769.6	58	14.4	53	NE	12	5.4		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	30.45	773.4	30.47	773.9	54	12.2	74	NE	16	7.2		0	0			0	0	Clear	
Augusta, Georgia	30.13	765.3	30.30	769.6	62	16.7	41	NE	15	6.7		0	0			0	0	Clear	
Baltimore, Maryland	30.43	772.9	30.48	774.2	58	14.4	48	NE	4	1.8		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.45	773.4	30.47	773.9	55	12.8	74	NE	16	7.2		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	28.20	716.3	30.06	763.5	50	10.0	100	E	6	2.7			10n		Calm	0.10	2.5	Light rain	
Boerne, Texas	28.69	728.7	29.98	761.5	66	18.9	79	S	6	2.7			10ks		S	0	0	Cloudy	
Boise City, Idaho	27.07	687.6	30.03	762.8	43	6.1	59	Calm	0	0		2k	0	Calm		0	0	Fair	
Boston, Massachusetts	30.36	771.1	30.52	775.2	58.5	14.7	51	NE	2	0.9		0	Haze		Calm	0	0	Clear	
Brackettville, Texas	28.95	735.3	29.96	761.0	70	21.1	80	E	5	2.2			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	29.09	738.9	30.09	764.3	48	8.9	93	SE	11	4.9			10n		S	0.11	2.8	Light rain	
Brownsville, Texas	30.04	763.0	30.09	764.3	72	22.2	83	E	2	0.9		2cs	0	Calm		0	0	Clear	
Buffalo, New York	29.75	755.6	30.47	773.9	49	9.4	44	E	3	1.3		0	Haze		Calm	0	0	Clear	
Burkes, Arizona					66	18.9	23	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	30.22	767.6	30.52	775.2	48	8.9	63	S	2	0.9		0	0			0	0	Clear	
Cairo, Illinois	29.94	760.5	30.34	770.6	54	12.2	67	N	2	0.9		8ck	0	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.28	642.1	30.08	764.0	61	16.1	17	E	4	1.8		2ck	0	SW		0	0	Clear	
Camp Verde, Arizona	26.81	681.0	30.14	765.5	50	10.0	26	NW			1	5k	0	W		0	0	Fair	
Campo, California	27.47	697.7	30.04	763.0	28	— 2.2	66	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.22	767.6	30.23	767.8	55	12.8	87	NE	32	14.3			10r		Calm	0.17	4.3	Cloudy	
Cape Henry, Virginia	30.34	770.6	30.36	771.1	55	12.8	68	NE	29	13.0		5ck	Haze	SE	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.19	766.8	30.21	767.3	56	13.3	75	NE	36	16.1			10s		Calm	0.30	7.6	Cloudy	
Cape May, New Jersey	30.36	771.1	30.39	771.9	55	12.8	62	NE	18	8.0		0	0			0	0	Clear	
Castroville, Texas	29.34	745.2	30.04	763.0	67	19.4	89	Calm	0	0			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.16	766.1	30.21	767.3	60	15.6	39	NE	22	9.8		0	0			Inap.	Inap.	Clear	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	47	8.3	85	Calm	0	0		0	0			0	0	Clear	
Chicago, Illinois	29.66	753.4	30.36	771.1	53	11.7	61	SE	5	2.2		0	Haze			0	0	Clear	
Cincinnati, Ohio	29.72	754.9	30.39	771.9	51	10.6	59	NE	4	1.8		0	0			0	0	Clear	
Cleveland, Ohio	29.68	753.9	30.43	772.9	49	9.4	51	SE	9	4.0		0	0			0	0	Clear	
Coleman City, Texas	28.30	718.8	29.93	760.2	65	18.3	84	S	8	3.6		5c	2ks	SW	S	0	0	Fair	
Columbus, Ohio	29.52	749.8	30.38	771.6	53	11.7	54	E	1	0.4		2c	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	28.15	715.0	29.78	756.4	65	18.3	81	S	7	3.1		10cs	0	Calm		0	0	Cloudy	
Corsicana, Texas	29.68	753.9	30.14	765.5	65	18.3	94	Calm	0	0		1c	2s	Calm	Calm	0	0	Fair	
Davenport, Iowa	29.67	753.6	30.31	769.9	53	11.7	48	E	5	2.2		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.32	643.1			48	8.9	100	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Decatur, Texas	28.96	735.6	30.11	764.8	65	18.3	78	S	14	6.3		5cs	0	S		0	0	Fair	
Denison, Texas	29.34	745.2	30.13	765.3	64	17.8	83	SE	6	2.7			10ks		SE	0	0	Cloudy	
Denver, Colorado	24.74	628.4	29.96	761.0	49	9.4	85	S	2	0.9		2ck	0	S		0	0	Fair	
Des Moines, Iowa	29.30	744.2	30.18	766.6	56	13.3	57	SE	6	2.7			10s		SW	0.12	3.0	Cloudy	
Detroit, Michigan	29.74	755.4	30.42	772.6	48	8.9	63	NE	3	1.3		0	0			0	0	Clear	
Dodge City, Kansas	27.36	694.9	29.57	751.1	63	17.2	83	S	20	8.9			10s		S	0	0	Cloudy	
Dubuque, Iowa	29.57	751.1	30.28	769.1	54	12.2	49	SE	2	0.9		5k	5ks	Calm	SE	0	0	Cloudy	
Duluth, Minnesota	29.51	749.5	30.20	767.1	46	7.8	77	SW	2	0.9			10s		SW	0.01	0.3	Cloudy	
Eagle Pass, Texa	29.35	745.5	30.06	763.5	70	21.1	80	SE	5	2.2			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.44	773.2	30.50	774.7	48	8.9	63	NE	5	2.2		0	0			0	0	Clear	
Edinburg, Texas					78	25.6	78	SE			1	4cs	4s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.29	667.8			57	13.9	30	E	4	1.8			10s		W	0	0	Cloudy	
Erie, Pennsylvania	29.72	754.9	30.44	773.2	53	11.7	48	SE	4	1.8		0	Haze		Calm	0	0	Clear	
Escanaba, Michigan	29.70	754.4	30.37	771.4	47	8.3	70	S	7	3.1			10s		S	0	0	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	60	15.6	44	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.94	709.7			50	10.0	86	E	8	3.6		8cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	49	9.4	32	Calm	0	0		5k	0	Calm		0	0	Fair	
Fort Davis, Texas	25.27	641.8	30.28	767.8	70	21.1	40	SW	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.63	752.6	30.15	765.8	66	18.9	54	E	5	2.2			10s		S	0	0	Cloudy	
Fort Griffin, Texas	28.82	732.0	30.06	763.5	67	19.4	84	SE	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.34	694.4			49	9.4	93	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Fort McKavett, Texas	27.83	706.9	29.70	754.4	65	18.3	68	S	8	3.6		0	8s		S	0	0	Fair	
Fort St. Michael, Alaska	29.81	757.2	29.84	757.9	34	1.1	100	S	5	2.2			10s		Calm	0.07	1.8	Cloudy	
Fort Sill, Indian Territory	28.85	732.8	29.93	760.2	66	18.9	84	SE	15	6.7		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.17	715.5			47	8.3	92	NE	8	3.6			10n		Calm	0.02	0.5	Light rain	
Fredericksburg, Texas	28.38	720.8	29.92	760.0	67	19.4	79	S	5	2.2			10s		Calm	0	0	Cloudy	
Galveston, Texas	30.10	764.5	30.14	765.5	73	22.8	81	S	7	3.1		1ck	1s	N	Calm	0	0	Clear	
Graham, Texas	29.00	736.6	30.03	762.8	67	19.4	64	S	6	2.7		1cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.74	755.4	30.40	772.1	52	11.1	52	E	4	1.8		2c	2s	NW	Calm	0	0	Fair	
Indianapolis, Indiana	29.51	749.5	30.30	769.6	52	11.1	51	Calm	0	0		5c	0	W		0	0	Fair	
Indianola, Texas	30.12	765.0	30.14	765.5	72	22.2	80	SE	8	3.6		5c	0	W		0	0	Fair	
Jacksboro, Texas	28.93	734.8	30.02	762.5	73	22.8	63	SE	8	3.6		2c	0	S		0	0	Fair	
Jacksonville, Florida	30.12	765.0	30.14	765.5	64	17.8	68	NE	16	7.2			10s		NE	0.07	1.8	Cloudy	
Keokuk, Iowa	29.64	752.8	30.26	768.6	54	12.2	55	SE	10	4.5		2k	7s	NW	NW	0.01	0.3	Cloudy	
Key West, Florida	29.96	761.0	29.99	761.7	74	23.3	76	E	8	3.6			9s;ks		Calm	0.04	1.0	Cloudy	
Kittyhawk, North Carolina	30.27	768.8	30.29	769.4	53	11.7	86	NE	34	15.2		8cs	0	NW		0.04	1.0	Fair	
Knoxville, Tennessee	29.32	744.7	30.31	769.9	58.5?	14.7?	60?	NE	4	1.8		8ck	Haze	N	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.52	749.8	30.25	768.3	56	13.3	46	S	12	5.4		2k	0	SW		Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	51	10.6	40	Calm	0	0		8cs	0	NW		0	0	Cloudy	
Laredo, Texas	29.68	753.9	30.02	762.5	73	22.8	76	E	7	3.1			10ks		E	0	0	Cloudy	
Leavenworth, Kansas	29.28	743.7	30.11	764.8	60	15.6	60	SE	4	1.8		3ck	1ks	SW		Inap.	Inap.	Fair	
Los Angeles, California	29.69	754.1	30.04	763.0	45.0	7.2	80	NE	5	2.2		0	0			0	0	Clear	
Louisville, Kentucky	29.76	755.9	30.33	770.4	51	10.6	59	N	4	1.8		5c	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.71	754.6	30.40	772.1	57	13.9	57	NE	2	0.9		0	0			0	0	Clear	
Madison, Wisconsin	29.33	745.0	30.33	770.4	51	10.6	59	S	5	2.2		5ck	0	W		0	0	Fair	
Marquette, Michigan	28.56	725.4	30.27	768.8	51	10.6	72	SW	4	1.8			10s		SW	0	0	Cloudy	
Mason, Texas	28.48	723.4	30.22	767.6	65	18.3	84	SE	7	3.1		Haze	0	SW		0	0	Hazy	
Memphis, Tennessee	29.95	760.7	30.27	768.8	60	15.6	48	NE	5	2.2		5ck	0	Calm		0	0	Fair	
Milwaukee, Wisconsin	29.62	752.3	30.37	771.4	48	8.9	63	SE	5	2.2		8ck	1s	SW	Calm	0	0	Cloudy	
Mobile, Alabama	30.16	766.1	30.20	767.1	66	18.9	86	N	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	30.05	763.3	30.28	769.1	64	17.8	67	E	10	4.5		8k	0	SE		0	0	Fair	
Morgantown, West Virginia	29.33	745.0	30.41	772.4	50	10.0	65	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	24.16	613.6	30.52	775.2	31	— 0.6	79	Calm	0	0		0	0			0	0	Clear	
Nashville, Tennessee	29.76	755.9	30.29	769.4	58	14.4	53	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	30.39	771.9	30.51	774.9	56	13.3	53	NE	10	4.5		0	0			0	0	Clear	
New London, Connecticut	30.45	773.4	30.50	774.7	57	13.9	58	N	5	2.2		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	30.11	764.8	30.17	766.3	71	21.7	75	NW	4	1.8		0	0			0	0	Clear	
Newport, Rhode Island	30.45	773.4	30.50	774.7	53.5	11.9	70	NW	5	2.2		0	0			0	0	Clear	
New York, New York	30.33	770.4	30.51	774.9	59	15.0	59	NE	5	2.2		Haze	Sm'e	Calm		0	0	Dense smoke	
Norfolk, Virginia	30.29	769.4	30.35	770.9	55	12.8	62	NE	20	8.9		2c	0	Calm		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.01	686.0	29.50	749.3	59	15.0	94	SE	20	8.9			10s		SE	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	36.0	2.2	100	Calm	0	0			Fog		Calm	0.01	0.3	Foggy	
Omaha, Nebraska	28.93	734.8	30.00	762.0	60	15.6	60	SE	10	4.5		5k	2s	SW	Calm	0.04	1.0	Fair	
Oswego, New York	30.19	766.8	30.52	775.2	47	8.3	62	SE	6	2.7		0	0			0	0	Clear.	
Pembina, Dakota	29.24	742.7	30.08	764.0	43	6.1	92	S	6	2.7		0	5s		W	0	0	Fair	
Philadelphia, Pa	30.43	772.9	30.48	774.2	53	11.7	73	NE	8	3.6		0	Sm'e		Calm	0	0	Clear	
Phœnix, Arizona	28.77	730.7	30.54	775.7	63	17.2	28	E	2	0.9		2cs	0	S		0	0	Fair	
Pike's Peak, Colorado	17.82	452.6	30.03	762.8	22	— 5.6	18	SW	60	26.8		0	Haze			0	0	Hazy	
Pioche, Nevada	23.95	608.3	29.72	754.9	48	8.9	10	S	12	5.4		2c	1s	SW	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.62	752.3	30.46	775.7	47	8.3	62	E	3	1.3		0	Fog		Calm	0	0	Clear.	
Port Huron, Michigan	29.44	747.8	30.42	772.6	49	9.4	67	NE	4	1.8		5ck	Sm'e	W		0	0	Fair	
Portland, Maine	30.47	773.9	30.52	775.2	55	12.8	50	N	7	3.1		0	Haze			0	0	Clear.	
Portland, Oregon	29.98	761.5	30.08	764.0	45.5	7.5	92	SW	1	0.4			10ks		NW	0.17	4.3	Cloudy	
Prescott, Arizona	24.75	628.6	30.11	764.8	40	4.4	31	Calm	0	0		1c	0	Calm		0	0	Clear	
Pilot Point, Texas	29.35	745.5	30.16	766.1	64	17.8	78	SE	4	1.8		2ck	0	S		0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	68	20.0	84	N	16	7.2		5k	0	NE		0.10	2.5	Fair	
Red Bluff, California	29.70	754.4	30.07	763.8	49	9.4	64	SE	16	7.2			8ks		Calm	0.02	0.5	Cloudy	
Rio Grande City, Texas	29.93	760.2	30.14	765.5	70	21.1	80	E			1	8cs	0	Calm		0	0	Fair	
Rochester, New York	29.86	758.4	30.50	774.7	48	8.9	49	SW	4	1.8		0	0			0	0	Clear.	
Roseburg, Oregon	29.51	749.5	30.09	764.3	42	5.6	8	Calm	0	0			10s		Calm	0.36	9.1	Cloudy	
Sacramento, California	30.06	763.5	30.14	765.5	45	7.2	4	S	4	1.8		5c	0	Calm		0	0	Fair	
St. Louis, Missouri	29.74	755.4	30.32	770.1	54	12.2	43	SE	8	3.6		cs;ck	0	Calm;W		0	0	Cloudy	
St. Marks, Florida	30.17	766.3	30.18	766.6	62	16.7	67	NE	14	6.3		0	0			0	0	Clear	
St. Paul, Minnesota	29.31	744.5	30.14	765.5	53	11.7	60	SE	5	2.2			10s		SW	Inap	Inap.	Cloudy	
Salt Lake City, Utah	25.50	647.7	29.83	757.7	57	13.9	41	SE	11	4.9		4k	0	SW		0	0	Fair	
San Antonio, Texas	29.44	747.8	30.01	762.2	70	21.1	80	SE	4	1.8		10k	0	SE		0	0	Cloudy	
San Diego, California	29.98	761.5	30.06	763.5	48	8.9	93	NE	5	2.2		0	0			0	0	Clear	
Sandusky, Ohio	29.74	755.4	30.43	772.9	51	10.6	72	E	4	1.8		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.45	773.4	30.47	773.9	52	11.1	79	NE	2	0.9		0	0			0	0	Clear	
San Francisco, California	30.07	763.8	30.14	765.5	51	10.6	79	NW	2	0.9		0	Fog		SW	0	0	Fair	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	48	8.9	23	E	3	1.3		10cs	0	SW		0	0	Cloudy	
Savannah, Georgia	30.12	765.0	30.22	767.6	62	16.7	41	NE	16	7.2		0	0			0	0	Clear	
Shreveport, Louisiana	29.97	761.2	30.19	766.8	65	18.3	68	E	2	0.9		5ck	0	Calm		0	0	Fair	
Silver City, New Mexico	24.37	619.0	30.52	775.2	50	10.0	25	NW	4	1.8		0	0			0	0	Clear	
Smithville, North Carolina	30.22	767.6	30.25	768.3	53	11.7	67	NE	13	5.8			10s		NE	Inap.	Inap.	Cloudy	
Springfield, Massachusetts	30.38	771.6	30.52	775.2	56	13.3	51	N	5	2.2		0	0			0	0	Clear	
Stockton, Texas	26.98	685.3	29.98	761.5	65	18.3	84	SE	14	6.3		0	0			0.05	1.3	Clear	
Thatcher's Island, Mass	30.47	773.9	30.52	775.2	49	9.4	85	N	8	3.6		0	0			0	0	Clear	
Toledo, Ohio	29.69	754.1	30.39	771.4	51	10.6	65	E	4	1.8		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.53	699.2	30.08	764.0	59	15.0	48	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.64	752.8	30.13	765.3	44.0	6.7	84	NW	2	0.9		0	8ks		Calm	0	0	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.22	742.2	30.02	762.5	66	18.9	64	E	1	0.4			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.98	761.5	30.24	768.1	64	17.8	63	E	4	1.8		5c	0	NW		0	0	Fair	
Virginia City, Montana	24.15	613.4	29.63	752.6	40	4.4	48	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.73	755.1	30.11	764.8	47	8.3	68	NW	3	1.3		5c	0	Calm		0	0	Fair	
Washington, D. C.	30.34	770.6	30.45	773.4	54	12.2	67	N	4	1.8		0	Sm'e		Calm	0	0	Clear	
Wickenburg, Arizona					55	12.8	45	Calm			0	5ck	0	W		0	0	Fair	
Wilmington, N. Carolina	30.16	766.6	30.26	768.8	51	10.6	65	N	10	4.5		0	8s		SW	0	0	Fair	
Winnemucca, Nevada	25.58	649.7	29.94	760.5	32	0.0	59	Calm	0	0		0	0			0	0	Clear	
Wood's Holl, Mass	30.46	773.7	30.50	774.7	55	12.8	74	SE	2	0.9		Haze	2s			0	0	Clear	
Yankton, Dakota	28.74	730.0	30.02	762.5	55	12.8	62	SE	11	4.9		8k	0	SW		0.04	1.0	Cloudy	
Yuma, Arizona	29.75	755.6	29.91	759.7	63	17.2	72	E	2	0.9		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.62	726.9	30.02	762.5	59	15.0	54											Clear.	J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	77	25.0	69	SE	2.4	1.1		0	4n		N	0.18	4.6	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.28	642.1			65.0	18.3	87	Calm			0		10n			0.50	12.7		Thomas Herran.
Navassa, W. I.	29.85	758.2	29.93	602.1	787	25.6		SE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.01	762.2	30.02	762.5	82	27.8	83	NE			2	3c	6k	NE		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.20	767.1	30.25	768.3	20.0	— 6.7	93	E	14	6.3		2c	6s	SE	E	0.15	2.8	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.8 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.14‡	765.5‡			49	9.4	78	SSW	8	3.6			8		SW					Cloudy	
Navy Yard, Pensacola, Fla.	30.11‡	764.8‡			72	22.2	76	NE	7	3.1			2		SW					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.77‡	756.1‡			65	18.3	86	NNE			3		2ks		W	0	0			Fair	
Adams, Panama	29.89‡	759.2‡			79	26.1	95	NW			2		2		S;E					Clear	
Alaska, Sitka, Alaska	30.06‡	763.5‡			37	2.8	90	Calm			0		2			0	0			D. clouds	
Alliance, N. 37° 51′, E. 4° 42′	29.88‡	758.9‡			58	14.4	58	WNW			5		2		N;W			Mod'ate	N	Pleasant	
Ashuelot, Macao, China	29.69‡	754.1‡			81	27.2	91	SSW			6		10		SSW			Smooth		Squally	
Canonicus, New Orleans, La	30.19‡	766.8‡			68	20.0	100	NE			2		0							Clear	
Colorado, New York, N. Y.	30.51‡	774.9‡			59	15.0	65	N	5	2.2			0			0	0			Hazy	
Constitution, N. 23° 20′, W. 57° 20′	30.03‡	762.8‡			79	26.1	86	S			2		4		Calm			Smooth	SSE	Clear	
Despatch, N. 42° 17′, E. 6° 13′,	29.69‡	754.1‡			52	11.1	73	WNW			5		5			0	0	Rough	NW	Cloudy	
Enterprise, N. 46° 24′, W. 9° 44′	30.08‡	764.0‡			53	11.7	93	NNW			4–7		5		N			Mod'ate		D. clouds	
Franklin, Norfolk, Va.	30.34‡	770.6‡			57	13.9	75	NE	18	8.0			2		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay.*	30.05‡	764.0‡			57	13.9	87	N			3		0			0	0			Clear.	
Michigan, Erie, Pa.					49	9.4	63	E			2		0							Hazy	
Monongahela, Yokohama, Japan	29.78‡	756.4‡			67	19.4	74	NNE			3–4		ck			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.18‡	766.6‡			65	18.3	78	NE	33	14.8			0			0	0			Clear	
Onward, Callao, Peru,†*	30.12‡	765.0‡			62	16.7	94	SSE			3		10					Long	W	Foggy	
Palos, Shanghai, China	29.73‡	755.1‡			67	19.4	100	SSE			4		10		SE					Overcast	
Passaic, Washington, D. C.					52	11.1	86	NE			1		0							Clear	
Pensacola, Callao, Peru	30.01‡	762.2‡			63	17.2	94	SSE	8.0	3.6			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	30.38‡	771.6‡			56	13.3	69	NE			4		2		N	0	0	Mod'ate	N	Clear	
Powhatan, Norfolk, Va.	30.32‡	770.1‡			56	13.3	81	ENE			3		2		Calm	0	0			Clear.	
Quinnebaug, Alexandria, Egypt	30.00‡	762.0‡			69	20.6	70	NNE			3		5		NE					Fair	
Ranger, Amoy, China	29.80‡	756.9‡			77	25.0	91	SSW			2–5		10		NE			Smooth		Raining	
Richmond, N. 8° 21′, E. 108° 23′	29.80‡	756.9‡			85	29.4	70	NNE			1		2		NNE	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.09‡	764.3‡			69	20.6	95	E			1		2		Calm					Fair	
Santee, Annapolis, Md.	30.45‡	773.4‡			59	15.0	59	NNE			1					0	0			Clear	
Saratoga, N. 34° 45′, W. 26° 20′	30.24‡	768.1‡			65	18.3	68	ESE			8		8		WNW	Heavy	Heavy	Mod'ate	ESE	Raining	
St. Louis, League Island, Pa	30.42‡	772.6‡			62	16.7	66	NE	7	3.1			0			0	0			Clear	
Trenton, Genoa, Italy	29.60‡	751.8‡			60	15.6	88	SE			4		10		SSE	0.04	1.0	Heavy	S	Drizzling	
Tuscarora, Acapulco, Mexico	29.93‡	760.2‡			76	24.4	95	WNW			2		0			0	0	Smooth		Hazy	
Vandalia, Aspinwall, New Granada	29.85‡	758.2‡			76	24.4	100	SW			3		2		SE	Blank	Blank	Smooth		Fair	
Wabash, Boston, Mass.	30.52‡	775.2‡			54	12.2	74	NW	3	1.3			0			0	0			Clear	
Wyoming, Villafranca, France	29.53‡	750.0‡			57	13.9	94	S			1–2		8		S			Ground		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.*																			
S.S. Samaria, Capt. T. Roberts, N. 51° 04′ W. 15° 38′...†*		30.00	762.0	59	15.0		NNW			2		2		NNW		Mod'ate	NNW	Fair	M. C. Miles.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.72‡	754.9‡				SE			5		5k		NW	0				L. B. Walls.
S. S. Colima, N. 24° 43′, W. 112° 41′.. †.		30.02‡	762.5‡	62	16.7		SSW			2		5			0	Small	NW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†.		30.13‡	765.3‡	53	11.7	73	SW			1		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		30.22‡	767.6‡				SSE			3				W				Rainy	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Yokohama, Japan		29.99‡	761.7‡	71	21.7	100	WSW			2		6s			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 29° 52′, E. 130° 32′		29.87‡	758.7‡	72	22.2	95	SE			4		4		S		Smooth		D. clouds	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 37° 02′, W. 62° 39′		30.36‡	771.1‡	76.0	24.4	60	S			2		2		S		Smooth	SW	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 44° 24′, W. 36° 21′		30.63‡	778.0‡	64.5	18.1	65	ESE			1		8		ESE		Smooth	ESE	Drizzling	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 31′, W. 1° 17′		29.79‡	756.7‡				WSW			3		10		W		Smooth	NE	Light rain	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 20′, W. 68° 24′		30.50‡	774.7‡	58	14.4	88	NNE			6		1		N	0	Smooth		Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian																			Capt. W. Richardson.
S. S. Peruvian																			J. Powell, 4th Officer.
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 29° 49′ W. 71° 55′		30.19‡	765.3‡	72	22.2	71	E	9	4.0		5c;k		E	0	Swell	SE		Clear.	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, N. 17° 57′, W. 66° 02′		29.61‡	752.1‡																Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

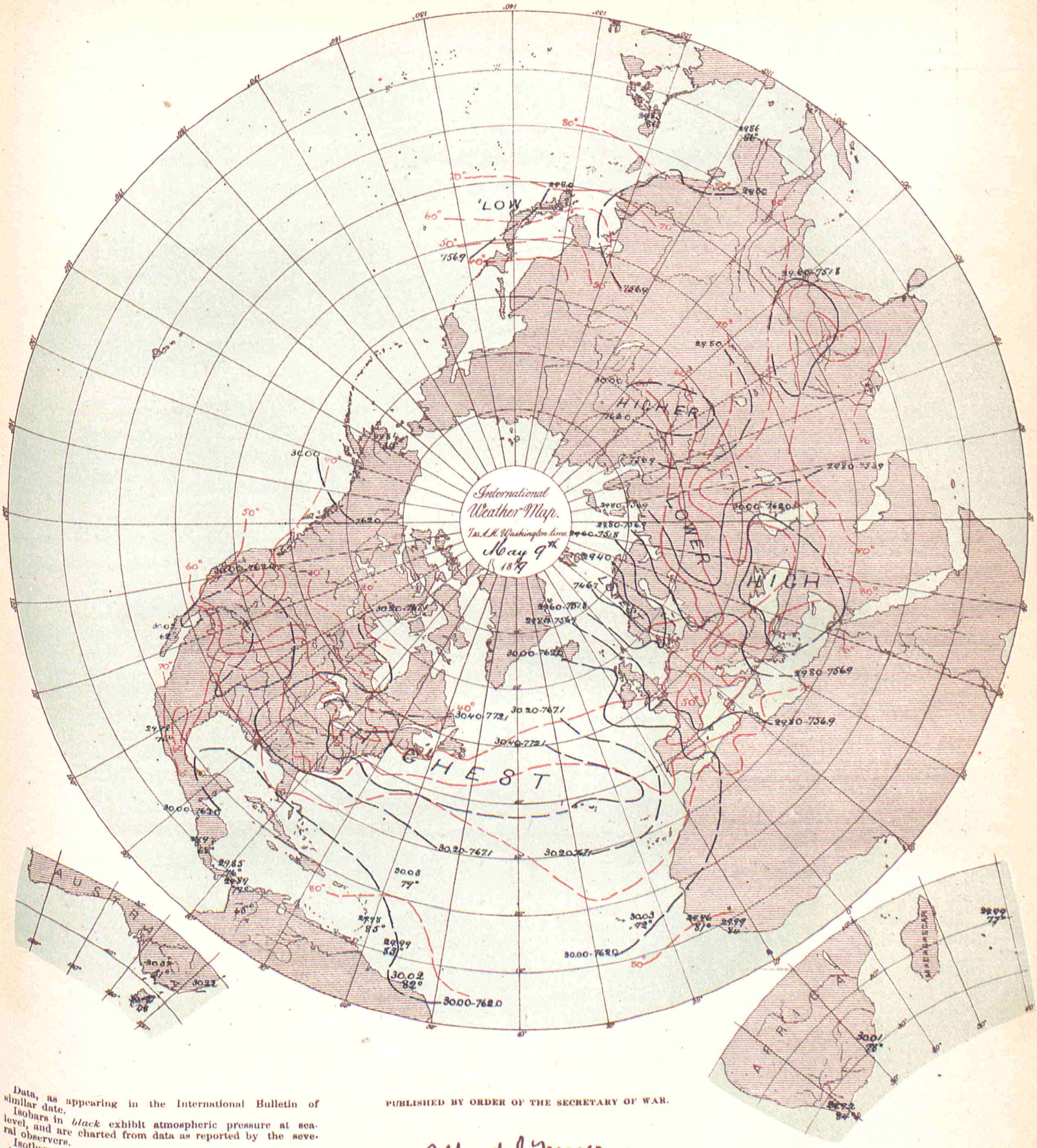
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.17	766.4	68.7	20.4	62	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			30.00	761.9	65.5	18.6	52	WNW			3		0			0	0	Clear	Tourilliere.
La Calle			29.93	760.3	64.8	18.2	69	NW			5		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.04	763.0															Gau.
Saida			30.11	764.8	64.4	18.0	9	W			4		0			0	0	Clear.	Herbin.
Tebessa			30.02	762.5	58.6	14.8	44	W			7		0			0.024	0.6	Clear	Watrin.
Geriville			30.08	764.1	55.0	12.8	38	NNW			7		2			0	0	Fair	Brugniaux.
Laghouat			30.06	763.4	68.7	20.4	42	NW			3		0			0	0	Clear	Bertrand.
Biskra			30.03	762.7	77.4	25.2	12	NW			3		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.88	733.6	29.42	747.2	56.1	13.4	72	N			4		7			0.433	11.0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.65	727.8	29.39	746.5	65.1	18.4	73	ESE			2		10			0.181	4.6		Dr. Wierzbiski.
Eperies	28.60	726.4	29.45	748.0	60.6	15.9	82	SE			2		10k		NW	0.785	19.95		Julius Mikolik.
Gratz	28.17	715.5	29.39	746.6	54.3	12.4	80	NW			3		10			0.142	3.6		Andreas Rospini.
Hermannstadt	28.12	714.2	29.50	749.3	60.8	16.0	73	SSE			2		10			0.675	17.15		Prof. A. Gottschling.
Kremsmünster	28.19	716.0	29.55	750.5	40.1	4.5	89	W			5		10			0.217	5.5		Prof. C. Wagner.
Lemberg	28.50	723.9	29.45	748.1	63.3	17.4	52	SE			3		7			0.031	0.8		Dr. T. Stanecki.
Pola	29.40	746.8	29.52	749.7	57.6	14.2	66	SW			2		3			0.764	19.4		I.R. Hydrographic Office
Szathmar	29.04	737.6	29.49	749.1	60.1	15.6	89	NE			2		10			0.437	11.1		Julius Csics, S. J.
Szegedin	29.13	740.0	29.41	746.9	61.5	16.4	74	S			2		6			0.035	0.93		Karl Stancel.
Trieste	29.42	747.2	29.52	749.8	59.5	15.3	69	SW			1		10			0.079	2.0	Raining	P. Busin.
Vienna	28.68	728.4	29.38	746.2	57.0	13.9	85	W			2		10			0.067	1.7		I. R. Central Met. Obs'y

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.86	758.4	29.96	761.0	43.6	6.4		WNW	10	4.5			6			0.010	0.25	D. clouds	W. Boswell.
Ardrossan	29.99	761.7	30.00	762.0	47	8.3		NW			3		6					D. clouds	William McNeil.
Armagh, Observatory			30.07	763.8	50.3	10.2		S	3	1.3			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.05	763.3	46.5	8.1		WNW	18	8.0			2					Blue sky	John Hartnup:
Bolton (Sharples)			30.03	762.8	46.4	8.0		W	12	5.4			7					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.63	752.6	30.02	762.5	45.1	7.3		N			1		10			0	0	Overcast	J. McLandsboroug.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	85	29.4		NE			1		6					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.05	763.3	48.1	8.9		N			1		10					Overcast	H. Todd.
Cardington			30.03	762.8	48.0	8.9		N			1		9					Overcast	John McLaren.
Chatham, School M. E.	29.93	760.2	30.06	763.5	47.1	8.4		Calm			0		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	30.02	762.5	30.06	763.5	45	7.2		NE			3		0					Blue sky	J. Mac Gowan.
Dover	30.02	762.5	30.05	763.3	46	7.8		ENE			4		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.91	759.7	30.14	765.5	47.8	8.8		S			1		10					Overcast	The Staff.
Fort Napier (Natal)	27.71	703.8	30.02	762.5	74.0	23.3		N			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	87	30.6		E			1		4					Drizzling	
Galway, Queen's College			30.04	763.0	49	9.4		SW			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	30.08	764.0	30.14	765.5	65.6	18.7		W			4		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.76	755.9	29.97	761.2	48.1	8.9		WNW			3		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.02	762.5	30.03	762.8	46	7.8		NNE			3		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.06	763.5	48.5	9.2		N			1		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.08	764.0	51	10.6		NE			3		3					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.06	763.5	30.18	766.6	50	10.0		NE			6		4k			0	0	Fine	M. P. Moyle.
Holyhead	30.05	763.3	30.09	764.3	47	8.3		WNW			3		1					Blue sky	John Tilston.
Jersey	29.80	756.9	30.10	764.5	46.0	7.8		NNE			4		2					D. clouds	J. Fisher.
Kew, Observatory	30.02	762.5	30.06	763.5	47.9	8.8		NNW	7	3.1			8					Misty	The Meteorological Of.
Leicester, Museum.	29.79	756.7	30.05	763.3	47.2	8.4		NW			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.83	757.7	29.90	759.4	64	17.8		NW			2		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.83	757.7	29.92	760.0	45	7.2		WSW			2		10					Overcast	W. D. Penny.
Nassau (Bahamas)			29.97	761.2	71.5	21.9		SE			0		10			0.90	22.9	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.87	758.7	30.06	763.5	49.0	9.4		W			3		8k		W	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.05	763.3	43.8	6.6		N			2		10			Blank	Blank	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.06	763.5	48	8.9		NW			1		10					Overcast	H. E. Bellamy.
Plymouth	30.04	763.0	30.11	764.8	49.0	9.4		S			2		10					Overcast	John Merrifield.
Prince Town	28.62	726.9	30.13	765.3	41.0	5.0		SE			1		8					Foggy	W. H. Tooker.
*Roche's Point	30.08	764.0	30.17	766.3	49	9.4		SW			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.95	760.7	30.12	765.0	44	6.7		NW			2		0						John C. Walker.
Sandwick Manse (Orkneys)			29.90	759.4	40.1	4.5		W	15	6.7			5					Showery	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.57	751.1	29.63	752.6	80.6	27.0		SW			1		2			Blank	Blank	D. clouds	Serg't W. H.Lyne.
Sheffield	29.77	756.1	30.06	763.5	45.9	7.7		W			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.02	762.5	30.05	763.3	51.2	10.7	56	NW			3		2			0.184	4.67	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.62	752.3	30.03	762.8	46.0	7.8		SW			1		10					Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	29.85	758.2	30.07	763.8	47.2	8.4		NE			1		6					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.11	764.8	30.15	765.8	51	10.6		NW			4		6					D. clouds	W. Newcombe.
Valencia, Observatory	30.11	764.8	30.13	765.3	49.0	9.4		SW	18	8.0			10			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.83	757.7	29.87	758.7	63	17.2	75	N	9	4.0		10	10			0.150	3.81	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.02	762.5	48.0	8.9	76	E			1		4k			0	0		FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			30.00	762.0	47.9	8.8		NW			2		8k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.82	757.4	30.01	762.2	75.3	24.1	69	S	5.0	2.2		0	3			0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	49.0	9.4	86	SW	6	2.7			0			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.89	759.2	47	8.3		S			4	3	3	S		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.72	754.9	35	1.7		W			7	5	5	W					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
§Brig Alliance, N. 13° 05′, W. 55° 35′			D. clouds	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore, N. 42° 05′, W. 36° 15′			Overcast	Capt. J. W. Thorne.
—— City of Agra,				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole, N. 36° 31′, W. 13° 28′			D. clouds	Capt. E. W. Turner.
S. S. Nizam, N. 5° 22′, E. 106° 35′			Blue sky	Capt. Barlow.
S. S. Strathleven,				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.28	667.5	30.00	762.0	64.0	17.8	78	NE			2	2s		E		0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	46.8	8.2	49	NNW			4		5						
Fanöe	29.84	757.9	29.86	758.4	45.1	7.3	78	WNW			4		5						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.73	755.1	29.76	756.0	38.7	3.7	60	W			4		10					Snowing	
Vestervig	29.59	751.6	29.76	755.9	44.2	6.8	71	W			4		7						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.8	30.03	762.8	46.8	8.2	27	NE			2		8	NE	NE	0.020	0.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.87	758.8	29.99	761.7	52.2	11.2	68	NNW			1		10			0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.67	753.7	29.75	755.7	60.4	15.8	55	N			3				N	0.165	4.2		Giraud, Director.
Bar-sur-Seine	29.34	745.3	29.91	759.6	46.9	8.3	57	ENE			1		8kn		ENE	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.73	755.2	30.01	762.2	45.5	7.5	44	NNE			2		10		NNE	0	0	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	28.95	735.3	29.85	758.2	41.7	8.4	79	NE			3		10		NE	0.598	15.2	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.97	735.9	29.88	758.9	48.7	9.3	81	N			2		5kn	N	N	0.764	19.4	Cloudy	Marlot, Director.
Bourges, Normal School	29.35	745.5	29.91	759.6	47.1	8.4	70	N			1		10	N	N	0	0	Covered	A. Waquet, Director
Brest, Naval Observatory	29.79	756.6	30.03	762.7	50.0	10.0	44	NE			2		4		NE	0.020	0.50		De Rermaree, Director.
Carcassonne, Normal School	29.49	749.1	29.91	759.7	54.3	12.4	83	W			1		10	W	W	0.295	7.5	Covered	September, Director.
Caen, Normal School	29.96	760.9	30.03	762.7	47.1	8.4	48	NNW			3		5		NE	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.43	747.5	30.00	762.0	48.2	9	89	NNE			3		10		SW	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.62	752.3	29.94	760.5	47.3	8.5	42	NW			2		8	N	N			Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.47	723.2	29.84	758.0	46.4	8.0	72	NW			1		10		N	0.508	12.9		Alluard, Director.
Commercy, Normal School.	28.82	732.0	29.68	753.9	45.3	7.4	77	NNE			4		10n		NNE	0.008	0.2	Covered	Dr. Coulet, Director.
Commune de Grêasque*	28.54	724.8	29.68	753.8	53.4	11.9	46	NW			6		5		NW	0.04	1.	½ covered	L. Kina, Director.
Grenoble, Normal School	29.02	737.2	29.80	756.9	48.2	9.0	68	N			1		10kn		N	0.441	11.20	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.80	756.9	30.02	762.4	50.4	10.2	70	NNE			4		8		NNE	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.70	754.3	30.00	762.1	48.6	9.2	46	NNE			3		5	NNE	NNE	0.04	1.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.85	732.9	29.78	756.3	49.1	9.5	56	NNE			2		10kn	N	N	0.677	17.2	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.97	761.2	30.07	763.8	51.8	11.0	56	NE			4				NE	0.051	1.30		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	28.78	731.1	29.85	758.3	38.7	3.7	74	S			1		10kn		N	0	0	Covered	Barbier, Director.
Nismes, Normal School	29.56	750.9	29.76	756.0	61.2	16.2	53	NW			2		2		NW	0	0	Slightly cld'y	Boyer, Director.
Privas, Normal School	28.74	729.9	29.80	757.0	51.8	11	79	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.91	632.7			29.8	—1.2	100	NNW			2		10			3.906	99.2	Snow-fog	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.1	29.96	760.9	52.9	11.6	78	N			1		10	N	N			Raining	Lt. E. Decante, Director.
Rouen, Normal School	29.95	760.6	30.02	762.6	46.2	7.9	50	N			3		8		N	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.02	762.5	30.05	763.3	51.1	10.6	51	NNE			4		2	NNE	NNE	0	0	Light clouds	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.82	757.3	29.98	761.5	47.7	8.7	39	N			3–4				NNE	0	0		E. Renou, Director.
Tarbes, Normal School	28.92	734.5	30.02	762.5	46.4	8	72	W			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.20	741.7	29.92	760.0	51.8	11.0	93	W			2		9			0.591	15.0	Showery	Mercadier Julier.
Versailles, Observatory	29.49	749.0	29.98	761.5	46.8	8.2	36	NE			3					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.08	738.5	29.78	756.5	55.4	13	88	NW			3		5		NW	0.335	8.5	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	81.3	27.4										0	0		L'Abbé Marchesi.
Lyons Obs'y (Park Station)	29.19	741.4	29.80	756.9	53.8	12.1	54	NW			1		8		N	0.394	10.0	Very cloudy	Mr. Jays.
Mont-Louis	24.67	626.6	29.98	761.6	41.4	5.2	59	SW	18.6	8.3			7		NW	0.055	1.4	Raining	M. Cave.
Nice			29.59	751.5	59.0	15.0	68	NW			1		2			0.102	2.6		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y			29.70	754.4	45.0	7.2	39	N			4		10		N	0	0		Marié Davy, Director.
Perpignan	29.73	755.1	29.84	757.8	56.8	13.8	53	NW	26.2	11.7			7		NW	Inap.	Inap.		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.30	566.4			30.4	—0.9		NW			3		10			0.179	4.55	Snowy	Gen'l de Nansouty.
Tours	29.78	756.4	29.98	761.4	52.5	11.4	48	NNE			2		8		N	0.047	1.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.59	751.5	29.61	752.1	68.9	20.5	96	SW	2.0	0.9			10n			0.398	10.1	Covered	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes; 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,87[illegible] m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.86	733.0	29.69	754.2	44.2	6.8	61	NW			7		9	NW		0.157	4.0	Raining	Prof. Dr. Hoh.
Berlin	29.80	757.0	29.74	755.4	50.7	10.4	40	NE			2		9			0	0		Prof. Arndt.
Breslau	28.96	735.6	29.48	748.9	49.6	9.8	100	N			5		10			0.526	13.35	Raining	Royal University Obs'y.
Carlsruhe	29.41	747.1	29.84	757.9	50.0	10.0	55	NNW			2		10	NW		0	0		Albert Senz.
Cassel	29.20	741.6	29.80	757.0	48.2	9.0	45	N			6		3	N		0	0		Dr. H. Möhl.
Crefeld	29.74	755.5	29.91	759.6	48.2	9.0	40	N			5		8			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.45	748.1	29.82	757.4	51.4	10.8		N			5		6			0	0		Physical Society.
Freienwalde on the Oder	29.69	754.2	29.73	755.2	48.9	9.4	56	N			5		10ks	N		0	0		Assmann., M. D.
Friedrichshafen	28.35	720.0	29.80	756.9	43.5	6.4	79	N			4		10	WNW		0.169	4.3	Raining	M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.2	47.5	8.6	43	NNW			4		8k			0.004	0.1	Cloudy	Captain F. Hegeman.
Kiel	29.82	757.5	29.84	757.9	47.5	8.6	39	NW			4		8			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.54	750.2	29.62	752.3	46.0	7.8	89	N			4		8			0.020	0.5		Prof. E. Luther.
Köslin			29.67	753.5	41.0	5.0		N			4		4			0	0		H. Müller.
Leipsic Observatory	29.32	744.7	29.74	755.4	48.9	9.4	48	N			3		10	NNW		0.055	1.4		Prof. Bruhns, Privy Counselor.
Memel	29.58	751.4	29.63	752.6	47.1	8.4	87	NNW			4		10ks						Skalweit.
Neufahrwasser	29.63?	752.7?	29.65	753.1	43.0	6.1	87	N			4		10			0.232	5.9		A. Lothes.
Posen	29.30	744.2	29.59	751.6	42.6	5.9	100	N			6		10			0.354	9.0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.3	29.86	758.5	44.6	7.0	76	NE			3		10	NE		0.115	2.93	Light rain	Imp. University Observatory.
Stuttgart	28.82	732.0	29.77	756.2	44.6	7.0	65	N			1		10			0.008	0.2		Prof. Schoder.
Treves (Trier)	29.31	744.5	29.83	757.7	51.4	10.8	30	NW			7		6			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.22	716.7	29.77	756.1	35.6	2.0	96	N	7	3			10			1.969	50.0		Dr. Van Bebber.
Wustrow	29.77	756.1	29.79	756.7	45.9	7.7	56	NNW			5		4s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 433.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.29	743.9	29.67	753.6	73.8	23.2		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.63	752.6	29.68	753.9	84.5	29.2	72	SW					2			0	0	D. clouds	
Deesa					98.3	36.8	25	WSW	9.4	4.2			7	SW		0	0	D. clouds	
Bombay	29.71	754.6	29.75	755.6	84.7	29.3	81	WNW	14.0	6.3			0			0	0	Blue sky	
Poona	27.75	704.7	29.69	754.1	92.4	33.6	40	NW					0			0	0	Blue sky	
Lahore	28.86	733.0	29.58	751.3	93.1	33.9	16	W	2.8	1.2			3			0	0	D. clouds	
Belgaum	27.24	691.8	29.73	755.1	84.0	28.9	72	W	20.0	8.9			1		E	0	0	D. clouds	
Roorkee	28.69	728.7	29.56	750.7	95.2	35.1	14	W	4.0	1.8			1			0	0	D. clouds	
Agra	29.09	739.0	29.65	753.0	90.7	32.6	9	W								0	0		
Nagpur	28.59	726.1	29.58	751.4	102.2	39.0	29	NW	2.1	0.9			5	NE		0	0	D. clouds	
Lucknow	29.21	742.0	29.57	751.1	100.2	37.9	42	NNW	4.0	1.8			0			0	0	Blue sky	
Allahabad	29.27	743.4	29.57	751.0	101.1	38.4	16	NW	4.7	2.1			2	W		0	0	D. clouds	
Patna	29.35	745.4	29.52	749.8	102.3	39.1	13	W	3.7	1.6			0			0	0	Blue sky	
Hazaribagh	27.63	701.7	29.56	750.8	96.3	35.7	13	WNW	10.1	4.5			2			0	0		
Cuttack	29.53	750.0	29.61	752.1	93.5	34.2		SW	7.0	3.1			8			0	0	Blue sky	
Calcutta (Alipore)	29.57	751.1	29.59	751.6	91.7	33.2	65	S	13.0	5.8			0			0	0	Blue sky	
Goalpara	29.14	740.2	29.52	749.8	86.8	30.4	69	ESE	4.3	1.9			0			0	0	Misty	
Chittagong	29.63	752.6	29.72	754.9	86.1	30.1	81	S	10.5	4.7			1			0	0	Misty	
Sibsagar	29.26	743.1	29.59	751.6	78.0	25.6	86	NE	3.0	1.3			5		SW	2.72	69.1	D. clouds	
Jubbulpore	28.27	718.0	29.57	751.1	101.7	38.7	11	W	4.6	2.1			5		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.11	739.3	29.52	749.7	52.2	11.2	84	E	2.5	1.1			10			1.067	27.1		Prof. Giovanni Clodig.
Milan	29.02	737.0	29.53	750.0	53.1	11.7	66	W			2		8			0.031	0.8		Prof. Schiaparelli.
Padua	29.38	746.2	29.48	748.9	56.5	13.6	55	N	16.8	7.5			10			0.350	8.9		Prof. Dott. Lorenzoni.
Moncalieri	28.63	727.1	29.53	750.1	55.6	13.1	66	SE	2.5	1.1			6	W		0.268	6.8		Prof. P. F. Denza.
Genoa	29.38	746.3	29.57	751.1	57.2	14.0	59	SW	4.3	1.9			8	SW		0.079	2.0		Prof. G. M. Garibaldi.
Mondovi	27.63	701.9	29.54	750.4	55.8	13.2	77	SSE			2		8	N		0.437	11.1		Prof. D. C. Bruno.
Pesaro	29.47	748.4	29.51	749.6	58.3	14.6	60	SW	12.5	5.6			10	SW		0.055	1.4		Prof. Luigi Guidi.
Florence	29.31	744.5	29.57	751.0	56.1	13.4	52	SW			2		7			0.094	2.4		Cav. F. Meucci
Leghorn	29.47	748.5	29.56	750.7	56.3	13.5	69	SW			4		10			0	0		Prof. P. Monte.
Rome	29.44	747.7	29.61	752.2	56.5	13.6	68	WSW	15.4	6.9			10			0.122	3.1		Prof. P. S. Ferrari
Lecce	29.44	747.7	29.69	754.1	61.9	16.6	50	NW	24.8	11.1			3	NW		0.043	1.1		Prof. C. De Giorgi.
Cosenza	28.89	733.7	29.77	756.2	57.6	14.2	76	SW	0	0			10			0.413	10.5		Prof. D. Conti.
Cagliari	29.57	751.0	29.76	755.9	60.3	15.7	44	NW			6		6	NW		0.024	0.6		Prof. A. Pacinotti.
Palermo	29.59	751.5	29.84	758.0	60.4	15.8	50	W	13.0	5.8			8			0	0		Prof. G. Cacciatore.
Syracuse	29.75	755.7	29.83	757.6	65.1	18.4	40	WNW	13.7	6.1			2	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.20	741.8	29.76	755.9	48.2	9.0	82	WSW	16.1	7.2			10			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.94	760.5	29.96	761.0	63.2	17.3	86	Calm	0	0			6s			0.215	5.46	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	66.2	19.0	74	ESE	3.4	1.5			10n			1.610	40.89	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.93	760.2	30.00	762.0	58.3	14.6	90	SSW	4.9	2.2		0	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																				P. Ceballos.
Guadalajara	25.15	638.7	30.14	765.5	60.8	16.0	51	Calm			0	2	0	Calm		0	0	Clear	Prof. L. Perez.
Leon	24.52	622.7	30.17	766.4	62.4	16.9	73	NW			1	1c	1k			0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.17	588.4	30.20	767.0	54.1	12.3	68	NW	1.1	0.5		0	9k		NW	0	0	Very cloudy.	The Staff.
Pabellon (Aguascalientes)					62.1	16.7	71	Calm			0	0	0			0	0	Pleasant	M. V. de Leon, M. E.
Tlacotalpam	30.07	763.8	30.08	764.1	73.4	23.0	91	SSW			1	3	1	W	NE	0.67	17.0	Fair	M. M. Chàzaro.
San Luis Potosi	24.32	617.7	30.27	768.9	61.0	16.1	78	E			1	4	2	W	ESE	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																				Prof. J. Rossell.
Zacatecas																0.12	3.0		J. C. Castrillon.
Puebla (Catholic Institute)	23.48	596.5	30.25	768.3	45.0	7.2	10	N	0.4	0.2		0	0			0	0	Very clear.	Prof. P. Spina.
Durango																				M. V. de Leon, C. E.
Colima	28.43	722.1	30.08	763.9	77.4	25.2	60	NE			1	0	3			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																				Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.4	30.02	762.4	47.1	8.4		N								0.039	1.0			
Groningen	29.90	759.4	29.95	760.8	44.4	6.9		N			2					0.028	0.7			
Helder	29.97	761.3	29.97	761.3	42.1	5.6		NW			4					0	0			
Hellevoetsluis	29.98	761.5	29.98	761.5	50.0	10.0	52	NNW			2					0.008	0.2			
Utrecht	29.94	760.5	29.99	761.7	48.0	8.9	50	NNW			4		5			0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.26	743.2	29.32	744.6	37.8	3.2	66	W	8.5	3.8			4			0.130	3.3		
Brönö	29.38	746.3	29.42	747.3	41.0	5.0	54	SSW	18	8			3			0	0		
Christiania	29.44	747.7	29.58	751.4	49.3	9.6	40	SW	4	2			6			0.260	6 6		
Tromsö	29.36	745.8	29.41	746.9	42.4	5.8	58	NE	11	5.			10			0.063	1.6		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.26	768.6	30.45	773.5	61.2	16.2	67	E	13.0	5.8			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.12	739.7	30.15	765 8	61.0	16.1	52	NW	11.2	5.0			7	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.21	767.2	30.29	769.4	66.6	18.9	47	E	4.9	2.2			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.87	758.8	30.23	767.9	59.5	15.3	53	NNW	16.1	7.2			7			0.004	0.1		The Staff.
Ponta Delgada (Azores)	30.36	771.1	30.43	772.9	61.9	16.6	61	NE	13.0	5.8			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias, N. 36° 57′, W. 16° 20′			30.37	771.4	60.8	16.0		Var.			4		7		N	4	NE	Drizzling	A. G. da Silva Costa. Com'd't
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			30.03	762.8	74.3	23.5		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.78	756.4	82.0	27.8		W			3		2		SE	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.95	760.7	84.2	29.0		SE			1		9		SE	1		Overcast	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.83	757.6	82.0	27.8		SW			5		10		S	3	SW	Overcast	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.04	737.7	29.45	748.0	67.8	19.9	50	SE	9	4			9cks						Astronomical Obs.
Wilna	29.22	742.3	29.63	752.5	67.6	19.8	46	SE	16	7			8						Astronomical Obs.
Dorpat	29.50	749.4	29.75	755.6	50.5	10.3	81	ENE	7	3			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.85	758.1	29.86	758.5	46.8	8.2	61	ESE	13	6			10n					Raining	Central Physical Obs.
Kieff	29.18	741.2	29.79	756.7	68.2	20.1	40	SE	22	10			7cs						Physical Cabinet.
Nikolaiev	29.81	757.2	29.88	759.0	66.7	19.3	49	SSE	31	14			10n						Kurdakof.
Kertch	29.96	760.9	29.98	761.4	64.4	18.0	73	SE	7	3			5						Lagorio.
Moscow	29.56	750.9	30.12	765 0	50.9	10.5	67	S	9	4			0						Meteorological Obs.
Lugan	29.80	756.9	30.00	762.0	66.6	19.2	55	ESE	18	8			6			Blank	Blank		Meteorological Obs.
Archangel	29.97	761.3	29.99	761.8	49.8	9.9	53	Calm	0	0			6cs						Capt. Sseliwerstow.
Tiflis	28.62	726.8	30.01	762.3	63.5	17.5	54	E	4	2			10ks						Physical Observatory.
Astrakhan	30.10	764.5	30.02	762.4	57.4	14.1	81	NNW	4	2			10n			Blank	Blank		Capt. Wisganow.
Krotkowo*																			Oand. Fatjanow.
Kasan	29.79	756.6	30.05	763.3	67.5	19.7	43	Calm	0	0			3k						Physical Cabinet.
Ekaterinburg	29.03	737.4	29.95	760.7	73.8	23.2	26	W	27	12			4c;cs						Meteorological Obs.
Nukuss	29.52	749.8	29.75	755.6	71.8	22.1	61	WNW	4	2			0						
Tashkend	28.19	716.0	29.66	753.4	82.8	28.2	69	Calm	0	0			0						Teich, A. M.
Barnaul	29.57	751.1	30.07	763.7	62.1	16.7	42	S	4	2			8					Light clouds	Meteorological Obs.
Yeniseisk	29.98	761.5	30.28	769.1	40.5	4.7	57	N	2	1			4						Marks.
Irkutsk																			
Peking (China)	29.60	751.9	29.74	755.5	65.8	18.8	57	Calm	0	0			9n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.79	756.6	29.89	759.1	43.5	6.4	90	E	9	4			8n						
Nikolaievsk, on the Amoor	29.97	761.3	30.06	763.5	32.4	0.2	89	SE	9	4			10s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.73	755.1	29.84	757.8	64.0	17.8	49	SW	5.6	2.5			3			0.039	0.99		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.03	762.7	30.09	764.2	56.5	13.6	76	N	4.2	1.87			10			0.752	19.1	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.9			48.6	9.2	71	NW	6.2	2.75			8			0.069	1.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.81	706.3			54.5	12.5	69	W	12.0	5.34		1	7			0.043	1.1	Light clouds	The Staff.
Murcia, Met. Obs'y	29.80	757.0	29.95	760.7	74.8	23.8	32	SSE	2.9	1.28		4	3	E		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.5	30.13	765.4	55.8	13.2	70	NNW	15.4	6.9			9			0.197	5.0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.91	759.6	29.97	761.2	73.9	23.3	78	ENE	3.8	1.7		0	1k		NE	0.020	0.5	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.78	756.4	29.83	757.8	89.8	32.1	70	ESE	1.6	0.7			3kn		W	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.9	30.21	767.4	61.7	16.5	60	WNW	15.7	7.0		0	2		WNW				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.8	29.96	761.1	78.1	25.6	81	NE	0	0		6kn	6kn			1.368	34.75	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.56	750.8	29.69	751.8	37.4	3.0	.....	S	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.48	748.8	29.53	750.1	37.0	2.8	89	SW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Hernosand	29.46	748.3	29.51	749.6	44.2	6.8	74	SSE	.....	.....	4	.....	5	.....	.....	0.213	5.4	.....	
Stockholm	29.45	748.1	29.63	752.6	48.2	9.0	39	SW	.....	.....	4	.....	6	.....	.....	0.094	2.4	.....	
Wisby	29.61	752.0	29.67	753.5	45.0	7.2	83	NW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.50	749.4	29.58	751.3	48.2	9.0	49	WSW	15.0	6.7	.....	.....	7	.....	SW	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.38	720.8	29.83	757.6	46.8	8.2	77	ENE	.....	.....	2	.....	10	.....	.....	0.386	9.8	Covered	The Observatory.
Zurich	28.17	715.5	29.85	758.2	41.7	5.4	93	SE	.....	.....	1	.....	10	.....	.....	0.457	11.6	Raining	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.0 mm.; Thermometer,—7.4 Cent.; Relative Humidity, +19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.66	753.4	75.9	24.4	38	SE	4	2.0	.....	.....	5	.....	SW	0.031	0.8	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.12	765.0	89.6	32.0	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.77	756.2	65.8	18.8	.....	SW	.....	.....	2	.....	5	.....	.....	0.24	6.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.81	757.2	29.93	760.2	73.0	22.8	66	N	.....	.....	2	.....	10cs	.....	.....	0	0	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.09	764.3	30.40	772.1	54	12.2	.....	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.35	770.9	30.41	772.4	55	12.8	44	SE	9	4.0	.....	5c	0	SE	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.42	772.6	30.47	773.9	50	10.0	62	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.14	765.5	30.33	770.4	52.1	11.2	68	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	30.21	767.3	30.38	771.6	42.4	5.8	83	NW	.....	.....	1	0	2s	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.97	761.2	30.02	762.5	47.3	8.5	85	W	5	2.2	.....	0	0	.....	.....	.....	.....	Clear	W. H. Bevis.
*Father Point, Quebec	30.25	768.3	30.27	768.8	55	12.8	45	SW	30	13.4	.....	2k	2s	W	SW	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.41	772.4	30.47	773.9	55.0	12.8	57	S	4	1.8	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.00	736.6	29.81	757.2	52	11.1	93	S	5	2.2	.....	5k	5n	S	S	0.20	5.1	Cloudy	James Stewart.
Granton, Ontario	29.22	742.2	30.32	770.1	56	13.3	.....	SE	.....	.....	1	1cs	0	SE	.....	0	0	Fine	James Grant.
*Halifax, N. S	30.35	770.9	30.48	774.2	56	13.3	49	Calm	0	0	.....	0	0	.....	.....	0	0.	Clear	F. Allison, M. A.
Hamilton, Ontario	30.03	762.8	30.42	772.6	47.1	8.4	74	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.07	763.8	30.41	772.4	49	9.4	70	S	6	2.7	.....	Haze	Sm'e	Calm	S	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	30.46	773.7	30.50	774.7	52.1	11.2	73	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	30.23	767.8	30.27	768.8	34.8	1.6	87	NE	.....	.....	1	.....	10	.....	.....	0	0	Cloudy	J. R. Nason.
*Montreal, Quebec	30.18	766.6	30.38	771.6	55	12.8	52	SW	15	6.7	.....	.....	10n	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.64	752.8	30.34	770.6	53	11.7	61	E	7	3.1	.....	Haze	Haze	E	E	0	0	Hazy.	Rev. R. Mosly.
Peterboro, Ontario	29.62	752.3	30.38	771.6	52.7	11.5	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.66	753.4	30.37	771.4	50	10.0	79	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.42	772.6	30.47	773.9	40.6	4.8	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.69	754.1	30.34	770.6	53	11.7	75	E	8	3.6	.....	0	Haze	.....	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	30.07	763.8	30.40	772.1	47	8.3	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.89	759.2	30.36	771.1	45	7.2	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.44	773.2	30.49	774.4	47	8.3	78	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.35	770.9	30.52	775.2	46	7.8	84	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.58	751.3	30.29	769.4	58	14.4	47	S	10	4.5	.....	2cs	Sm'e	.....	.....	0	0	Smoky	K. Stewart.
Stayner, Ontario	29.53	750.0	30.31	769.9	54	12.2	55	SE	6	2.7	.....	0	Haze	.....	.....	0	0	Hazy	R. J. Cole.
Stratford, Ontario	29.04	737.6	30.32	770.1	52.9	11.6	58	SW	5	2.2	.....	5cs	2s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.45	773.4	30.48	774.2	60	15.6	55	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	30.01	762.2	30.40	772.1	49	9.4	55	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.41	772.4	30.51	774.9	50.0	10.0	65	W	0	0	.....	1cs	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.30	769.6	30.56	776.2	48.0	8.9	63	E	.....	.....	.....	2c	ks	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.29	769.4	30.52	775.2	60	15.6	39	S	5	2.2		Haze	0			0	0	Clear	
Alpena, Michigan	29.61	752.1	30.27	768.8	48	8.9	78	SE	4	1.8			8s		Calm	0	0	Cloudy	
Atlanta, Georgia	29.15	740.4	30.31	769.9	55	12.8	44	NE	13	5.8		0	0			0	0	Clear	
Atlantic City, New Jersey	30.47	773.9	30.49	774.4	54	12.2	67	NE	17	7.6		0	0			0	0	Clear	
Augusta, Georgia	30.12	765.0	30.30	769.6	60	15.6	44	NE	16	7.2		0	0			0	0	Clear	
Baltimore, Maryland	30.46	773.7	30.51	774.9	55	12.8	39	NE	8	3.6		0	Sm'e		Calm	0	0	Clear	
Barnegat, New Jersey	30.46	773.7	30.48	774.2	55	12.8	68	NE	16	7.2		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	28.04	712.2	29.89	759.2	55	12.8	93	W	4	1.8		2c	2s	W	Calm	0.02	0.5	Fair	
Boerne, Texas	28.67	728.2	29.96	761.0	67	19 4	74	S	12	5.4		0	8ks		S	0	0	Cloudy	
Boise City, Idaho	27.16	689.8	30.12	765.0	37	2.8	90	NW	1	0.4			Fog		Calm	0.01	0.3	Foggy	
Boston, Massachusetts	30.38	771.6	30.53	775.4	58	14.4	48	S	1	0.4		1c	Haze	Calm	Calm	0	0	Clear	
Brackettville, Texas	28.98	736.1	29.99	761.7	71	21.7	80	E	9	4.0			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.83	732.3	29.80	756.9	54	12.2	93	Calm	0	0			10s		Calm	0.57	14.5	Cloudy	
Brownsville, Texas	30.06	763.5	30.11	764.8	80	26.7	59	E	6	2.7		8cs	0	Calm		0	0	Fair	
Buffalo, New York	29.67	753.6	30.37	771.4	55	12.8	47	SW	4	1.8		2c	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					65	18.3	35	Calm			0	5c	0	Calm		0	0	Fair	
Burlington, Vermont	30.15	765.8	30.44	773.2	56	13.3	46	SW	14	6.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.85	758.2	30.23	767.8	65	18.3	58	S	4	1.8		1ck	Sm'e	W		0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.25	641.3	30.05	763.3	62	16.7	22	NE	2	0.9		8cs	0	Calm		0	0	Cloudy	
Camp Verde, Arizona	26.74	679.2	30.08	764.0	51	10.6	34	N			1	2k	0	W		0	0	Fair	
Campo, California	27.47	697.7	30.04	763.0	33	0.6	70	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	58	14.4	100	NE	14	6.3			10n		NE	0.69	17.5	Light rain	
Cape Henry, Virginia	30.34	770.6	30.36	771.1	55	12.8	81	NE	27	12.1			10s		NE	0	0	Cloudy	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	57	13.9	94	NE	24	10.7			10s		NE	0.04	1.0	Cloudy	
Cape May, New Jersey	30.37	771.4	30.40	772.1	54	12.2	61	NE	17	7.6		0	0			0	0	Clear	
Castroville, Texas	29.33	745.0	30.02	762.5	69	20.6	90	S	6	2.7			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.17	766.3	30.23	767.8	58	14.4	70	NE	10	4.5			10ks		NE	0	0	Cloudy	
Cheyenne, Wyoming	23.99	609.3	29.93	760.2	43	6.1	36	Calm	0	0		5cs	0	NW		0	0	Fair	
Chicago, Illinois	29.45	748.0	30.13	765.3	59	15.0	59	S	6	2.7		8cs	0	S		0	0	Cloudy	
Cincinnati, Ohio	29.66	753.4	30.31	769.9	57	13.9	60	SE	3	1.3		4c	0	W		0	0	Fair	
Cleveland, Ohio	29.60	751.8	30.33	770.4	55	12.8	50	SE	14	6.3		0	0			0	0	Clear	
Coleman City, Texas	28.25	717.5	29.88	758.9	64	17.8	89	S	8	3.6		0	2s		Calm	0	0	Fair	
Columbus, Ohio	29.49	749.0	30.33	770.4	58	14.4	53	SE	4	1.8		0	Sm'e		Calm	0	0	Clear	
Concho, Texas	28.16	715.3	29.79	756.7	68	20.0	79	S	11	4.9		5ck	0	Calm		0	0	Fair	
Corsicana, Texas	29.65	753.1	30.11	764.8	68	20.0	90	S	8	3.6		0	0			0	0	Clear	
Davenport, Iowa	29.41	747.0	30.04	763.0	62	16.7	46	S	9	4.0		0	Haze		Calm	0	0	Clear	
Deadwood, Dakota	25.32	643.1			51	10.6	86	Calm	0	0		5ck	0	Calm		0	0	Fair	
Decatur, Texas	28.90	734.0	30.04	763.0	70	21.1	90	S	16	7.2		2cs	0	S		0	0	Fair	
Denison, Texas	29.30	744.2	30.08	764.0	68	20.0	90	S	10	4.5		2k	0	S		0	0	Fair	
Denver, Colorado	24.72	627.9	29.94	760.5	50	10.0	39	S	3	1.3		8ck	0	W		0	0	Fair	
Des Moines, Iowa	29.03	737.3	29.88	758.9	65	18.3	63	S	6	2.7		0	8s		SW	0	0	Cloudy	
Detroit, Michigan	29.61	752.1	30.28	769.1	55	12.8	56	SE	2	0.9		5cs	Sm'e	NW		0	0	Fair	
Dodge City, Kansas	27.30	693.4	29.45	748.0	72	22.2	34	SW	8	3.6		5c	0	W		0	0	Fair	
Dubuque, Iowa	29.34	745.2	30.03	762.8	61	16.1	45	SE	5	2.2		5c	Haze	Calm	Calm	0	0	Fair	
Duluth, Minnesota	29.29	744.0	29.98	761.5	42	5.6	91	NE	6	2.7			10s		NE	0.43	10.9	Threatening	
Eagle Pass, Texa	29.26	743.2	29.96	761.0	70	21.1	80	SE	8	3.6		5cs	0	W		0	0	Fair	
Eastport, Maine	30.43	772.9	30.50	774.7	50	10.0	72	S	8	3.6		0	Haze		Calm	0	0	Clear	
Edinburg, Texas					73	22.8	81	S			1	5c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.26	667.0			66	18.9	48	NE	2	0.9		0	0			0	0	Clear	
Erie, Pennsylvania	29.63	752.6	30.34	770.6	58	14.4	48	S	20	8.9		0	Sm'e		Calm	0	0	Clear	
Escanaba, Michigan	29.50	749.3	30.16	766.1	49	9.4	64	SE	4	1.8			10s		S	0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.08	764.0	65	18.3	26	W	4	1.8		0	0			0	0	Clear	
Fort Buford, Dakota	27.81	706.4			46	7.8	92	Calm	0	0		0	0			0	0	Clear	
Fort Craig, New Mexico	25.51	647.9	29.58	751.3	52	11.1	18	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Davis, Texas	25.29	642.4	30.25	768.3	68	20.0	60	SW	8	3.6		0	0			0.76	19.3	Clear	
Fort Gibson, Indian Ter	29.49	749.0	30.01	762.2	72	22.2	71	S	16	7.2		1c	0	W		0	0	Clear	
Fort Griffin, Texas	28.75	730.2	29.98	761.5	69	20.6	85	S	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.32	693.9			46	7.8	92	Calm	0	0		2c	Fog	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.82	706.6	29.69	754.1	66	18.9	84	SW	10	4.5		0	8s		SW	0	0	Fair	
Fort St. Michael, Alaska	29.98	761.5	30.01	762.2	29	— 1.7	100	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Fort Sill, Indian Territory	28.78	731.0	29.85	758.2	67	19.4	84	SE	18	8.0		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.03	711.9			55	12.8	73	W	6	2.7			8s		W	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.38	720.8	29.92	760.0	67	19.4	64	S	9	4.0		0	8ks		S	0	0	Fair	
Galveston, Texas	30.14	765.5	30.18	766.6	74	23.3	76	S	5	2.2		0	0			0	0	Clear	
Graham, Texas	28.94	735.1	29.96	761.0	70	21.1	80	S	6	2.7		0	0			0	0	Clear	
Grand Haven, Michigan	29.55	750.6	30.19	766.8	62	16.7	51	S	6	2.7		Haze	5s	Calm	Calm	0	0	Fair	
Indianapolis, Indiana	29.40	746.7	30.16	766.1	64	17.8	41	SE	3	1.3		8cs	0	Calm		0	0	Fair	
Indianola, Texas	30.16	766.1	30.18	766.6	74	23.3	81	SE	6	2.7		0	1ks		SE	0	0	Clear	
Jacksboro, Texas	28.90	734.0	29.98	761.5	71	21.7	75	SE	14	6.3		0	0			0	0	Clear	
Jacksonville, Florida	30.12	765.0	30.15	765.8	66	18.9	74	NE	14	6.3			10s		NE	0	0	Cloudy	
Keokuk, Iowa	29.39	746.5	29.99	761.7	64	17.8	48	SE	4	1.8		Haze	0	Calm		0	0	Clear	
Key West, Florida	29.96	761.0	29.99	761.7	73	22.8	76	N	14	6.3		5k	0	N		1.55	39.4	Fair	
Kittyhawk, North Carolina	30.26	768.6	30.29	769.4	52	11.1	100	NE	30	13.4			10s		NE	0.08	2.0	Cloudy	
Knoxville, Tennessee	29.33	745.0	30.35	770.9	57	13.9	58	NE	3	1.3		0	Haze			0	0	Clear	
La Crosse, Wisconsin	29.22	742.2	29.94	760.5	56	13.3	81	SW	14	6.3		5k	5s	SW	SW	0.41	10.4	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	52	11.1	41	Calm	0	0		5cs	0	NW		0	0	Fair	
Laredo, Texas	29.66	753.4	30.00	762.0	75	23.9	64	SE	9	4.0		0	0			0	0	Clear	
Leavenworth, Kansas	29.02	737.1	29.83	757.7	67	19.4	69	SE	11	4.9		0	0			0	0	Clear	
Los Angeles, California	29.71	754.6	30.05	763.3	48.0	8.9	81	NE	6	2.7		0	0			0	0	Clear	
Louisville, Kentucky	29.69	754.1	30.25	768.3	61	16.1	55	E	2	0.9		0	0			0	0	Clear	
Lynchburg, Virginia	29.75	755.6	30.44	773.2	58	14.4	37	NE	4	1.8		0	0			0	0	Clear	
Madison, Wisconsin	29.11	739.4	30.09	764.3	55	12.8	68	E	8	3.6			10s		SW	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.40	746.7	30.10	764.5	52	11.1	86	S	1	0.4			10s		Calm	0	0	Cloudy	
Mason, Texas	28.44	722.4	30.16	766.1	70	21.1	70	S	9	4.0		2cs	0	W		0	0	Clear	
Memphis, Tennessee	29.89	759.2	30.20	767.1	68	20.0	68	SE	6	2.7		5ck	0	SW		0	0	Fair	
Milwaukee, Wisconsin	29.43	747.5	30.16	766.1	53	11.7	61	W	5	2.2		5cs	5s	SW	Calm	0	0	Cloudy	
Mobile, Alabama	30.20	767.1	30.24	768.1	66	18.9	56	NE	5	2.2		0	0			0	0	Clear	
Montgomery, Alabama	30.07	763.8	30.30	769.6	64	17.8	47	E	3	1.3		0	0			0	0	Clear	
Morgantown, West Virginia	29.32	744.7	30.36	771.1	61	16.1	31	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	24.17	613.9	30.53	775.4	33	0.6	79	NW	20	8.9		5c	0	NW		0	0	Fair	
Nashville, Tennessee	29.74	755.4	30.27	768.8	68	20.0	56	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	30.41	772.4	30.53	775.4	57	13.9	55	NE	5	2.2		2c	0	Calm		0	0	Clear	
New London, Connecticut	30.48	774.2	30.53	775.4	57	13.9	58	N	4	1.8		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	30.16	766.1	30.21	767.3	73	22.8	76	NE	7	3.1		0	8s		NE	0	0	Fair	
Newport, Rhode Island	30.49	774.4	30.54	775.7	54	12.2	67	NW	4	1.8		1c	0	Calm		0	0	Clear	
New York, New York	30.35	770.9	30.54	775.7	56	13.3	50	E	12	5.4		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.30	769.6	30.36	771.1	56	13.3	75	NE	14	6.3			10s		Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.89	683.0	29.37	746.0	55	12.8	97	E	2	0.9			Fog		Calm	0	0	Foggy	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	41.5	5.3	87	S	2	0.9		5cs	0	Calm		0	0	Fair	
Omaha, Nebraska	28.66	728.0	29.70	754.4	70	21.1	70	SE	13	5.8		0	Haze		Calm	0	0	Clear	
Oswego, New York	30.12	765.0	30.44	773.2	54	12.2	67	S	6	2.7		Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	28.98	736.1	29.78	756.4	53	11.7	91	S	7	3.1			10s			0.04	1.0	Cloudy	
Philadelphia, Pa	30.46	773.7	30.51	774.9	53	11.7	61	NE	12	5.4		0	0			0	0	Clear	
Phœnix, Arizona	28.73	729.7	30.49	774.4	66	18.9	28	NE	1	0.4			10s		Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.85	450.4	30.06	763.5	24	— 4.4	24	SW	64	28.7		0	5s		SW	0	0	Fair	
Pioche, Nevada	23.88	706.5	29.65	753.1	45	7.2	31	S	4	1.8		2cs	1s	SW	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.59	751.6	30.41	772.4	53	11.7	54	SE	2	0.9		0	0			0	0	Clear	
Port Huron, Michigan	29.62	752.3	30.28	769.1	57	13.9	47	S	8	3.6		8ck	0	W		0	0	Fair	
Portland, Maine	30.46	773.7	30.51	774.9	54	12.2	67	S	7	3.1		0	Haze		Calm	0	0	Clear	
Portland, Oregon	30.14	765.5	30.24	768.1	45.5	7.5	84	S	1	0.4			10ks		N;SW	Inap.	Inap.	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	57	13.9	5	SW	8	3.6		8cs	0	W		0	0	Fair	
Pilot Point, Texas	29.30	744.2	30.11	764.8	69	20.6	84	SE	4	1.8		Haze	Haze			0	0	Hazy	
Punta Rassa, Florida	30.01	762.2	30.03	762.8	68	20.0	70	N	13	5.8		2k	0	NE		0.68	17.3	Clear	
Red Bluff, California	29.78	756.4	30.16	766.1	42	5.6	87	N	2	0.9		0	0			0.06	1.5	Clear	
Rio Grande City, Texas	29.92	760.0	30.14	765.5	71	21.7	85	E			1	8cs	0	Calm		0	0	Fair	
Rochester, New York	29.76	755.9	30.38	771.6	57	13.9	47	SW	9	4.0		0	Sm'e			0	0	Smoky	
Roseburg, Oregon	29.66	753.4	30.24	768.1	43	6.1	96	SW	2	0.9			10s		Calm	0.33	8.4	Cloudy	
Sacramento, California	30.07	763.8	30.15	765.8	48	8.9	70	NW	5	2.2		2k	0	W		0	0	Clear	
St. Louis, Missouri	29.57	751.1	30.14	765.5	59	15.0	48	S	12	5.4		1c	0	Calm		0	0	Clear	
St. Marks, Florida	30.17	766.3	30.19	766.8	61	16.1	61	NE	12	5.4		0	0			0	0	Clear	
St. Paul, Minnesota	29.02	737.1	29.82	757.4	60	15.6	70	SE	4	1.8			10ks		W	0.58	14.7	Cloudy	
Salt Lake City, Utah	25.46	646.7	29.79	756.7	55	12.8	28	SE	6	2.7		8k	0	W		0	0	Cloudy	
San Antonio, Texas	29.43	747.5	30.00	762.0	70	21.1	85	SE	4	1.8		5c	0	SE		0	0	Fair	
San Diego, California	30.04	763.0	30.11	764.8	56	13.3	81	W	6	2.7		0	8ks		Calm	0	0	Fair	
Sandusky, Ohio	29.64	752.8	30.31	769.9	58	14.4	53	S	12	5.4		2c	Haze	NW	Calm	0	0	Fair	
Sandy Hook, New Jersey	30.49	774.4	30.52	775.2	50	10.0	65	NE	11	4.9		2c	0	NW		0	0	Clear	
San Francisco, California	30.11	764.8	30.17	766.3	48	8.9	73	NW	4	1.8		0	1ks		Calm	0	0	Clear	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	57	13.9	25	E	2	0.9			10s		E	0	0	Cloudy	
Savannah, Georgia	30.14	765.5	30.24	768.1	63	17.2	57	NE	13	5.8		0	0			0	0	Clear	
Shreveport, Louisiana	29.94	760.5	30.16	766.1	71	21.7	75	S	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico	24.36	618.7	30.57	776.5	45	7.2	31	NW	1	0.4		5c	0	Calm		0	0	Fair	
Smithville, North Carolina	30.21	767.3	30.25	768.3	57	13.9	87	N	12	5.4			10s		N	0	0	Cloudy	
Springfield, Massachusetts	30.43	772.9	30.56	776.2	57	13.9	68	SE	3	1.3		0	Sm'e			0	0	Fair	
Stockton, Texas	26.96	684.8	29.96	761.0	69	20.6	56	SE	16	7.2		8k	0	SE		0	0	Cloudy	
Thatcher's Island, Mass	30.49	774.4	30.55	776.0	52	11.1	73	S	4	1.8		0	0			0	0	Clear	
Toledo, Ohio	29.59	751.6	30.27	768.8	60	15.6	49	E	2	0.9		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.52	699.0	30.07	763.8	60	15.6	44	S	3	1.3		5cs	0	W		0	0	Fair	
Umatilla, Oregon	29.71	754.6	30.21	767.3	45.0	7.2	76	SW	4	1.8		0	2s		Calm	0	0	Fair	
Unalaska, Aleutian Islands																			
Uvalde, Texas	29.24	742.7	30.04	763.0	71	21.7	75	S	5	2.2			4s		SE	0	0	Cloudy	
Vicksburg, Mississippi	29.98	761.5	30.24	768.1	68	20.0	79	SE	5	2.2		0	0			0	0	Clear	
Virginia City, Montana	24.11	612.4	29.59	751.6	45	7.2	46	SE	1	0.4		0	0			0.06	1.5	Clear	
Visalia, California	29.75	755.6	30.12	765.0	50.3	10.2	55	NW	9	4.0			10ks		Calm	0	0	Cloudy	
Washington, D. C.	30.37	771.4	30.49	774.4	51	10.6	65	N	6	2.7		1cs	Haze		Calm	0	0	Clear	
Wickenburg, Arizona					64	17.8	53	NW			1		10s		Calm	0	0	Cloudy	
Wilmington, N. Carolina	30.16	766.1	30.24	768.1	56	13.3	81	NE	11	4.9			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	29	— 1.7	67	E	6	2.7		2k	0	SW		0	0	Fair	
Wood's Holl, Mass	30.49	774.4	30.53	775.4	56	13.3	55	SE	4	1.8		2c	0			0	0	Clear	
Yankton, Dakota	28.50	723.9	29.72	754.9	64	17.8	78	SE	10	4.5		10ck	0	Calm		0	0	Cloudy	
Yuma, Arizona	29.75	755.6	29.91	759.7	69	20.6	16	W	5	2.2		2cs	2s	SW	W	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark	28.51	724.1	29.88	758.9	66	18.9	68											Clear	J. B. Gordon.
Havana, Cuba, W. I	29.91	759.7	29.96	761.0	76	24.4	76	Calm	0	0		0	2ks		Calm	0.02	0.5	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.28	642.1			64.0	17.8	84	Calm			0	10cs	0			0	0		Thomas Herran.
Navassa, W. I	29.84	757.9	29.92	760.0	78.2	25.7		NW								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	82	27.8	83	E			2	0	5k			0	0	Clear	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.92	760.0	29.97	761.2	31.0	— 0.6	95	SE	16	7.2		4k	4s	S	SE	0	0	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,890 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.20‡	767.1‡			43	6.1	92	NW	7	3.1			2		NW					Clear	
Navy Yard, Pensacola, Fla.	30.24‡	768.1‡			69	20.6	77	NE	10	4.5			0							Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.97‡	761.2‡			62.5	16.9	86	SW			1		0			0	0			Clear	
Adams, Panama	29.95‡	760.7‡			78	25.6	95	NW			2		8		NW					Fair	
Alaska, Sitka, Alaska	29.82‡	757.4‡			38	3.3	90	NE			1		0			0	0			Blue sky	
Alliance, N. 36° 58′, E. 3° 05′	30.03‡	762.8‡			63	17.2	62	WNW			5–6		1					Mod'ate	W	Pleasant	
Ashuelot, Hong-Kong, China	29.71‡	754.6‡			82	27.8	79	SW			4		10		SSW			Smooth		Cloudy	
Canonicus, Near mouth of Mississippi.	30.22‡	767.6‡			73	22.8	95	NW			2		8		NW					Fair	
Colorado, New York, N. Y.	30.50‡	774.7‡			57	13.9	52	NE	2	0.9			0			0	0			Clear	
Constitution, N. 23° 20′, W. 58° 56′	30.02‡	762.5‡			78	25.6	82	E			2		8		Calm			Smooth	SSE	Cloudy	
Despatch, Port Mahon, Spain	29.90‡	759.4‡			59	15.0	65	WNW			3		2			0	0	Smooth		Clear	
Enterprise, N. 48° 11′, W. 6° 24′	30.13‡	765.3‡			48	8.9	85	NNE			2–3		10		NE			Mod'ate		Raining	
Franklin, Norfolk, Va.	30.36‡	771.1‡			57	13.9	81	ENE	14	6.3			10		Calm	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	30.03‡	762.8‡			60	15.6	82	N			6		10			0	0			Cloudy	
Michigan, Erie, Pa.					60	15.6	62	S			6		0							Clear	
Monongahela, Yokohama, Japan	29.97‡	761.2‡			64	17.8	83	SSW			1		ck			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.22‡	767.6‡			63	17.2	67	N	21	9.4			2		N	0	0			Clear	
Onward, Callao, Peru †*	30.12‡	765.0‡			61.5	16.4	94	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.58‡	751.3‡			65	18.3	94	ESE			1		10							Foggy	
Passaic, Washington, D. C.					53	11.7	67	NE			2		2							Clear	
Pensacola, Callao, Peru	30.01‡	762.2‡			61	16.1	100	Calm	0	0			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	30.38‡	771.6‡			55	12.8	80	NNE			5		10		Calm			Mod'ate	N;E	Squally	
Powhatan, Hampton Roads, Va.	30.34‡	770.6‡			60	15.6	82	NE			5		10		NE	0	0			Threatening	
Quinnebaug, Alexandria, Egypt	29.84‡	757.9‡			73	22.8	67	N			3		0							Clear	
Ranger, Amoy, China	29.75‡	755.6‡			79	26.1	95	SE			3		8		NW			Smooth		D. clouds	
Richmond, N. 10° 46′, E. 110° 04′	29.77‡	756.1‡			84	28.9	91	S			1		0			0.7	18.	Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.09‡	764.3‡			73	22.8	90	S			1		2		N					Fair	
Santee, Annapolis, Md.	30.38‡	771.6‡			54	12.2	93	NE			1		8		NE	0	0			Overcast	
Saratoga, N. 34° 49′, W. 26° 32′	30.31‡	769.9‡			64	17.8	73	ESE			7		10		NW	0	0	Rough	SE	Overcast	
St. Louis, League Island, Pa	30.44‡	773.2‡			57	13.9	69	NE	10	4.5			2		NNE	0	0			Clear	
Trenton, Genoa, Italy	29.54‡	750.3‡			62	16.7	72	SSW			2		8		S	0.01	0.3	Mod'ate	S	Fair	
Tuscarora, Acapulco, Mexico	29.96‡	761.0‡			78	25.6	78	Calm			0		0			0	0	Smooth		Hazy	
Vandalia, Aspinwall, New Granada.	29.96‡	761.0‡			74	23.3	100	SE			2		2		N			Smooth		Fair	
Wabash, Boston, Mass.	30.52‡	775.2‡			57	13.9	58	Calm	0	0			0			0	0			Hazy	
Wyoming, Villafranca, France	29.56‡	750.8‡			57	13.9	94	SSE			0–1		2		SSE			Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 50° 31′ W. 22° 44′...†*		30.12	765.0	58	14.4		WSW			2		8		W		Mod'ate	W	Cloudy	M. C. Miles.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
§S. S. City of Tokio, Capt. Maury, Hong-Kong, China		29.88‡	758.9‡				SSE			6		2ck		N	0			D. clouds	L. B. Walls.
S. S. Colima, N. 22° 57′, W. 108° 19′..†		29.98‡	761.5‡	72	22.2		SSE			3		0			0	Small	NW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur[illegible]
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		30.16‡	766.1‡	54	12.2	80	SW			1		0					NW	Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		30.21‡	767.3‡				SSW			2		10		WSW				Rainy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 33° 50′, E. 136° 49′		29.71‡	754.6‡	71	21.7	95	SW			5		8k			0	Light	SW	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 32° 49′, E. 134° 58′		29.91‡	759.7‡	70	21.1	90	SE			4		10n				Smooth		Overcast	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 34° 23′, W. 66° 33′		30.30‡	769.6‡	73.0	22.8	76	SE			4		5		S		Mod'ate	SE	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 45° 39′, W. 30° 58′		30.57‡	776.5‡	61.5	16.4	61	SW			3		8		SW		Smooth	SW	Fair	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 08′, W. 8° 05′		30.15‡	765.8‡				NNE			4		2		NW		Long	N	Fair	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River		30.41‡	772.4‡	67	19.4	84	NNE			7		2		NNE	0	Mod'ate	SE	Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian																			Capt. W. Richardson.
S. S. Peruvian																			J. Powell, 4th Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Anéroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 32′ W. 73° 15′		30.06‡	763.5‡	75	23.9	68	ENE	6	2.7			8c;k		NE	0	Smooth	SE	Clear?	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.62‡	752.3‡				NE	3	1.3			10		E	3.0 in. or 76.2mm			Drizzling	Capt. George Gardner.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

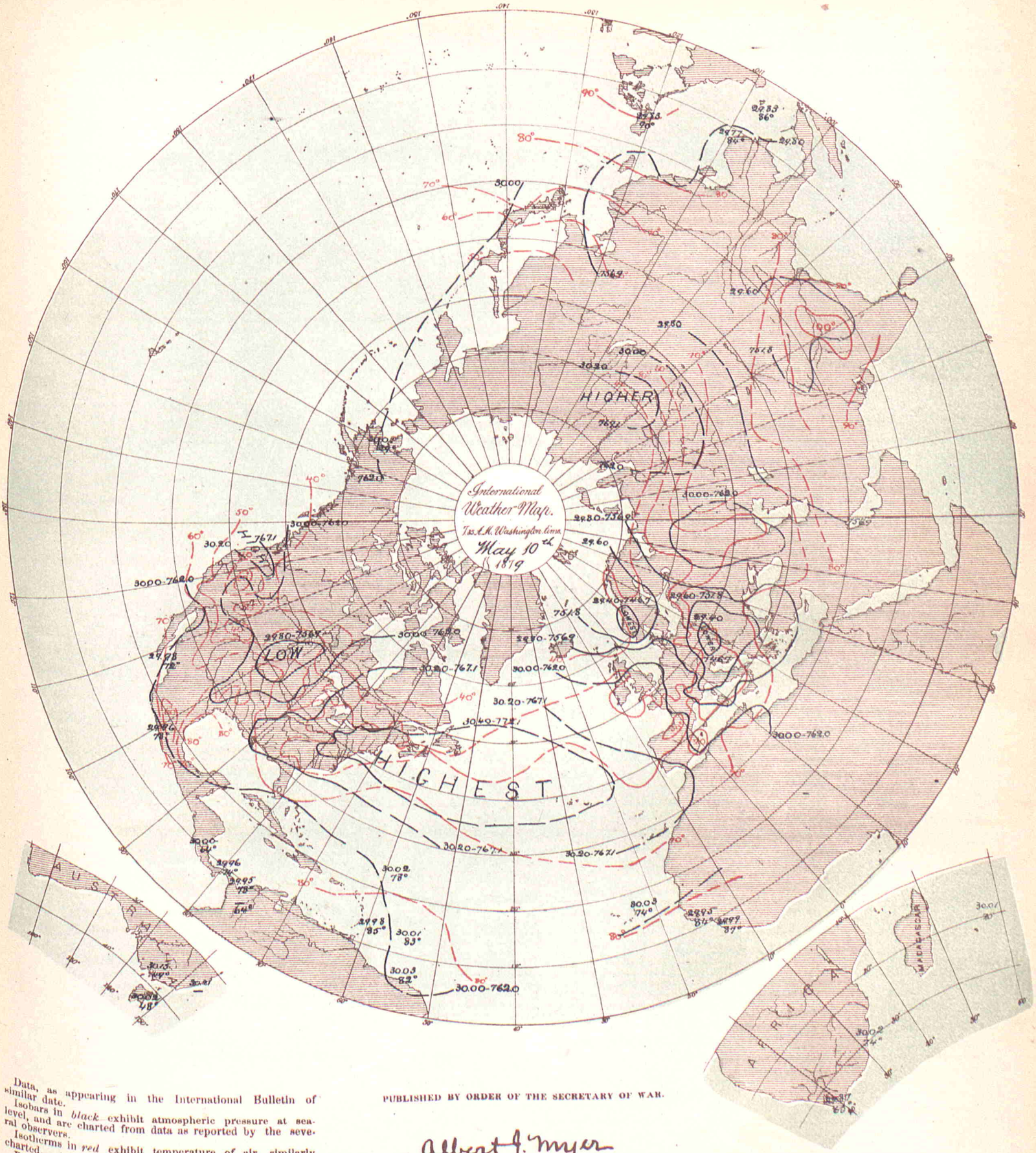
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 11, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.18	766.5	70.2	21.2	58	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			30.06	763.4	64.4	18.0	44	WNW			4		0			0	0	Clear	Tourliiere.
La Calle			29.99	761.7	54.1	12.3	79	W			5		10			0.406	10.30	Raining	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.7															Gau.
Saida			30.16	766.0	66.6	19.2	10	N			2		0			0	0	Clear.	Herbin.
Tebessa			30.07	763.7	52.3	11.3	56	W			7		10			0.016	0.4	Covered	Watrin.
Geriville			30.12	765.1	61.2	16.2	27	NW			1		2			0	0	Fair	Brugniaux.
Laghouat			30.10	764.5	67.3	19.6	48	NW			5		0			0	0	Clear	Bertrand.
Biskra			30.07	763.8	76.1	24.5	20	NW			5		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.17	740.9	29.73	755.1	41.4	5.2	82	NW			3		10			0.575	14.6	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.90	734.1	29.68	753.9	41.0	5.0	77	NW			2		10			2.467	62.7		Dr. Wierzbiski.
Eperies	28.61	726.6	29.48	748.9	45.7	7.6	76	NW			3		10s		S	0	0		Julius Mikolik.
Gratz	28.47	723.1	29.73	755.1	45.5	7.5	48	NNE			5		10			0.221	5.7		Andreas Rospini.
Hermannstadt	28.05	712.4	29.45	748.0	54.0	12.2	73	NW			2		10			0.061	1.55		Prof. A. Gottschling.
Kremsmünster	28.58	726.0	29.96	760.9	40.8	4.9	75	W			3		10			0.878	22.3		Prof. C. Wagner.
Lemberg	28.46	722.9	29.41	747.1	60.4	15.8	64	SE			1		9			0.295	7.5		Dr. T. Stanecki.
Pola	29.57	751.1	29.68	753.9	58.3	14.6	52	ESE			3		8			0.197	5.0		I.R.Hydrographic Office
Szathmar	29.01	736.9	29.47	748.5	53.2	11.8	84	SE			3		10			0.575	14.6		Julius Csics, S. J.
Szegedin	29.22	742.1						W			4		10			0.289	7.35		Karl Stancel.
Trieste	29.61	752.1	29.71	754.7	59.5	15.3	71	W			1		9			0.173	4.4	Raining	P. Busin.
Vienna	29.04	737.6	29.78	756.3	38.8	3.8	87	WNW			6		10			0.878	22.3		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.62	752.3	29.72	754.9	51.1	10.6		S	15	8.0			7			0.015	0.38	D. clouds	W. Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.90	759.4	54.0	12.2		W	10	4.5									S. Call.
Bidston (Liverpool Obs)			29.91	759.7	54.4	12.4		W	15	6.7			3					Blue sky	John Hartnup.
Bolton (Sharples)			29.91	759.7	50.7	10.4		SW	30	13.4			10					Raining	Thomas Mackereth.
Bradford, Yorkshire																0	0		J. McLandsborong.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	84	28.9		NE			1		3					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.03	762.8	47.5	8.6		SW			2		10					Overcast	H. Todd.
Cardington			30.01	762.2	49.0	9.4		SW			2		10					Overcast	John McLaren.
Chatham, School M. E.	29.96	761.0	30.09	764.3	43.6	6.4		SW			1		10					Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	29.82	757.4	29.86	758.4	52	11.1		WNW			3		5					D. clouds	J. Mac Gowan.
Dover	30.08	764.0	30.10	764.5	49	9.4		WSW			5		8					Overcast	J. Costello.
Falmouth, Observatory	29.84	757.9	30.06	763.5	56.0	13.3		WSW			3		9					Overcast	The Staff.
Fort Napier (Natal)	27.64	702.0	29.95	760.7	72.0	22.2		E			2		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	87	30.6		W			0		3					D. clouds	
Galway, Queen's College			29.93	760.2	55	12.8		SW			2		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	30.13	765.3	30.18	766.6	67.9	19.9		W			2		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.55	750.6	29.76	755.9	52.0	11.1		W			5		10					Threatening	D. G. Maclean. [C.
Great Yarmouth	30.01	762.2	30.01	762.2	51	10.6		WSW			4		3					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.89	759.2	30.06	763.5	45.0	7.2		SW			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.92	760.0	30.14	765.5	48	8.9		SSW			3		8					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.02	762.5	30.14	765.5	58	14.4		SW			4		2c			0	0	Fine	M. P. Moyle.
Holyhead	29.92	760.0	29.95	760.7	51	10.6		WSW			4		10					Misty	John Tilston.
Jersey	29.88	758.9	30.18	766.6	46.0	7.8		SW			3		10					Overcast	J. Fisher.
Kew, Observatory	30.04	763.0	30.07	763.8	46.0	7.8		SW	11	4.9			10					Raining	The Meteorological Of.
Leicester, Museum.	29.73	755.1	29.99	761.7	47.9	8.8		SW			1		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.80	756.9	29.87	758.7	62	16.7		NW			3		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.59	751.6	29.68	753.9	51	10.6		WSW			2		10			Blank	Blank	Overcast	W. D. Penny.
Nassau (Bahamas)			29.87	758.7	77.5	25.3		SW			1		8			0.30	7.6	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.80	756.9	29.99	761.7	51.3	10.7		SSW			3		10k		N	0.15	3.40	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.44	747.8	29.96	761.0	52.9	11.6		SSW			5		5					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.03	762.8	46	7.8		SW			2		10					Raining	H. E. Bellamy.
Plymouth	29.99	761.7	30.06	763.5	53.0	11.7		SSW			2		10					Showery	John Merrifield.
Prince Town	28.60	726.4	30.09	764.3	45.0	7.2		NW			2		10					Foggy	H. Tooker.
*Roche's Point	29.92	760.0	30.02	762.5	55	12.8		NNW			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.64	752.8	50	10.0		SW	14	6.3			6					Showery	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.48	748.8	29.54	750.3	73.6	23.1		SW			2		7			Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.66	753.4	29.94	760.5	52.1	11.2		SW			2		9			0.04	1.0	Overcast	W. F. Cooper.
Silloth Rectory	29.81	757.2	29.84	757.9	53.7	12.1	74	W			6		8			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.50	749.3	29.91	759.7	50.0	10.0		SW			3		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.85	758.2	30.07	763.8	46.0	7.8		SW			2		10					Raining	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.95	760.7	30.09	764.3	61	16.1		W			6		5					D. clouds	W. Newcombe.
Valencia, Observatory	30.02	762.5	30.04	763.0	52.9	11.6		NW	18	8.0			4					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.90	759.4	29.94	760.5	66	18.9	67	W	10	4.5		0	8			0.005	0.13	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.88	758.9	50.0	10.0	88	N			2		5k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.79	756.7	56.0	13.3		W			4		2k			0.03	0.8	Fine	Andrew Gibb.
Mauritius, Observatory	29.82	757.4	30.01	762.2	75.4	24.1	68	E	16.0	7.2		8	1	NW		0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	48.0	8.9	92	SSW	4	1.8			0			0.01	0.3	Foggy	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.77	756.1	49	9.4		W			6	5	5	W		0.1	3.		J. Youngclause.
North Unst (Shetland Is.)			29.55	751.3	44	6.7		SW			6		10						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Velocity.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 15° 16′, W. 55° 13′			30.00‡	762.0‡	82.2	27.9		ESE			4		4					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore, N. 42° 40′. W. 35° 10′			30.43	772.9	62	16.7		SSE			3		5			3	ENE	D. cloud's	Capt. J. W. Thorne.
—— City of Agra,																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole, N. 37° 26′, W. 15° 31′			30.44‡	773.2‡	60	15.6		NNE			4		5					D. clouds	Capt. E. W. Turner.
S. S. Nizam,																			Capt. Barlow.
S. S. Strathleven,																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.26	667.0	29.98	761.5	68.0	20.0	81	SE			1	8cs				0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Copenhagen	29.96	760.9	30.00	762.1	46.6	8.1	44	NNW			4		2						
Fanöe	30.04	763.1	30.06	763.6	45.1	7.3	61	W			2		3						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.82	757.3	29.85	758.2	41.4	5.2	61	NE			2		5						
Vestervig	29.89	759.2	30.06	763.5	45.0	7.2	68	SW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Alengon, Normal School	29.63	752.7	30.19	766.7	52.2	11.2	54	W			1		8	WNW	W	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.00	762.0	30.11	764.8	57.6	14.2	45	NNE			1		5		NE	0	0	Cloudy	Bouvallet, Director
Avignon, Normal School	29.88	758.9	29.96	760.9	58.3	14.6	52	N			4		2			0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.58	751.4	30.15	765.7	50.0	10.0	42	NE			1		8kn		NE	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.89	759.1	30.15	765.9	53.6	12.0	41	NW			1		8		NW	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.20	741.8	30.11	764.9	48.7	9.3	67	E			1		2		N	0.126	3.2	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.22	742.3	30.14	765.6	41.9	9.5	61	NW			3		5s; kn	NW	NW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.60	751.8	29.97	761.1	47.8	8.8	40	N			1		10	N	N	0	0	Covered	A. Waquet, Director
Brest, Naval Observatory	29.83	757.6	30.07	763.7	56.1	13.4	75	SW			2		9		SW	0.010	0.25		De Rermaree, Director.
Carcassonne, Normal School	29.72	755.0	30.15	765.7	54.9	12.7	48	WNW			2		5	WNW	WNW	0.295	7.5	½ covered	September, Director.
Caen, Normal School	30.10	764.5	30.17	766.4	54.7	12.6	55	SW			1		5		NW	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.56	750.8	30.14	765.5	55.4	13	93	NNW			3		9	E	SE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.53	750.1	30.17	766.3	50.4	10.2	37	NW			2		5	NW	NW			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.5	30.15	765.7	46.6	8.1	42	NW			1		10		N	0.051	1.3		Alluard, Director.
Commercy, Normal School	29.26	743.3	30.15	765.8	46.8	8.2	51	NNW			1		8c; kn		NNW	0	0	Very cloudy	Dr. Coulet, Director
Commune de Gréasque*	28.73	729.8	29.87	758.8	55.9	13.3	36	NW			4		2		NW	0	0	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.26	743.1	30.04	762.9	46.8	8.2	70	NW			3		10kn			0.008	0.20	Covered	Ablard, Director
La Roche-sur-Yon, N. School	30.03	762.7	30.24	768.2	56.3	13.5	50	WNW			1		10			0	0	Covered	Mouillot, Director
Le Mans, Normal School	29.87	758.7	30.18	766.6	53.1	11.7	43	NW			2		5	NW	WNW	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.12	739.6	30.05	763.2	49.1	9.5	48	NE			2		2ok	NE	NE	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.09	764.3	30.19	766.8	47.1	8.4	86	S			4					0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory																			The Staff.
Mirecourt, Normal School	29.01	736.8	30.07	763.8	47.1	8.4	50	S			1		3k		N	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.76	755.8	29.96	761.1	57.6	14.2	44	NW			4		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.89	733.7	29.96	760.9	52.2	11.2	69	N			4	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.13	638.3			24.8	— 4.3	100	N			3		10			0.161	4.1	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.20	767.1	30.23	767.9	59.0	15.0	55	W			1		2	NW	NW	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.08	764.1	30.17	766.3	54.5	12.5	35	W			1		2		W	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.13	765.2	30.16	766.0	50.4	10.2	60	SSW			3		8	SW	SW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.00	762.1	30.17	766.3	51.4	10.8	42	W			1-2				NW	0	0		E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.23	767.7	48.2	9	73	SW			1		10			0.12	3.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.49	749.1	30.22	767.6	52.0	11.1	62	NW			4		5			0.012	0.3		Mercadier Julier.
Versailles, Observatory	29.67	753.6	30.16	766.1	50.0	10.0	35	NE			1					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.34	745.2	30.06	763.4	53.6	12	76	NW			3		2		W	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	77.4	25.2										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.47	748.4	30.09	764.2	50.9	10.5	44	NW			2		5		N	0	0	Cloudy	Mr. Jays.
Mont-Louis	24.87	631.6	30.18	766.6	35.6	2.0	59	SW	24.2	10.8			9			0	0		M. Cave.
Nice			29.76	755.9	61.9	16.6	70	W			1		8			0	0	¾ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y			29.89	759.2	50.9	10.5	38	WNW			1		10		WNW	0	0		Marié Davy, Director.
Perpignan	29.99	761.7	30.10	764.4	55.8	13.2	29	NW	31.8	14.2			2		NW	0	0		Dr. Flues.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.47	570.7			27.7	— 2.4		NW			6		10			0.112	2.85	Snowy	Gen'l de Nansouty.
Tours	29.98	761.5	30.18	766.5	54.5	12.5	38	W			1		7		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.89	759.2	29.91	759.8	61.5	16.4	95	N	7.8	3.5			10n			0.059	1.5	Raining	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.3	30.03	762.7	49.5	9.7	38	NW			6		2	NW		0	0		Prof. Dr. Hoh.
Berlin	29.83	757.7	30.00	762.1	51.4	10.8	38	NE			2		3			0	0		Prof. Arndt.
Breslau	29.31	744.4	29.84	757.8	49.3	9.6	50	NNW			7		10	N		0.111	2.78	Raining	Royal University Obs'y.
Carlsruhe	29.65	753.0	30.08	764.0	50.7	10.4	38	NNW			0		9	NW		0.008	0.2		Albert Senz.
Cassel	29.45	748.1	30.06	763.5	49.3	9.6	34	N			4		3	NW		0	0		Dr. H. Möhl.
Crefeld	29.95	760.7	30.11	764.8	51.4	10.8	38	W			3		7k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.71	754.7	30.08	764.0	51.4	10.8		NE			3		2			0	0		Physical Society.
Freienwalde on the Oder	29.94	760.5	29.98	761.5	54.5	12.5	59	NW			4		2c	NW		0	0		Assmann., M. D.
Friedrichshafen	28.60	726.3	30.06	763.4	45.7	7.6	56	NE			3		10	NE		0.075	1.9		M. Wilhelm.
Hamburg	30.02	762.6	30.10	764.4	47.3	8.5	48	NNW			3		9k			0	0	Cloudy	Captain F. Hegeman.
Kiel	30.06	763.4	30.07	763.8	46.9	8.3	44	NE			1		10			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.66	753.4	29.74	755.5	41.5	5.3	96	N			5		10			0.921	23.4		Prof. E. Luther.
Köslin			29.91	759.6	44.6	7.0		NW			4		0			0	0		H. Müller.
Leipsic Observatory	29.61	752.0	30.03	762.8	49.3	9.6	61	NNW			3		7	N		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.67	753.6	29.72	754.8	48.9	9.4	87	N			4		10n						Skalweit.
Neufahrwasser	29.86	758.4	29.87	758.8	41.5	5.3	83	N			4		10			0.264	6.7		A. Lothes.
Posen	29.58	751.4	29.87	758.8	50.9	10.5	52	NW			8		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.56	750.7	30.11	764.9	49.1	9.5	43	NE			2		8	NE		0.005	0.12		Imp. University Observatory.
Stuttgart	29.10	739.0	30.05	763.2	48.2	9.0	46	N			1		6	NE		0.008	0.2		Prof. Schoder.
Treves (Trier)	29.55	750.5	30.07	763.8	50.0	10.0	36	W			6		5			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.50	723.9	30.03	762.8	44.4	6.9	53	NNW	4	2			9ck		NNW	0.256	6.5		Dr. Van Bebber.
Wustrow	30.01	762.3	30.04	762.9	44.8	7.1	73	WNW			5		3s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.30	744.3	29.69	754.2	65.8	18.8		SW			1.5							¾ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.70	754.4	29.75	755.6	86.1	30.1	67	WSW					0			0	0	Blue sky	
Deesa					98.3	36.8	25	W	10.4	4.6			1	SW		0	0	D. clouds	
Bombay	29.79	756.6	29.82	757.5	84.9	29.4	72	WNW	10.0	4.5			0			0	0	Blue sky	
Poona	27.84	707.2	29.80	756.8	91.3	32.9	31	NW					0			0	0	Blue sky	
Lahore	28.90	734.0	29.61	752.1	98.2	36.8	12	W	1.6	0.7			5			0	0	Cloudy	
Belgaum	27.27	692.6	29.74	755.4	88.6	31.4	64	W	20.0	8.9			1		E	0	0	D. clouds	
Roorkee	28.74	730.1	29.61	752.0	97.5	36.4	14	NW	2.1	0.9			3			0	0	Misty	
Agra	29.11	739.3	29.65	753.0	101.7	38.7	17	W					6		W	0	0		
Nagpur	28.65	727.7	29.65	753.0	102.2	39.0	31	Calm.	3.8	1.7			8		E			Drizzling	
Lucknow	29.22	742.1	29.57	751.1	106.5	41.4	25	NW	2.9	1.3			0			0	0	Blue sky	
Allahabad	29.34	745.2	29.64	752.8	101.9	38.8	20	NNW	3.3	1.5			3		W	0	0	D. clouds	
Patna	29.43	747.6	29.61	752.0	102.1	38.9	15	W	3.6	1.6			0			0	0	Blue sky	
Hazaribagh	27.69	703.2	29.63	752.5	94.8	34.9	13	N	7.1	3.2			3			0	0		
Cuttack	29.59	751.6	29.67	753.6	92.6	33.7		SW	8.0	3.6			8			0	0		
Calcutta (Alipore)	29.66	753.2	29.68	753.7	91.5	33.1	60	S	11.0	4.9			3		W	0	0	D. clouds	
Goalpara	29.21	742.0	29.59	751.6	88.8	31.6	62	S	3.1	1.4			1			0	0	D. clouds	
Chittagong	29.69	754.0	29.78	756.3	86.1	30.1	84	S	10.0	4.5			3			0	0	Misty	
Sibsagar	29.28	743.7	29.61	752.1	83.5	28.6	77	NE	4.4	2.0			4			0.04	1.0	Blue sky	
Jubbulpore	28.39	721.0	29.70	754.3	99.7	37.6	17	W	3.6	1.6			2		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument and temperature. Inches.	Barometer. Corrected for instrument and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.27	743.5	29.68	753.9	59.4	15.2	66	S	3.8	1.7			6			0.327	8.3		Prof. Giovanni Clodig.
Milan	29.18	741.1	29.69	754.1	62.6	17.0	19	NW			4		2			0	0		Prof. Schiaparelli.
Padua	29.58	751.4	29.69	754.1	61.5	16.4	46	S	3.8	1.7			9	W		0.008	0.2		Prof. Dott. Lorenzoni.
Moncalieri	28.81	731.7	29.71	754.6	61.7	16.5	43	SSW	2.5	1.1			5			0	0		Prof. P. F. Denza.
Genoa	29.52	749.9	29.71	754.7	64.6	18.1	44	SW	3.8	1.7			4	N		0.016	0.4		Prof. G. M. Garibaldi.
Mondovi	27.83	706.9	29.74	755.3	57.0	13.9	44	SW			2		2	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.66	753.4	29.71	754.7	55.0	12.8	64	N	10.5	4.7			5			0.118	3.0		Prof. Luigi Guidi.
Florence	29.46	748.2	29.71	754.7	62.6	17.0	48	NE			4		7	NE		0	0		Cav. F. Meucci.
Leghorn	29.59	751.5	29.67	753.6	61.0	16.1	63	W			4		10			0	0		Prof. P. Monte.
Rome	29.52	749.9	29.70	754.4	55.2	12.9	81	WNW	3.8	1.7			10			0.071	1.8		Prof. P. S. Ferrari.
Lecce	29.41	747.1	29.67	753.5	61.2	16.2	50	NW	13.7	6.1			8	NW		0.008	0.2		Prof. C. De Giorgi.
Cosenza	28.85	732.8	29.74	755.3	56.7	13.7	73	NW	1.8	0.8			10			1.000	25.4		Prof. D. Conti.
Cagliari	29.61	752.0	29.80	756.9	57.0	13.9	38	NW			6		2			0.039	1.0		Prof. A. Pacinotti.
Palermo	29.56	750.8	29.82	757.3	61.2	16.2	53	WSW	7.4	3.3			9	WSW		0.028	0.7		Prof. G. Cacciatore.
Syracuse	29.72	755.0	29.80	756.8	65.1	18.4	38	W	19.9	8.9			7	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.19	741.4	29.74	755.5	55.4	13.0	75	SSW	3.8	1.7			10			0.492	12.5		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.71	754.6	29.72	754.9	63.9	17.7	96	NNE	2.2	1.0			10n			0.335	8.51	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.52	749.8	29.71	754.6	66.4	19.1	97	SW	6.6	2.9			10n			0.125	3.17	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.88	758.9	29.95	760.7	64.9	18.5	85	SSE	4.9	2.2			10n			0.360	9.14	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.08	637.1	30.10	764.5	57.6	14.2	62	N			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.46	621.3	30.15	765.7	59.5	15.3	65	NW			2	0	0			0	0		Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.19	766.7	50.4	10.2	68	NW	1.3	0.6		0	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					57.9	14.4	65	Calm			0	0	0			0	0	Pleasant	M. V. de Leon, M. E.
Tlacotalpam	30.02	762.4	30.03	762.7	71.4	21.9	84	SE			1	2	0	S		0	0	Clear	M. M. Chàzaro.
San Luis Potosi	24.21	615.0	30.18	766.6	57.9	14.4	60	E			1	0	0			0	0	Very clear	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas																			J. C. Castrillon.
Puebla (Catholic Institute)	23.44	595.4	30.21	767.2	45.0	7.2	11	NE	5.8	2.6		0	0			0	0	Very clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.5	30.04	762.9	78.1	25.6	67	NE			1	0	1			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.13	765.4	30.13	765.4	51.1	10.6		SW								0	0		
Groningen	30.04	763.0	30.10	764.4	48.4	9.1		SW			2					0	0		
Helder	30.07	763.7	30.07	763.7	47.7	8.7		SSW			4					0	0		
Hellevoetsluis	30.10	764.5	30.10	764.5	52.2	11.2	55	WSW			2					0	0		
Utrecht	30.11	764.9	30.12	765.1	51.6	10.9	51	WSW			2		8			0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.84	757.8	29.89	759.2	47.1	8.4	57	S	26.4	11.8			4			0	0		
Brönø	29.68	753.8	29.72	754.8	41.7	5.4	63	S	18	8			10			0.157	4.0		
Christiania	29.76	755.8	29.90	759.5	51.1	10.6	24	S	4	2			0			0	0		
Tromsö	29.59	751.6	29.63	752.7	39.9	4.4	68	SW	9	4			2			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.24	768.2	30.44	773.1	61.0	16.1	71	E	11.2	5.0			5			0.098	2.5		Dr. J. A. Sampaio.
Campo Major	29.20	741.8	30.25	768.3	66.2	19.0	45	NW	4.3	1.9			2	NW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.19	766.9	30.28	769.1	67.1	19.5	54	E	8.7	3.9			6			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.94	760.6	30.31	769.8	60.3	15.7	40	NNE	16.1	7.2			0			0	0		The Staff.
Ponta Delgada (Azores)	30.36	771.2	30.43	773.0	63.7	17.6	56	ESE	12.5	5.6			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
Bartholomew Dias, N. 37° 30′, W. 16° 10′			30.41	772.5	63.9	17.7		ENE			4		8		NE	3	NE	Drizzling	A. G. da Silva Costa. Com'd't
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids.			30.02	762.5	74.3	23.5		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.80	757.0	81.0	27.2		W			3		5		SE	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.94	760.4	84.4	29.1		SW			1		4		SW	0		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.89	759.2	81.5	27.5		SW			1		3		SW	0	0	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.23	742.4	29.65	753.2	46.8	8.2	94	NNW	13	6			10n					Raining	Astronomical Obs.
Wilna	29.32	744.7	29.72	755.0	65.1	18.4	51	SSE	18	8			9					Heavy clouds	Astronomical Obs.
Dorpat	29.59	751.5	29.82	757.4	66.9	19.4	64	SSE	2	1			10n					Light rain	Prof. Dr. Weihrauch.
St. Petersburg	29.86	758.5	29.88	758.9	69.3	20.7	43	SW	9	4			4ks						Central Physical Obs.
Kieff	28.95	735.2	29.55	750.6	71.4	21.9	36	SE	18	8			7k;ks;	c;ck]					Physical Cabinet.
Nikolaiev	29.55	750.5	29.62	752.3	56.7	13.7	91	S	13	6			10n					Raining	Kurdakof.
Kertch	29.61	752.2	29.63	752.7	64.0	17.8	78	E	4	2			5						Lagorio.
Moscow	29.52	749.8	30.06	763.6	57.2	14.0	58	SE	7	3			10s						Meteorological Obs.
Lugan	29.44	747.9	29.65	753.0	67.6	19.8	53	E	2	1			8						Meteorological Obs.
Archangel	29.95	760.7	29.97	761.2	60.6	15.9	62	SE	13	6			3ks						Capt. Sseliwerstow.
Tiflis	28.45	722.7	29.82	757.3	72.3	22.4	41	S	4	2			4s						Physical Observatory.
Astrakhan	29.78	756.3	29.69	745.2	77.2	25.1	34	WSW	7	3			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.80	757.0	30.07	763.7	70.0	21.1	36	ENE	18	8			3s						Physical Cabinet.
Ekaterinburg	29.22	742.2	30.17	766.4	63.9	17.7	37	N	9	4			1s					Light clouds	Meteorological Obs.
Nukuss	29.53	750.0	29.75	755.6	84.4	29.1	33	WNW	13	6			0						
Tashkend	28.21	716.5	29.67	753.6	86.0	30.0	49	Calm	0	0			6						Teich, A. M.
Barnaul	29.41	746.9	29.88	758.9	61.0	16.1	36	SW	0	0			10					Light clouds	Meteorological Obs.
Yeniseisk	29.56	750.9	29.86	758.4	38.5	3.6	88	SE	13	6			10					Raining	Marks.
Irkutsk																			
Peking (China)	29.80	756.9	29.94	760.5	64.2	17.9	33	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.67	753.7	29.77	756.2	41.9	5.5	93	NW	2	1			10n						
Nikolaievsk, on the Amoor	29.96	760.9	30.05	763.1	30.2	— 1.0	96	E	4	2			10n					Snowing	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.85	758.2	29.69	760.9	61.9	61.6	50	SE	3.8	1.7			8			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.24	768.1	30.30	769.6	55.4	13.0	72	NW	4.9	2.21		2	6	NW		0.425	10.8	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.25	692.2			53.2	11.8	41	W	10.9	4.87			3			0.039	1.0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.97	710.4			61.7	16.5	47	SE	6.7	3.00		0	1			0.020	0.5	Almost clear	The Staff.
Murcia, Met. Obs'y	29.90	759.5	30.05	763.2	73.2	22.9	29	WNW	8.7	3.89		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.6	30.30	769.6	56.7	13.7	61	NW	11.9	5.3			9			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.85	758.3	29.92	759.9	74.4	23.6	83	NNE	2.2	1.0		0	6k;ks		NNE	0.079	2.0	Fair	Benito Vines, S. J
Manilla, Philippine Islands.	29.86	758.6	29.92	760.0	84.4	29.1	81	NE	3.4	1.5			3ks		W	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.24	768.1	64.6	18.1	61	WNW	12.4	5.6		0	3		N				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.78	756.4	29.87	758.7	77.4	25.2	87	NE	6.2	2.78		3s	2k	NE	NE	0.913	23.20	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.89	759.3	29.93	760.3	36.7	2.6	.....	S	.....	.....	2	.....	0	.....	.....	1.236	6.0	.....	
Umea	29.91	759.7	29.96	761.0	45.7	7.6	48	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.88	759.0	29.93	760.3	47.5	8.6	50	S	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.74	755.3	29.91	759.8	50.7	10.4	26	ENE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.81	757.1	29.87	758.6	41.7	5.4	75	NNE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.82	757.4	29.89	759.3	54.7	12.6	29	S	4.9	2.2	.....	.....	5	S	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.1	30.03	762.8	48.0	8.9	50	N	.....	.....	3	.....	8	.....	.....	0.004	0.1	Cloudy	The Observatory.
Zurich	28.39	721.2	30.07	763.7	43.9	6.6	79	W	.....	.....	1	.....	9	.....	.....	0.118	3.0	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.3 mm.; Thermometer,—7.0 Cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.59	751.5	74.1	23.4	32	SW	10	4.5	.....	.....	6	.....	SW	0.169	4.3	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.12	765.0	89.6	32.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.73	755.2	64.4	18.0	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.77	756.1	83.8	28.8	47	SW	.....	.....	2	.....	10n	.....	WSW	0	0	Overcast	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.92	760.0	30.22	767.6	59	15.0	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.27	768.8	30.33	770.4	56	13.3	53	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.27	768.8	30.31	769.9	54	12.2	59	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.90	759.4	30.09	764.3	58.3	14.6	92	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	30.18	766.6	30.35	770.9	49.8	9.9	63	NW	.....	.....	2	0	2s	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.97	761.2	46.3	7.9	92	NNE	3	1.3	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.31	769.9	30.33	770.4	42	5.6	83	N	6	2.7	.....	5c	Haze	N	Calm	Inap.	Inap.	Hazy	J. McWilliams.
Fredericton, N. B	30.30	769.6	30.37	771.4	52.2	11.2	59	NW	1	0.4	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.99	736.3	29.50	756.9	54	12.2	74	W	3	1.3	.....	2c	2ks	Calm	W	0	0	Fair	James Stewart.
Granton, Ontario	29.03	737.3	30.11	764.8	57	13.9	.....	S	.....	.....	2	1cs	0	S	.....	0	0	Fine	James Grant.
*Halifax, N. S	30.18	766.6	30.32	770.1	56	13.3	40	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.82	757.4	30.19	766.8	59.7	15.4	61	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.91	759.7	30.24	768.1	54	12.2	59	SE	12	5.4	.....	Haze	Sm'e	Calm	SE	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	30.23	767.8	30.26	768.6	46.1	7.8	72	SW	4	1.8	.....	7k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.04	763.0	30.24	768.1	56	13.3	59	SW	7	3.1	.....	0	Sm'e	.....	.....	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.39	746.5	30.07	763.8	58	14.4	55	SE	11	4.9	.....	2ck	5s	SE	SE	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.44	747.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.48	748.8	30.17	766.3	53	11.7	80	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.50	749.3	30.14	765.5	55	12.8	70	SE	4	1.8	.....	5ck	Haze	W	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	30.00	762.0	30.32	770.1	50	10.0	72	NE	.....	.....	3	2c	2s	NE	NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.66	753.4	30.11	764.8	58	14.4	53	E	4	1.8	.....	.....	Sm'e	.....	.....	0	0	Smoky	W. H. McIntyre.
St. Andrews, N. B	30.30	769.6	30.35	770.9	48	8.9	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.19	766.8	30.36	771.1	46	7.8	77	S	2	0.9	.....	7ck	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.03	762.8	61	16.1	42	S	18	8.0	.....	.....	10ks	.....	S	0	0	Threatening	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.10	764.5	53.9	12.2	67	S	10	4.5	.....	3ck;cs	4s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.21	767.3	30.25	768.3	57	13.9	49	W	16	7.2	.....	5k	0	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.81	757.2	30.10	766.8	54	12.2	57	SE	5	2.2	.....	Haze	5ks	Calm	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.24	768.1	30.34	770.6	56.5	13.6	60	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.08	764.0	30.32	770.1	59.0	15.0	48	W	.....	.....	.....	2c	2s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.13	765.3	30.36	771.1	56	13.3	51	S	4	1.8		2c	Haze	Calm		0	0	Fair	
Alpena, Michigan	29.27	743.4	29.91	759.7	48	8.9	78	S	11	4.9			8s		Calm	0	0	Cloudy	
Atlanta, Georgia	29.02	737.1	30.16	766.1	60	15.6	65	NE	12	5.4		0	0			0	0	Clear	
Atlantic City, New Jersey	30.39	771.9	30.40	772.1	55	12.8	74	NE	12	5.4		0	0			0	0	Clear	
Augusta, Georgia	29.99	761.7	30.16	766.1	66	18.9	64	NE	8	3.6			10ks		NE	0	0	Cloudy	
Baltimore, Maryland	30.34	770.6	30.39	771.9	54	12.2	49	NE	4	1.8			10s		NE	0	0	Cloudy	
Barnegat, New Jersey	30.36	771.1	30.38	771.6	54	12.2	74	E	12	5.4		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	27.96	710.2	29.82	757.4	57	13.9	75	NE	10	4.5			10s		NE	0	0	Cloudy	
Boerne, Texas	28.52	724 4	29.79	756.7	68	20.0	84	SW	12	5.4		5k	5ks	Calm	SW	0	0	Cloudy	
Boise City, Idaho	27.17	690.1	30.13	765.3	37	2.8	81	Calm	0	0		0	0			0	0	Clear	
Boston, Massachusetts	30.23	767.8	30.38	771.6	57	13.9	41	S	1	0.4		1c	0	Calm		0	0	Clear	
Brackettville, Texas	28.81	731.8	29.81	757.4	70	21.1	66	E	7	3.1		0	0			0	0	Clear	
Breckenridge, Minnesota	28.68	728.5	29.63	752.6	58	14.4	94	E	12	5.4			10ks		W	0.19	4.8	Cloudy	
Brownsville, Texas	29.94	760.5	29.98	761.5	77	25.0	61	SE	8	3.6		2cs	0	Calm		0	0	Clear	
Buffalo, New York	29.47	748.5	30.17	766.3	53.5	11.9	40	SW	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Burkes, Arizona					68	20.0	18	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	30.01	762.2	30.30	769.6	57	13.9	47	S	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.69	754.1	30.07	763.8	71	21.7	58	S	8	3.6		1c	Sm'e	NW		0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.17	639.3	29.97	761.2	51	10.6	28	N	4	1.8		0	Haze		Calm	0	0	Hazy	
Camp Verde, Arizona	26.72	678.7	30.06	763.5	52	11.1	41	N			2	2k	0	W		0	0	Fair	
Campo, California	27.51	698.7	30.08	764.0	28	— 2.2	66	SW	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.19	766.8	30.20	767.1	59	15.0	94	NE	11	4.9		1c	8s	Calm	NE	0.61	15.5	Clearing	
Cape Henry, Virginia	30.25	768.3	30.27	768.8	56	13.3	87	NE	12	5.4			10s		NE	0.03	0.8	Cloudy	
Cape Lookout, N. Carolina	30.14	765.5	30.16	766.1	62	16.7	100	NE	22	9.8			10n		E	1.45	36.8	Light rain	
Cape May, New Jersey	30.28	769.1	30.31	769.9	56	13.3	74	E	14	6.3		2cs	0	Calm		0	0	Clear	
Castroville, Texas	29 20	741.7	29.89	759.2	68	20.0	90	S	6	2.7			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.04	763.0	30.09	764.3	64	17.8	83	NE	13	5.8			10s		NE	0.04	1.0	Cloudy	
Cheyenne, Wyoming	23.78	604.0	29.72	754.9	50	10.0	65	NE	4	1.8		0	8ks		NE	0	0	Cloudy	
Chicago, Illinois	29.26	743.2	29.92	760.0	65	18.3	73	SE	5	2.2			10s		W	0	0	Threatening	
Cincinnati, Ohio	29.51	749.5	30.16	766.1	62	16.7	51	SE	7	3.1		5cs	0	NW		0	0	Fair	
Cleveland, Ohio	29.43	747.5	30.14	765.5	61	16.1	40	SE	16	7.2		5cs	Haze	Calm	Calm	0	0	Fair	
Coleman City, Texas	28.09	713.5	29.69	754.1	68	20.0	70	S	10	4.5			10s		SW	0	0	Cloudy	
Columbus, Ohio	29.33	745.0	30.15	765.8	61	16.1	45	S	5	2.2		5cs	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	28.02	711.7	29.63	752.6	68	20.0	84	S	24	10.7		10ck	0	Calm		0	0	Cloudy	
Corsicana, Texas	29.51	749.5	29.97	761.2	67	19.4	89	S	12	5.4		5cs;ck	2s	NW;W	S	0	0	Fair	
Davenport, Iowa	29.19	741.4	29.79	756.7	70	21.1	61	S	8	3.6		0	0			0	0	Clear	
Deadwood, Dakota	25.17	639.3			48	8.9	93	NE	4	1.8			10n		NE	0.28	7.1	Heavy rain	
Decatur, Texas	28.71	729.2	29.83	757.7	68	20.0	79	S	16	7.2		2c	0	Calm		0	0	Clear	
Denison, Texas	29.14	740.1	29.90	759.4	68	20.0	84	S	10	4.5		5cs	0	S		0	0	Fair	
Denver, Colorado	24.48	621.8	29.70	754.4	53	11.7	36	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	28.81	731.8	29.64	752.8	70	21.1	75	SW	7	3.1			10s		SW	0	0	Cloudy	
Detroit, Michigan	29.39	746.5	30.04	763.0	63	17.2	42	SW	8	3.6		5cs	0	Calm		0	0	Fair	
Dodge City, Kansas	27.10	688.3	29.24	742.7	67	19.4	69	S	20	8.9		5c	0	S		0	0	Fair	
Dubuque, Iowa	29.07	738.4	29.78	755.1	68	20.0	60	S	8	3.6		5k	5s	SE	Calm	0.14	3.6	Cloudy	
Duluth, Minnesota	29.15	740.4	29.82	757.4	46	7.8	92	NE	2	0.9			Fog		Calm	0.13	3.3	Foggy	
Eagle Pass, Texa	29.14	740.1	29.83	757.7	74	23.3	59	E	3	1.3		5ck	0	W		0	0	Fair	
Eastport, Maine	30.30	769.6	30.36	771.1	49	9.4	78	S	4	1.8		10cjhz	Haze	Calm	Calm	0	0	Hazy	
Edinburg, Texas					76	24.4	77	S			6	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.11	663.2			69	20.6	19	W	4	1.8		0	1s		W	0	0	Clear	
Erie, Pennsylvania	29.44	747.8	30.14	765.5	62	16.7	41	S	19	8.5		0	Sm'e		Calm	0	0	Smoky	
Escanaba, Michigan	29.15	740.4	29.80	756.9	49	9.4	93	NW	4	1.8			10n		S	0.57	14.5	Light rain	
Florence, Arizona	28.55	725.2	30.15	765.8	60	15.6	20	W	3	1.3		0	0			0	0	Clear	
Fort Buford, Dakota	27.79	705.8			49	9.4	85	E	1	0.4		10cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.35	643.9	29.41	747.0	55	12.8	9	SW	6	2.7		0	0			0	0	Clear	
Fort Davis, Texas	25.15	638.8	30.11	764.8	66	18.9	50	SW	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.38	746.2	29.83	759.2	72	22.2	67	S	10	4.5			10s		S	0	0	Cloudy	
Fort Griffin, Texas	28.54	724 9	29.75	755.6	71	21.7	62	SE	12	5.4		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.27	692.6			49	9.4	93	Calm	0	0			10s		Calm	0.17	4.3	Cloudy	
Fort McKavett, Texas	27.67	702.8	29.52	749.8	66	18.9	69	S	16	7.2		2k	5s	S	S	0	0	Fair	
Fort St. Michael, Alaska	30.05	763.3	30.08	764.0	30	— 1.1	100	SW	15	6.7			10s		SW	0.01	0.3	Cloudy	
Fort Sill, Indian Territory	28.61	726.7	29.67	753.6	70	21.1	70	SE	16	7.2		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.99	710.9			48	8.9	77	E	2	0.9		4ck	4s	Calm	Calm	0	0	Cloudy	
Fredericksburg, Texas	28.21	716.5	29.72	754.9	66	18.9	84	S	12	5.4		5cs	0	Calm		0	0	Fair	
Galveston, Texas	30.02	762.5	30.06	763.5	73	22.8	76	S	8	3.6		0	5ks		S	0	0	Fair	
Graham, Texas	28.76	730.5	29.76	755.9	70	21.1	80	SE	8	3.6		2c	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.94	760.5	60	15.6	82	S	20	8.9			10n		Calm	0.25	6.3	Light rain	
Indianapolis, Indiana	29.22	742.2	29.97	761.2	69	20.6	56	SE	6	2.7		8ck	0	SW		0	0	Fair	
Indianola, Texas	30.02	762.5	30.04	763.0	76	24.4	73	S	10	4.5		0	1s		S	0	0	Clear	
Jacksboro, Texas	28.71	729.2	29.79	756.7	71	21.7	66	SE	20	8.9		0	0			0	0	Clear	
Jacksonville, Florida	30.01	762.2	30.04	763.0	66	18.9	79	W	12	5.4			10s		N	0	0	Cloudy	
Keokuk, Iowa	29.17	740.9	29.75	755.6	71	21.7	66	S	12	5.4		2c	0	W		0	0	Clear	
Key West, Florida	29.89	759.2	29.92	760.0	74	23.3	72	N	15	6.7		5k	0	N		0	0	Fair	
Kittyhawk, North Carolina	30.20	767.1	30.22	767.6	56	13.3	100	NE	18	8.0		0	Fog		NE	0.37	9.4	Clear	
Knoxville, Tennessee	29.24	742.7	30.24	768.1	60	15.6	60	Calm	0	0		0	Fog			0	0	Foggy	
La Crosse, Wisconsin	29.02	737.1	29.71	754.6	66	18.9	74	S	4	1.8		2k	0	S		0.37	9.4	Clear	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	55	12.8	39	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.50	749.3	29.82	757.4	75	23.9	52	SE	8	3.6		0	0			0	0	Clear	
Leavenworth, Kansas	28.87	733.3	29.66	753.4	71	21.7	75	S	13	5.8		10cs	0	W		0	0	Cloudy	
Los Angeles, California	29.80	756.9	30.15	765.8	49.0	9.4	74	E	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.55	750.6	30.10	764.5	65	18.3	54	SE	8	3.6		0	0			0	0	Clear	
Lynchburg, Virginia	29.64	752.8	30.32	770.1	58	14.4	63	Calm	0	0			10ks		Calm	0	0	Cloudy	
Madison, Wisconsin	28.82	732.0	29.76	755.9	64	17.8	83	SW	16	7.2		0	0			0.40	10.2	Clear	
Marquette, Michigan	29.09	738.9	29.78	756.4	54	12.2	100	NW	4	1.8			10n		Calm	0.16	4.1	Light rain	
Mason, Texas	28.31	719.1	30.01	762.2	68	20.0	70	S	9	4.0		8cs	0	NW		0	0	Fair	
Memphis, Tennessee	29.78	756.4	30.08	764.0	69	20.6	60	S	6	2.7		5cs	0	Calm		0	0	Fair	
Milwaukee, Wisconsin	29.06	738.1	29.76	755.9	58	14.4	88	SE	18	8.0		0	8s		W	0.33	8.4	Clearing	
Mobile, Alabama	30.08	764.0	30.12	765.0	61	16.1	77	NE	6	2.7		0	0			0	0	Clear	
Montgomery, Alabama	29.96	761.0	30.19	766.8	61	16.1	66	E	3	1.3		0	0			0	0	Clear	
Morgantown, West Virginia	29.16	740.7	30.20	767.1	63	17.2	57	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	24.14	613.1	30.50	774.7	38	3.3	80	S	20	8.9		10ck	0	W		0	0	Cloudy	
Nashville, Tennessee	29.62	752.3	30.14	765.5	71	21.7	41	S	3	1.3		1cs	Haze	Calm		0	0	Clear	
New Haven, Connecticut	30.28	769.1	30.40	772.1	57	13.9	52	NE	1	0.4		0	0			0	0	Clear	
New London, Connecticut	30.36	771.1	30.41	772.4	54	12.2	61	Calm	0	0		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	30.03	762.8	30.09	764.3	73	22.8	67	NE	5	2.2		0	0			0	0	Clear	
Newport, Rhode Island	30.36	771.1	30.41	772.4	51.5	10.8	72	E	4	1.8		2c	0	Calm		0	0	Clear	
New York, New York	30.23	767.8	30.41	772.4	55	12.8	44	E	8	3.6		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.25	768.3	30.31	769.9	58	14.4	88	NE	8	3.6			10s		Calm	0.03	0.8	Cloudy	

UNITED STATES SERIES.—CONTINUED.

Stations	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.67	677.4	29.07	738.4	63	17.2	47	NW	12	5.4		10cs	0	NW		0	0	Cloudy	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	48.0	8.9	85	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Omaha, Nebraska	28.48	723.4	29.51	749.5	70	21.1	75	SE	6	2.7			10s		Calm	0	0	Cloudy	
Oswego, New York	29.93	760.2	30.25	768.3	57	13.9	58	S	8	3.6		Haze	Sm'e	Calm	Calm	0	0	Smoky	
Pembina, Dakota	28.96	735.6	29.78	756.4	50	10.0	86	NW	3	1.3			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	30.34	770.6	30.39	771.9	52	11.1	66	NE	10	4.5		0	0			0	0	Clear	
Phœnix, Arizona	28.86	733.0	30.69	779.5	51	10.6	28	W	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.50	444.5	29.71	754.6	20	— 6.7	41	SW	24	10.7		2k	0	SW		0	0	Clear	
Pioche, Nevada	23.92	607.6	29.69	754.1	31	— 0.6	79	N	6	2.7		0	5s		NW	0.03	0.8	Fair	
Pittsburg, Pennsylvania	29.44	747.8	30.25	768.3	54	12.2	55	Calm	0	0		0	Fog		Calm	0	0	Clear	
Port Huron, Michigan	29.37	746.0	30.02	762.5	61	16.1	40	S	19	8.5			10ks		S	0	0	Cloudy	
Portland, Maine	30.30	769.6	30.35	770.9	55	12.8	62	SW	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Portland, Oregon	30.02	762.5	30.13	765.3	47.5	8.6	92	S	3	1.3			10n			0.02	0.5	Light rain	
Prescott, Arizona	24.66	626.4	30.02	762.5	37	2.8	31	W	10	4.5		0	0			0	0	Clear	
Pilot Point, Texas	29.16	740.7	29.96	761.0	66	18.9	89	SE	8	3.6		Haze	Haze			0	0	Hazy	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	66	18.9	84	N	14	6.3		10k	0	NE		0	0	Cloudy	
Red Bluff, California	29.82	757.4	30.18	766.6	56	13.3	66	SW	3	1.3			10ks		SW	0	0	Cloudy	
Rio Grande City, Texas	29.80	756.9	30.02	762.5	71	21.7	80	SE			1	0	0			0	0	Clear	
Rochester, New York	29.58	751.3	30.19	766.8	59	15.0	38	SW	8	3.6		0	Sm'e			0	0	Clear	
Roseburg, Oregon	29.56	750.8	30.14	765.5	46	7.8	84	S	1	0.4			10n		Calm	0.11	2.8	Light rain	
Sacramento, California	30.10	764.5	30.19	766.8	48	8.9	85	S	4	1.8		0	5s		Calm	0	0	Fair	
St. Louis, Missouri	29.38	746.2	29.94	760.5	70	21.1	70	S	16	7.2		1c	0	Calm		0	0	Clear	
St. Marks, Florida	30.08	764.0	30.10	764.5	65	18.3	73	NE	10	4.5		0	0			0	0	Clear	
St. Paul, Minnesota	29.85	758.2	29.64	752.8	62	16.7	83	N	6	2.7		0	8ks		SE	0.58	14.7	Fair	
Salt Lake City, Utah	25.40	745.2	29.73	755.1	48	8.9	43	NW	9	4.0		4k	0	W		0	0	Fair	
San Antonio, Texas	29.29	744.0	29.85	758.2	70	21.1	80	SE	8	3.6			10ks		SE	0	0	Cloudy	
San Diego, California	30.10	764.5	30.17	766.3	48	8.9	78	E	4	1.8		0	0			0	0	Clear	
Sandusky, Ohio	29.45	748.0	30.11	764.8	63	17.2	42	S	16	7.2		10c	Haze	NW	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.36	771.1	30.39	771.9	52	11.1	60	NE	8	3.6		2c	0	NW		0	0	Clear	
San Francisco, California	30.18	766.6	30.24	768.1	51.8	11.0	79	SW	10	4.5			10s		Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.11	587.0	29.65	753.1	53	11.7	19	SE	12	5.4		0	0			0	0	Clear	
Savannah, Georgia	30.01	762.2	30.10	764.5	64	17.8	83	NE	10	4.5			10s		NE	0	0	Cloudy	
Shreveport, Louisiana	29.83	757.7	30.04	763.0	70	21.1	80	S	4	1.8		5cs	0	Calm		0	0	Fair	
Silver City, New Mexico	24.21	614.9	30.32	770.1	50	10.0	25	W	6	2.7		0	0			0	0	Clear	
Smithville, North Carolina	30.11	764.8	30.15	765.8	62	16.7	100	NE	16	7.2			10n		NE	Inap.	Inap.	Light rain	
Springfield, Massachusetts	30.27	768.8	30.40	772.1	56	13.3	57	SE	2	0.9		0	0			0	0	Clear	
Stockton, Texas	26.81	681.0	29.81	757.2	68	20.0	56	SE	20	8.9		2c	0	SE		0	0	Fair	
Thatcher's Island, Mass	30.34	770.6	30.40	772.1	51	10.6	86	S	9	4.0		2c	0	Calm		0	0	Clear	
Toledo, Ohio	29.38	746.2	30.04	763.0	68	20.0	84	S	12	5.4		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.54	699.5	30.09	764.3	56	13.3	28	W	7	3.1		0	0			0	0	Clear	
Umatilla, Oregon	29.73	755.1	30.22	767.6	51.0	10.6	62	SW	12	5.4		0	5s		W	0	0	Fair	
Unalaska, Aleutian Islands																			
Uvalde, Texas	29.05	737.9	29.85	758.2	71	21.7	75	S	6	2.7		5c	0	SW		0	0	Fair	
Vicksburg, Mississippi	29.88	758.9	30.13	765.3	68	20.0	60	SE	7	3.1		2c	0	Calm		0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	38	3.3	72	Calm	0	0			10s		Calm	0.04	1.0	Cloudy	
Visalia, California	29.82	757.4	30.20	767.1	46.5	8.1	76	N	1	0.4		0	0			0	0	Clear	
Washington, D. C.	30.24	768.1	30.36	771.1	53	11.7	61	NE	7	3.1		10cs	0	NE		0	0	Cloudy	
Wickenburg, Arizona					50	10.0	32	NW			2	0	0			0	0	Clear	
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	63	17.2	83	NE	11	4.9			10s		NE	0	0	Cloudy	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	29	— 1.7	78	SW	8	3.6		1c	0	Calm		0	0	Clear	
Wood's Holl, Mass	30.35	770.9	30.39	771.9	50	10.0	86	SE	6	2.7			8s; fg		E	0	0	Cloudy	
Yankton, Dakota	28.29	718.6	29.51	749.5	62	16.7	83	E	9	4.0		10ck	0	W		0	0	Cloudy	
Yuma, Arizona	29.88	758.9	30.05	763.3	57	13.9	41	E	2	0.9		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.37	720.6	29.71	754.6	69	20.6	56											Clear	J. B. Gordon.
Havana, Cuba, W. I	29.86	758.4	29.91	759.7	78	25.6	72	Calm	0	0		4ck	8ks	Calm	N	0.10	2.5	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.25	741.3			67.5	19.7	80	Calm			0	1k	2ks			0.02	0.5		Thomas Herran.
Navassa, W. I	29.80	756.9	29.88	758.9	79	26.1		W								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	85	29.4	72	E			2	3c	5k	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.52	749.8	29.58	751.3	36.5	2.5	100	N	14	6.3			10n		N	0.70	17.8	Raining	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 7,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By anthority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.15‡	765.8‡			67	19.4	64	NE	7	3.1			0							Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡			65.5	18.6	89	SW			1		10n		W	Slight	Slight			Gloomy	
Adams, Panama	29.93‡	760.2‡			77	25.0	91	NW			2		5		NW					Fair	
Alaska, Sitka, Alaska	29.69‡	754.1‡			45	7.2	84	E			1		10		NW	0	0			Overcast	
Alliance, Algiers, Algeria	30.15‡	765.8‡			63	17.2	52	N			2		8		N					Pleasant	
Ashuelot, Hong-Kong, China	29.91‡	759.7‡			77	25.0	82	WSW			3–5		10		WSW			Smooth		Raining	
Canonicus, At sea, between mouth of Mississippi and Pensacola, Fla.	30.10‡	764.5‡			71	21.7	90	NNE			2		0					Long	N;E	Clear	
Colorado, New York, N. Y.	30.45‡	773.4‡			57	13.9	100	Calm	0	0			0			0	0			Hazy	
Constitution, N. 23° 35′, W. 60° 40′	29.93‡	761.7‡			72	22.2	95	SE			4		10		SE			Smooth	SE	Heavy rain	
Despatch. Port Mahon, Spain	30.05‡	763.3‡			60	15.6	45	NNW			3		5			0	0	Smooth		Pleasant	
Enterprise, Havre, France	30.14‡	765.5‡			52	11.1	79	SSW			4		8		SW			Smooth		D. clouds	
Franklin. Norfolk, Va.	30.26‡	768.6‡			58	14.4	94	NE	7.2	3.2			10		Calm	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	29.96‡	761.0‡			64	17.5	78	N			5		10		N	0	0			Cloudy	
Michigan, Erie, Pa.					63	17.2	83	S			4		0							Clear	
Monongahela, Yokohama, Japan	29.94‡	760.5‡			67	19.4	89	Calm			0		10			Light	Light			Overcast	
New Hampshire, Port Royal, S. C.	30.09‡	764.3‡			65	18.3	89	NNE	18	8.0			10		NNE	0	0			Cloudy	
Onward, Callao, Peru.†*	30.11‡	764.8‡			64	17.8	83	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.89‡	759.2‡			61	16.1	94	NNW			2		10							Drizzling	
Passaic, Washington, D. C.					56	13.3	69	NE			2		8		S					Cloudy	
Pensacola, Callao, Peru	30.01‡	762.2‡			67	19.4	74	SSE	1	0.4			10			0	0	Smooth		Overcast	
Portsmouth, Hampton Roads, Va.	30.49‡	774.4‡			57	13.9	87	N			4		10		Calm			Mod'ate	N;E	Misty	
Powhatan, Hampton Roads, Va.	30.28‡	769.1‡			58	14.4	94	NE			4		10		NE	0.1	3.			Hazy	
Quinnebaug, Alexandria, Egypt	29.79‡	756.7‡			72	22.2	80	WNW			3		10		NW					Cloudy	
Ranger, Amoy, China	29.82‡	757.4‡			81	27.2	83	SSW			2		10		NE			Smooth		Raining	
Richmond, N. 12° 50′, E. 112° 06′	29.80‡	756.9‡			85	29.4	81	SE			3		2		SE	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.00‡	762.0‡			69	20.6	95	S			1		2		S					Fair	
Santee, Annapolis, Md.	30.26‡	768.6‡			58	14.4	94	E			1		10		E	0	0			Overcast	
Saratoga, N. 35° 13′, W. 26° 35′	30.33‡	770.4‡			65	18.3	73	SE			7		8		NW	0	0	Rough	SE	D. clouds	
St. Louis, League Island, Pa	30.32‡	770.1‡			60	15.6	55	E	6	2.7			2		N	0	0			Clear	
Trenton, Villafranca, France	29.74‡	755.4‡			66	18.9	54	ENE			1		8		Calm	0	0	Smooth		Cloudy	
Tuscarora, Acapulco, Mexico	29.93‡	760.2‡			79	26.1	78	Calm			0		0			0	0	Smooth		Hazy	
Vandalia, Aspinwall, New Granada	29.96‡	761.0‡			74	23.3	100	SE			1		2		SE			Smooth		Fair	
Wabash, Boston, Mass.	30.40‡	772.1‡			50	10.0	52	SW	2	0.9			2			0	0			Hazy	
Wyoming, Villafranca, France	29.72‡	754.9‡			65	18.3	89	Calm			0		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 45° 28′ W. 29° 34′...†*		30.06	763.5	53	11.7		NNE			1		10		NW		Mod'ate	W	Cloudy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury Hong-Kong, China		29.98‡	761.5‡				NW			4		8ck		NW	0			D. clouds	L. B. Walls.
S. S. Colima, N. 22° 32′, W. 106° 05′...†		30.01‡	762.2‡	76	24.4		SE			3		8		N	0	Small	SSW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, N. 39° 28′, W. 124° 40′...†		30.24‡	768.1‡	53	11.7	86	SE			1		4		SE		Mod'ate	SE	Hazy	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.87‡	758.7‡				WSW			6		10		WSW				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 31° 10′, E. 132° 54′		29.83‡	757.7‡	70	21.1	95	SW			4		6ck				Smooth		Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 34° 30′, E. 138° 50′		29.76‡	755.9‡	63	17.2	94	ESE			4–5		10n				Smooth		Raining	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 31° 23′, W. 70° 19′		30.09‡	764.3‡	69.0	20.6	95	ENE			6		10				Mod'ate	E	Rainy	Capt. C. Undütsch.
S. S. Leipzig, N. 47° 05′, W. 24° 54′		30.43‡	772.9‡	59.0	15.0	85	WSW			4		5		W		Mod'ate	WSW	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 27′, W. 13° 50′		30.19‡	766.8‡				WNW			4		10		WNW		Long	N	Light rain	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.38‡	771.6‡	70	21.1	95	N			1		1		N	0			Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 27° 27.' W. 74° 23'		29.93‡	760.2‡	76	24.4	73	SE	10	4.5			8k		SE	0.55 in. or 14.0mm	Short	ESE	D. clouds	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, Arrayo, Porto Rico, W.I.		29.62‡	752.3‡				S	15	6.7			10		SE	3.0 in. or 76.2mm	Long	SE	Raining	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

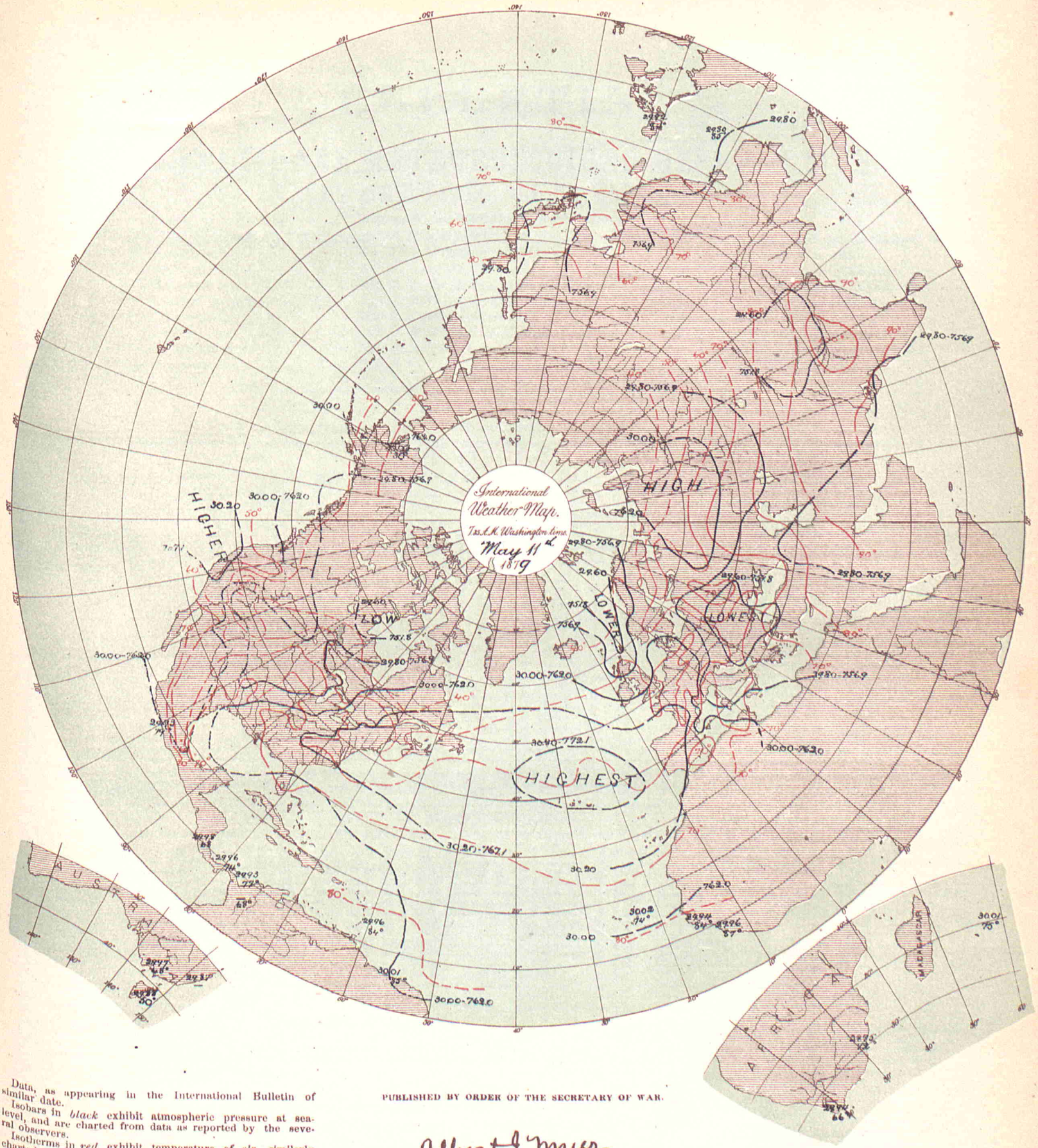
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 12, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Lemoars			30.19	766.9	67.3	19.6	65	NW			2		0			0	0	Clear	Kesxuche.
Algiers			30.16	766.1	64.0	17.8	65	NNW			2		0			0	0	Clear	Touriliere.
La Calle			30.10	764.6	58.1	14.5	83	NW			5		10			0.067	1.70	Raining	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.14	765.5															
Tebessa			30.19	766.9	70.2	21.2	6	N			4		0			0	0	Clear	Herbin.
Geriville			30.15	765.8	59.9	15.5	27	W			6		5			0	0	Cloudy	Watrin.
Mont			30.17	766.2	67.3	19.6	13	NW			2		2			0	0	Fair	Brugniaux.
Bakra			30.17	766.2	74.1	23.4	37	NE			4		0			0	0	Clear	Bertrand.
			30.17	766.2	75.6	24.2	17	NW			4		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Arram	29.32	744.7	29.88	758.9	46.6	8.1	73	E			3		10			0.008	0.2	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.7	29.87	758.8	36.9	2.7	91	W			2		10			1.563	39.7		Dr. Wierzbiski.
Gratz	28.84	732.6	29.73	755.1	45.1	7.3	79	NW			2		10s		S	0.858	21.8		Julius Mikolik.
Hermannstadt	28.64	727.4	29.89	759.2	49.5	9.7	43	NW			6		10			0	0		Andreas Rospini.
Kremsmünster	28.21	716.6	29.61	752.1	56.3	13.5	65	NW			2		10			0.295	7.50		Prof. A. Gottschling.
Lemberg	28.69	728.7	30.06	763.4	45.5	7.5	53	NW			4		10			0	0		Prof. C. Wagner.
	28.65	727.7	29.62	752.4	55.0	12.8	78	NW			2		9			0	0		Dr. T. Stanecki.
Lomar	29.74	755.4	29.85	758.2	52.2	11.2	81	SSW			1		10			0.181	4.6		I.R. Hydrographic Office
Lodin	29.26	743.3	29.72	754.9	56.8	13.8	64	W			2		8			0.165	4.2		Julius Csics, S. J.
Triste	29.40	746.8	29.69	754.0	46.0	7.8	80	NE			1		10			0.055	1.40		Karl Stancel.
Vienna	29.75	755.6	29.85	758.2	59.4	15.2	60	W			1		10			0	0	Cloudy	P. Busin.
	29.24	742.8	29.98	761.6	38.3	3.5	88	WNW			5		10			1.811	46.0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.94	760.5	30.04	763.0	54.6	12.6		W	14	6.3			5			0	0	Blue sky	W. Boswell.
Ardrossan	30.07	763.8	30.08	764.0	55	12.8		WNW			3		3					Blue sky	William McNeil.
Armagh, Observatory			30.17	766.3	51.0	10.6		WSW	8	3.6			8					Showery	S. Call.
Bidston (Liverpool Obs)			30.16	766.1	55.0	12.8		W	19	8.5			1					Blue sky	John Hartnup.
Bolton (Sharples)			30.16	766.1	53.2	11.8		W	18	8.0			7					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.75	755.6	30.15	765.8	55.5	13.1		NW			3		6			0.01	0.3	D. clouds	J. McLandsboroug.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	83.5	28.6		SE			2		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.13	765.3	60.0	15.6		N			1		7			Blank	Blank	D. clouds	H. Todd.
Cardington			30.14	765.5	60.4	15.8		N			1		3					D. clouds	John McLaren.
Chatham, School M. E.	30.02	762.5	30.15	765.8	59.8	15.4		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	30.10	764.5	30.14	765.5	52	11.1		W			3		8					D. clouds	J. Mac Gowan.
Dover	30.14	765.5	30.16	766.1	53	11.7		WSW			2		5					½ clouded	J. Costello.
Falmouth, Observatory	29.97	761.2	30.20	767.1	59.0	15.0		NNW			2		3					D. clouds	The Staff.
Fort Napier (Natal)	27.54	699.5	29.85	758.2	75.0	23.9		NE			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	83	28.3		W			1		3					D. clouds	
Galway, Queen's College			30.13	765.3	56	13.3		SW			2		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	30.08	764.0	30.13	765.3	66.7	19.3		E			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.87	758.7	30.07	763.8	54.0	12.2		W			4		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.11	764.8	30.12	765.0	52	11.1		NNE			3		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.98	761.5	30.15	765.8	56.5	13.6		NW			1		9					Almost overcast.	The Staff, for G.B.Airy.
Guernsey	29.98	761.5	30.20	767.1	57	13.9		WNW			1		0					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.13	765.3	30.25	768.3	61	16.1		NW			2		c			0	0	Very fine	M. P. Moyle.
Holyhead	30.17	766.2	30.19	766.8	56	13.3		WSW			3		0					Blue sky	John Tilston.
Jersey	29.93	760.2	30.22	767.6	54.8	12.7		W			2		3					D. clouds	J. Fisher.
Kew, Observatory	30.12	765.0	30.15	765.8	59.2	15.1		NW	6	2.7			7					D. clouds	The Meteorological Of.
Leicester, Museum.	29.90	759.4	30.15	765.8	56.2	13.4		NE			2		8					D. clouds	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.80	756.9	29.87	758.7	62	16.7		NW			2		6k			0	0	D. clouds	Sergt. H. J. Beckett, A. H. C.
Nairn	29.90	759.4	30.00	762.0	56	13.3		WSW			3		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			29.83	757.7	79.5	26.4		SW			1		4			0.19	4.8	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.96	761.0	30.15	765.8	61.2	16.2		NW			3		7k		N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.64	752.8	30.16	766.1	57.0	13.9		NW			3		5					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.16	766.1	56	13.3		NW			1		8					Overcast	H. E. Bellamy.
Plymouth	30.10	764.5	30.18	766.6	55.4	13.0		SSW			2		10					Showery	John Merrifield.
Prince Town	28.73	729.7	30.22	767.6	48.5	9.2		SW			1		10					Raining	H. Tooker.
*Roche's Point	30.16	766.1	30.27	768.8	56	13.3		SW			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	30.03	762.8	30.20	767.1	54	12.2		WNW			1		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			29.95	760.7	47.2	8.4		WSW	24	10.7			0					Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.61	752.1	29.68	753.9	61.8	16.6		SW			2		8					D. clouds	Serg't W. H. Lyne.
Sheffield	29.88	758.9	30.15	765.8	61.2	16.2		NNW			2		5			0.01	0.3	Blue sky	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.11	764.8	56.4	13.6	69	W			5		3			0.012	0.30	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.75	755.6	30.16	766.1	53.5	11.9		W			2		8					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.95	760.7	30.16	766.1	58.1	14.5		NW			2		7					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.08	764.0	30.11	764.8	62	16.7		NW			5		4					D. clouds	W. Newcombe.
Valencia, Observatory	30.18	766.6	30.21	767.3	55.7	13.2		SW	17	7.6			8					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.88	758.9	29.92	760.0	62	16.7	79	NW	12	5.4		10	10			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.95	760.7	52.0	11.1	88	S			2		10kn			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.07	763.8	57.0	13.9		W			3		5k			0.02	0.5	Fine	Andrew Gibb.
Mauritius, Observatory	29.79	756.7	29.98	761.6	75.4	24.1	84	NNE	5.0	2.2		1	2			0.17	4.3	Fine	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.81	757.2	50.0	10.0	85	NE	8	3.6			7			0.08	2.0	Rain-squalls	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.02	762.5	50	10.0		W			4	3	5	W		0.3	8.		J. Youngclause.
North Unst (Shetland Is.)			29.82	757.4	43	6.1		N			4	3	7	W					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn,"																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 17° 30′, W. 54° 37′			30.00‡	762.0‡	83	28.3		ESE			4		8					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore, N. 43° 35′. W. 32° 55′			30.30	769.6	63	17.2		S			5		4			3	S	D. clouds	Capt. J. W. Thorne.
—— City of Agra,																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole, N. 38° 50′, W. 17° 23′			30.42‡	772.6‡	59.2	15.1		NNE			3		9					Overcast	Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	68.4	20.2	84	NE			1	0	0			0.03	0.8		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Copenhagen	30.00	761.0	30.05	763.2	47.8	8.8	58	SW			2		1						
Fanöe	30.02	762.4	30.04	762.9	48.4	9.1	87	WSW			4		10						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.73	755.1	29.76	756.0	45.7	7.6	74	W			2		8					Raining	
Vestervig	29.81	757.1	29.98	761.4	46.0	7.8	89	SW			4		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Alençon, Normal School	29.68	753.9	30.23	767.9	56.5	13.6	73	NE			1		10	NE	NW			Raining	Collignon, Director.
Amiens, Normal School	30.04	763.1	30.15	765.8	64.0	17.8	46	NNW			1		5		NE	0	0	Cloudy	Bonvallet, Director
Arras, Engin'r Reg't Sch'l	29.90	759.5	30.16	766.0	56.3	13.5	60	NW			4				NW	0	0		Klein, Commandant.
Avignon, Normal School	29.95	760.7	30.03	762.7	60.1	15.6	42	N			4		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.64	752.8	30.20	767.1	54.5	12.5	91	NE			1		5		NE	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.91	759.6	30.17	766.3	59.4	15.2	53	WSW			1		8		NW	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.28	743.8	30.18	766.6	54.0	12.2	41	E			1		2		NE	0.08	0.2	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.31	744.5	30.23	767.8	54.9	12.7	48	N			3		5k	N	N	0	0	Cloudy	Marlot, Director
Bourges, Normal School	29.65	753.1	30.22	767.5	58.3	14.6	55	N			1		2	N	N	0	0	Fine	A. Waquet, Director
Brest, Naval Observatory	29.91	759.7	30.15	765.8	61.2	16.2	62	WNW			1		4k		W	0.167	4.25		De Kermaree, Director.
Carcassonne, Normal School	29.82	757.5	30.24	768.1	58.8	14.9	60	WNW			3		5	WNW	WNW	0.04	1.	Cloudy	September, Director.
Caen, Normal School	30.11	764.9	30.19	766.8	56.1	13.4	75	SSW			1		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.58	751.3	30.13	765.4	63.0	17.2	96	S			1		8	E	SE	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.88	759.0	30.10	766.0	59.9	15.5	30	SSW			2		8	W	W			Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.81	731.7	30.17	766.2	55.8	13.2	30	N			1		8		N	0	0		Alluard, Director.
Commercy, Normal School.	29.34	745.2	30.21	767.4	50.5	10.3	74	NNW			1		5km		NNW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.82	731.9	29.96	760.9	55.9	13.3	33	NW			4		2		NW	0	0	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.34	745.2	30.11	764.9	52.9	11.6	37	N			1		5km	ENE		0.004	0.10	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	30.05	763.2	30.26	768.7	56.8	13.8	82	W			1		8		W	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.89	759.2	30.20	767.1	59.0	15	56	W			2		2	N	N	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.20	741.6	30.13	765.2	54.1	12.3	29	ENE			4		2k	NE	NE	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.13	765.4	30.24	768.0	60.8	16.0	69	WSW			2				WSW	0.272	6.90		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.64	752.7	29.91	759.6	58.5	14.7	30	NW			10		1		NW	0	0	Clear	Stephan, Director.
Mirecourt, Normal School	29.12	739.7	30.17	766.4	53.6	12	54	S			1		2ks		N	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.84	757.9	30.04	763.1	59.0	15	47	NW			4		0			0	0	Clear	Boyer, Director.
Privas, Normal School	29.03	737.3	30.10	764.5	53.6	12	46	N			4	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.5			28.8	—1.8	92	N			2		8			0.012	0.3	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.21	767.4	30.24	768.2	65.5	18.6	57	W			1		8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.12	765.0	30.21	767.2	58.8	14.9	56	WSW			1		5		W	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.16	766.1	30.19	766.9	57.7	14.3	75	N			3		1		N	0	0	Light clouds	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.03	762.8	30.20	767.0	59.5	15.3	51	WSW			1				NW	0	0		E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.23	767.7	48.2	9	61	W			3		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.53	750.0	30.26	768.5	55.4	13.0	70	NW			3		6			0.035	0.9		Mercadier Julier.
Versailles, Observatory	29.70	754.3	30.19	766.8	57.6	14.2	47	NW			2					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.48	748.7	30.19	766.8	57.4	14.1	50	N			4		2		NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.76	756.0	29.79	756.7	80.6	27										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.54	750.2	30.15	765.9	55.9	13.3	33	NNW			2		4		NNW	0	0	Cloudy	Mr. Jays.
Mont-Louis	24.90	632.5	30.22	767.5	43.7	6.5	48	NW	18.6	8.3			3		N	0	0		M. Cave.
Nice			29.89	759.1	61.2	16.2	75	W			1		10			0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.91	759.7			60.8	15.7	49	W			2		8		NW	0	0		Marié Davy, Director.
Perpignan	30.04	763.0	30.15	765.7	56.8	13.8	55	N	37.4	16.7			4		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.55	572.7			38.5	3.6		W			1		10			0.156	3.95	Snowy	Gen'l de Nansouty.
Tours	30.02	762.4	30.21	767.4	60.8	16.0	50	WNW			1		7		NNW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.93	760.3	29.96	760.9	62.4	16.9	84	WSW	4.7	2.1			10			0.028	0.7	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grèasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.27	743.4	30.11	764.9	51.3	10.7	29	NW			4		4	NW		0	0		Prof. Dr. Hoh.
Berlin	29.90	759.5	30.08	763.9	55.4	13.0	35	E			1		5			0	0		Prof. Arndt.
Breslau	29.44	747.8	29.97	761.3	42.1	5.6	83	NNW			6		10			0.035	0.90	Raining	Royal University Obs'y.
Carlsruhe	29.72	754.8	30.15	765.8	55.0	12.8	38	W			2		8	NW		0	0		Albert Senz.
Cassel	29.53	750.1	30.14	765.6	56.1	13.4	36	WNW			4		6	NW		0	0		Dr. H. Möhl.
Crefeld	29.96	761.1	30.13	765.2	59.0	15.0	44	W			3		9			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.78	756.5	30.15	765.9	57.9	14.4		NNW			0		7			0	0		Physical Society.
Freienwalde on the Oder	30.03	762.7	30.07	763.7	57.0	13.9	51	NW			4		3cs	SSE		0	0		Assmann., M. D.
Friedrichshafen	28.69	728.9	30.15	765.8	47.8	8.8	65	SW			5		8	NE		0	0		M. Wilhelm.
Hamburg	30.04	763.0	30.11	764.8	55.6	13.1	63	WSW			3		9k			0	0	Cloudy	Captain F. Hegeman.
Kiel	30.07	763.7	30.08	764.1	53.1	11.7	59	W			2		10			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.77	756.2	29.86	758.4	40.6	4.8	94	NW			3		8			0.130	3.3		Prof. E. Luther.
Köslin			29.98	761.5	46.2	7.9		NW			4		3			0	0		H. Müller.
Leipsic Observatory	29.69	754.1	30.11	764.9	52.5	11.4	46	NNW			3		7			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.76	756.0	29.81	757.2	40.8	4.9	94	NNW			4		10n					Squally	Skalweit.
Neufahrwasser	29.94	760.6	29.96	761.0	43.7	6.5	68	N			4		10			0.118	3.0		A. Lothes.
Posen	29.71	754.7	30.00	762.1	51.4	10.8	44	NW			6		10			0	0		Dr. Magenc.
Strassburg (in Alsace)	29.63	752.7	30.19	766.8	54.1	12.3	34	NNE			2		7	N		0	0		Imp. University Observatory.
Stuttgart	29.18	741.2	30.13	765.4	50.9	10.5	34	N			1		4	N		0	0		Prof. Schoder.
Treves (Trier)	29.61	752.2	30.14	765.5	55.4	13.0	40	NW			5		8			0	0		Prof. Flesch.
Weissenburg (Bavaria)	28.61	726.7	30.13	765.4	48.0	8.9	45	N	4	2			6ck		N	0	0		Dr. Van Bebber.
Wustrow	30.06	763.5	30.08	764.1	49.1	9.5	57	SW			2		0			0	0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.34	745.2	29.73	755.1	64.9	18.3		SW			1.5							⅜ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.72	754.8	29.76	756.0	86.3	30.2	62	WSW					5			0	0	D. clouds	
Deesa					100.4	38.0	23	W	7.5	3.4			0			0	0	Blue sky	
Bombay	29.73	755.2	29.77	756.2	84.3	29.1	81	NW	26.0	11.6			0			0	0	Blue sky	
Poona	27.79	705.8	29.72	755.0	95.2	35.1	32	NW					2			0	0	D. clouds	
Lahore	28.92	734.6	29.63	752.7	100.2	37.9	17	NW	2.2	1.0			0			0	0	Blue sky	
Belgaum	27.29	693.2	29.77	756.1	87.7	30.9	60	S	10.0	4.5			9	S	S	0.02	0.5	Showery	
Roorkee	28.77	730.6	29.63	752.5	98.9	37.2	13	NW	2.2	1.0			0			0	0	Misty	
Agra	29.12	739.7	29.66	753.4	102.6	39.2	21	W					0			0	0		
Nagpur	28.59	726.1	29.65	753.1	102.2	39.0	29	NW	2.1	0.9			5	NE		0	0	D. clouds	
Lucknow	29.28	743.8	29.64	753.0	103.0	39.4	20	NNW	1.2	0.5			0			0	0	Blue sky	
Allahabad	29.34	745.3	29.64	752.8	102.6	39.2	18	Calm	2.6	1.2			0			0	0	Blue sky	
Patna	29.43	747.6	29.61	752.0	102.9	39.4	17	W	1.5	0.7			0			0	0	Blue sky	
Hazaribagh	27.72	704.1	29.66	753.3	96.8	36.0	18	WNW	5.6	2.5			6			0	0		
Cuttack	29.66	753.4	29.74	755.4	93.1	33.9		S	5.0	2.2			2			0	0	D. clouds	
Calcutta (Alipore)	29.67	753.6	29.69	754.2	91.4	33.0	56	S	7.0	3.1			1	W		0	0	Blue sky	
Goalpara	29.32	744.8	29.71	754.6	81.6	27.6	79	ESE	5.4	2.4			6	W	W	0	0	Thunder	
Chittagong	29.69	754.0	29.78	756.3	85.9	29.9	80	SSW	7.8	3.5			0			0	0	Misty	
Sibsagar	29.48	748.7	29.82	757.3	76.1	24.5	81	NE	4.2	1.9			10	SW	SW	0.80	20.3	D. clouds	
Jubbulpore	28.34	719.8	29.64	752.9	101.2	38.4	17	NW	3.4	1.5			4		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.43	747.5	29.84	757.9	59.0	15.0	32	NE	1.8	0.8			7			0.063	1.6		Prof. Giovanni Clodig.
Milan	29.33	745.0	29.85	758.1	62.2	16.8	22	NW			4		3			0	0		Prof. Schiaparelli.
Padua	29.74	755.3	29.84	758.0	60.6	15.9	42	S	4.3	1.9			8	NNE		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.96	735.5	29.85	758.3	59.9	15.5	27	SE	3.1	1.4			3	N		0	0		Prof. P. F. Denza.
Genoa	29.66	753.3	29.85	758.1	63.3	17.4	28	N	4.9	2.2			0?	NE?		0	0		Prof. G. M. Garibaldi.
Mondovi	27.96	710.3	29.87	758.7	55.9	13.3	36	WNW			2		2	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.86	758.5	56.8	13.8	56	N	3.1	1.4			10			0.012	0.3		Prof. Luigi Guidi.
Florence	29.58	751.3	29.84	757.8	64.4	18.0	35	NE			2		10	NE		0	0		Cav. F. Menegl.
Leghorn	29.71	754.5	29.79	756.6	63.3	17.4	41	E			4		10			0	0		Prof. P. Monte.
Rome	29.62	752.4	29.80	756.9	63.1	17.3	47	W	1.8	0.8			10			0.130	3.3		Prof. P. S. Ferrari.
Lecce	29.53	750.0	29.78	756.5	60.4	15.8	50	ENE	6.9	3.1			8	N		0.031	0.8		Prof. C. De Giorgi.
Cosenza	28.90	734.1	29.79	756.6	54.3	12.4	70	NW	0	0			10			0.433	11.0		Prof. D. Conti.
Cagliari	29.67	753.6	29.86	758.5	54.7	12.6	51	NW			6		10	W		0	0		Prof. A. Pacinotti.
Palermo	29.61	752.0	29.86	758.5	57.0	13.9	52	W	12.5	5.6			10			0.114	2.9		Prof. G. Cacciatore.
Syracuse	29.77	756.1	29.84	757.9	56.8	13.8	79	NE	7.4	3.3			10	WSW		0.039	1.0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.29	744.0	29.85	758.1	55.4	13.0	61	NE	1.3	0.6			8			0.024	0.6		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.74	755.4	29.75	755.6	66.6	19.2	92	NE	2.9	1.3			10n			0.116	2.95	Rainy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.59	751.6	29.79	756.6	63.8	17.7	93	NNW	0.9	0.4			10s			0.010	0.25	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.65	753.1	29.71	754.6	62.7	17.1	96	NE	2.5	1.1		0	0			0.065	1.65	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bârcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.7	30.02	762.6	58.6	14.7	63	WNW			2	0	2		SW	0	0	Clear	Prof. L. Perez.
Leon	24.36	618.7	29.92	759.9	67.5	19.7	76	NW			1	2c	1k	W		0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.01	584.5	30.04	763.0	51.8	11.0	53	NW	1.3	0.6		0	1s			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					64.0	17.8	59	Calm			0	0	2k		SW	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.84	757.8	29.85	758.1	71.6	22.0	86	SSW			1	0	0			0	0	Hazy	M. M. Châzaro.
San Luis Potosi	24.06	611.0	29.98	761.6	57.9	14.4	68	W			1	4	0			0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas																			J. C. Castrillon.
Puebla (Catholic Institute)	23.37	593.4	30.13	765.3	53.2	11.8	54	N	0.4	0.2		0	9k		SW	0.10	2.6	Very cloudy	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.38	720.8	30.00	762.1	78.8	26.0	76	E			1	0	10		NE	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.16	766.1	30.16	766.1	51.4	10.8		W								0	0		
Groningen	30.04	763.1	30.10	764.5	54.5	12.5		W			2					0	0		
Helder	30.10	764.5	30.10	764.5	51.8	11.0		SW			2					0	0		
Hellevoetsluis	30.13	765.3	30.13	765.3	54.5	12.5	76	WNW			2					0.020	0.5		
Utrecht	30.10	764.5	30.15	765.7	53.1	11.7	80	WSW			3		10			0.004	0.1	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.86	758.4	29.91	759.8	45.3	7.4	72	S	15.9	7.1			8			0.118	3.0		
Brône	29.70	754.4	29.74	755.4	50.4	10.2	37	S	18	8			6			0	0		
Christiania	29.80	756.9	29.95	760.7	47.1	8.4	62	SSW	18	8			10			0	0		
Tromsö	29.82	757.3	29.86	758.4	38.3	5.5	68	NE	9	4			10			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.17	766.4	30.37	771.3	63.0	17.2	67	ESE	11.9	5.3			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.18	741.2	30.19	766.7	71.6	22.0	31	E	6.3	2.8			0			0	0		Dr. A.M. R. dos Santos
Funchal (Madeira)	30.15	765.7	30.23	767.9	68.0	20.0	45	E	10.5	4.7			7			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.1	30.24	768.1	68.0	20.0	34	NE	9.8	4.4			0			0	0		The Staff.
Ponta Delgada (Azores)	30.30	769.5	30.37	771.3	64.0	17.8	65	ESE	14.3	6.4			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from —		
Bartholomew Dias, N. 38° 22′, W. 16° 43′			30.52	775.3	59.7	15.4		ENE			3		8		NE	2	NE	Drizzling	A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			30.02	762.4	74.7	23.7		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.81	757.1	81.1	27.3		W			2		4		SE	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.93	760.3	82.0	27.8		Calm			0		9			0	N	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.91	759.6	80.6	27.0		SW			1		4		SW	0	0	D. clouds	J. M. T. Guimarães, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.34	745.2	29.76	756.0	49.3	9.6	86	N	18	8			10ks						Astronomical Obs.
Wilna	29.30	744.3	29.71	754.5	68.7	20.4	38	NE	2	1			6					Light clouds	Astronomical Obs.
Dorpat	29.57	751.0	29.80	756.9	69.3	20.7	44	SE	7	3			3cs						Prof. Dr. Weihrauch.
St. Petersburg	29.81	757.2	29.83	757.6	69.4	20.8	31	SSE	9	4			5cs;ck						Central Physical Obs.
Kieff	28.94	735.0	29.54	750.4	65.7	18.7	59	NE	7	3			9k;ks;	cn					Physical Cabinet.
Nikolaiev	29.57	751.1	29.64	752.9	59.2	15.1	77	S	4	2			10n					Thunder-storm.	Kurdakof.
Kertch	29.62	752.4	29.64	752.9	66.2	19.0	81	Calm	0	0			10					Heavy clouds	Lagorio.
Moscow	29.20	741.7	29.72	755.0	67.3	19.6	56	ESE	9	4			4ks						Meteorological Obs.
Lugan	29.37	746.0	29.57	751.0	76.3	24.6	38	SE	9	4			3						Meteorological Obs.
Archangel	29.98	761.4	30.00	761.9	70.5	21.4	40	Calm	0	0			4cs						Capt. Sseliwerstow.
Tiflis	28.50	724.0	29.87	758.7	72.1	22.3	47	Calm	0	0			10					Light rain	Physical Observatory.
Astrakhan	29.89	759.1	29.80	757.0	70.0	21.1	60	S	7	3			9ks						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.59	751.6	29.84	758.0	76.1	24.5	38	ENE	9	4			9s						Physical Cabinet.
Ekaterinburg	29.35	745.5	30.30	769.7	63.5	17.5	42	ESE	18	8			0						Meteorological Obs.
Nukuss	29.62	752.4	29.84	758.0	82.6	28.1	32	NW	9	4			0						
Tashkend	28.34	719.8	29.82	757.3	82.4	28.0	44	NNE	4	2			8						Teich, A. M.
Barnaul	29.53	750.1	30.03	762.7	55.9	13.3	38	NE	9	4			4					Light clouds	Meteorological Obs.
Yeniseisk	29.81	757.1	30.11	764.7	39.0	3.9	55	NNW	16	7			7						Marks.
Irkutsk																			
Peking (China)	29.68	753.9	29.82	757.5	58.3	14.6	26	NW	16	7			6cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.61	752.0	29.71	754.5	42.3	5.7	86						5c						
Nikolaievsk, on the Amoor	29.88	759.0	29.97	761.2	29.8	—1.2	88	E	11	5			10n					Snowing	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.08	763.9	61.2	16	52	S	5.1	2.28		0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.24	768.1	30.30	769.5	63.3	17.4	67	NW	2.2	0.98	2	7	NW		0.197	5.0	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6			57.2	14.0	49	N	8.6	3.82		8			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.97	710.4			64.9	18.3	45	E	4.5	2.00	0	2			0	0		The Staff.
Murcia, Met. Obs'y	29.99	761.7	30.13	765.4	77.0	25.0	32	NW	4.4	1.97	0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.39	746.4	30.28	769.1	61.9	16.6	62	NW	5.6	2.5		9			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.83	757.8	29.90	759.4	74.6	23.7	78	Calm	0	0	0	1k			0.102	2.6	Clear	Benito Vines, S. J
Manilla, Philippine Islands.	29.86	758.5	29.91	759.9	86.2	30.1	74	ESE	1.8	0.8		1ks		E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.07	763.7	30.16	766.1	73.4	23.0	49	WSW	5.2	2.3	0	0						Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.84	758.0	29.93	760.3	76.3	24.6	77	NW	0	0		2cs	2k		0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.97	761.3	30.01	762.3	49.6	9.8	.....	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.93	760.2	29.98	761.5	50.0	10.0	37	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	
*Hernosand	29.93	760.2	29.98	761.5	47.8	8.8	41	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.75	755.7	29.93	760.2	52.9	11.6	17	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	
Wisby	29.84	758.0	29.90	759.5	43.9	6.6	59	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.85	758.2	29.93	760.1	51.8	11.0	25	N	7.4	3.3	.....	.....	9	S	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.69	728.6	30.13	765.2	49.3	9.6	34	NNE	.....	.....	7	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.50	723.9	30.15	765.9	49.6	9.8	53	E	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.7 mm.; Thermometer,—6.4 Cent.; Relative Humidity, —23 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.69	754.1	67.5	19.7	56	WSW	13	6.0	.....	.....	9	.....	WSW	0.157	4.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	93.2	34.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.81	757.1	60.3	15.7	.....	W	.....	.....	2	.....	5	.....	.....	0.35	9.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.77	756.1	29.88	759.0	69.3	20.7	90	SE	.....	.....	1	.....	10c	.....	.....	0.004	0.09	Overcast	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.74	755.4	30.03	762.8	66	18.9	.....	SW	6	2.7	.....	0	8s	.....	SW	0	0	Fair	W. R. Bigg.
*Chatham, N. B	30.02	762.5	30.08	764.0	50	10.0	54	SW	10	4.5	.....	2cs	8ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.3	51	10.6	54	S	9	4.0	.....	.....	8ks	.....	W	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760.5	66.8	19.3	61	W	.....	.....	2	0	0	.....	.....	0	0	Misty	James Smith, M. A.
Dalhousie, N. B	29.86	758.4	30.02	762.5	46.4	8.0	86	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.02	762.5	50.3	10.2	100	Calm	0	0	.....	.....	10	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.91	759.7	29.94	760.5	45	7.2	84	W	10	4.5	.....	2k	Haze	NW	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.16	766.1	55.3	12.9	57	SW	7	3.1	.....	0	Haze	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
*Fort Garry, Manitoba	30.12	739.6	29.94	760.5	50	10.0	79	N	5	2.2	.....	2c	Haze	SW	.....	0	0	Fair	James Stewart.
Granton, Ontario	28.90	734.0	29.96	761.0	64	17.8	.....	S	.....	.....	2	1cs	0	E	.....	0	0	Fine	James Grant.
*Halifax, N. S	30.09	764.3	30.23	767.8	56	13.3	38	W	1	0.4	.....	2c	0	W	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.03	762.8	68.7	20.4	69	SW	.....	.....	3	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.74	755.4	30.07	763.8	54	12.2	81	SE	9	4.0	.....	5cs	Sm'e	Calm	SE	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.15	765.8	30.18	766.6	56.5	13.6	60	S	7	3.1	.....	.....	Sm'e	.....	.....	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.79	756.7	29.99	761.7	59	15.0	60	SW	15	6.7	.....	8ck	Sm'e	W	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.23	742.4	29.91	759.7	55	12.8	87	E	5	2.2	.....	.....	10n	.....	W	0.03	0.8	Light rain	Rev. R. Mosly.
Peterboro, Ontario	29.28	743.7	30.00	762.0	67.7	19.8	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Smoky	J. F. Jeffers, B. A.
Port Dover, Ontario	29.37	746.0	30.04	763.0	56	13.3	87	SW	8	3.6	.....	10ck	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.14	765.5	30.19	766.8	48.6	9.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.02	762.5	60	15.6	81	SW	8	3.6	.....	5ck	Haze	W	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.68	753.9	29.99	761.7	55	12.8	81	Calm	.....	.....	0	Haze	Haze	.....	.....	0.03	0.8	Hazy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.48	748.8	29.94	760.5	49	9.4	85	Calm	0	0	.....	.....	10s	.....	SW	Inap.	Inap.	Light rain	W. H. McIntyre.
St. Andrews, N. B	30.10	764.5	30.16	766.1	49	9.4	67	S	.....	.....	2	2k	2ks	W	.....	0	0	Fair	Dr. Gove.
St. John, N. B	30.06	763.5	30.23	767.8	45	7.2	92	SW	15	6.7	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.20	741.7	29.88	758.9	68	20.0	51	S	20	8.9	.....	.....	10ks	.....	W	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.17	740.9	29.93	760.2	65	18.3	53	SE	5	2.2	.....	.....	10n	.....	SW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.71	729.2	29.95	760.7	63.9	17.7	56	SW	13	5.8	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.18	766.6	30.22	767.6	55	12.8	62	SW	6	2.7	.....	10cs	0	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.64	752.8	30.01	762.2	59	15.0	68	SW	14	6.3	.....	8cs	Haze	W	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.18	765.3	30.23	767.8	51.5	10.8	63	W	2	0.9	.....	3k;cs	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.10	764.5	30.34	770.6	60.0	15.6	55	SW	.....	.....	.....	2c	2ck	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.19	766.8	58	14.4	58	S	8	3.6		Haze	Haze			0	0	Hazy	
Alpena, Michigan	29.15	740.4	29.77	756.1	59	15.0	76	S	4	1.8		0	5s		Calm	0.05	1.3	Fair	
Atlanta, Georgia	28.92	734.6	30.04	763.0	63	17.2	83	NE	20	8.9		5k	5s	NE	NE	0	0	Cloudy	
Atlantic City, New Jersey	30.28	769.1	30.29	769.4	52	11.1	100	NE	4	1.8			Fog		Calm	0	0	Foggy	
Augusta, Georgia	29.90	759.4	30.08	764.0	68	20.0	74	NE	8	3.6			10ks		NE	0	0	Cloudy	
Baltimore, Maryland	30.23	767.8	30.28	769.1	59	15.0	94	SE	2	0.9			10s; fg		Calm	0	0	Foggy	
Barnegat, New Jersey	30.25	768.3	30.28	769.1	52	11.1	100	E	4	1.8			Fog		E	0	0	Foggy	
Bismarck, Dakota	28.13	714.5	29.99	761.7	53	11.7	73	NW	12	5.4		5cs	0	Calm		0	0	Fair	
Boerne, Texas	28.43	722.1	29.70	754.4	68	20.0	90	S	8	3.6			10ks		S	0	0	Cloudy	
Boise City, Idaho	27.25	692.1	30.21	767.3	43	6.1	67	S	3	1.3		5cs	0	Calm		0	0	Fair	
Boston, Massachusetts	30.06	763.5	30.21	767.3	60	15.6	60	SW	7	3.1		1c	0	Calm		0	0	Clear	
Brackettville, Texas	28.71	729.2	29.70	754.4	70	21.1	85	E	4	1.8			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.72	729.5	29.68	753.9	54	12.2	74	N	18	8.0			10cs		SW	0.30	7.6	Cloudy	
Brownsville, Texas	29.76	755.9	29.80	756.9	79	26.1	62	SE	4	1.8		0	2s		Calm	0	0	Clear	
Buffalo, New York	29.35	745.5	30.04	763.0	60	15.6	65	SW	9	4.0		5cs	Haze	SW	Calm	0	0	Fair	
Burkes, Arizona					64	17.8	30	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.79	756.7	30.08	764.0	61	16.1	50	S	18	8.0		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.64	752.8	30.02	762.5	70	21.1	57	S	7	3.1		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.22	640.6	30.02	762.5	46	7.8	33	N	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona	26.82	681.2	30.16	766.1	48	8.9	36	NW			1	0	0			0	0	Clear	
Campo, California	27.40	696.0	29.97	761.2	40	4.4	56	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.14	765.5	62	16.7	94	NE	9	4.0		1cs	9ks	Calm	NE	0.09	2.3	Threatening	
Cape Henry, Virginia	30.22	767.6	30.24	768.1	57	13.9	87	N	10	4.5			Fog		NE	0.04	1.0	Foggy	
Cape Lookout, N. Carolina	30.09	764.3	30.11	764.8	65	18.3	100	NE	20	8.9			10ks		E	1.33	33.8	Cloudy	
Cape May, New Jersey	30.21	767.3	30.24	768.1	56	13.3	93	NE	7	3.1			Fog		NE	0	0	Foggy	
Castroville, Texas	29.06	738.1	29.74	755.4	69	20.6	85	S	4	1.8		0	8s		S	0	0	Cloudy	
Charleston, South Carolina	29.98	761.5	30.03	762.8	67	19.4	84	NE	14	6.3			10s		Calm	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	39	3.9	100	N	30	13.4			10n		Calm	1.15	29.2	Light rain	
Chicago, Illinois	29.19	741.4	29.85	758.2	70	21.1	66	SW	7	3.1		5ck	0	W		Inap.	Inap.	Fair	
Cincinnati, Ohio	29.44	747.8	30.07	763.8	65	18.3	66	SE	3	1.3		0	Sm'e		Calm	0	0	Clear	
Cleveland, Ohio	29.34	745.2	30.04	763.0	65	18.3	63	SE	13	5.8		5ck	0	Calm		0	0	Fair	
Coleman City, Texas	28.04	712.2	29.64	752.8	67	19.4	64	Calm	0	0		0	2s		S	0	0	Fair	
Columbus, Ohio	29.25	742.9	30.06	763.5	68	20.0	60	S	7	3.1		2c	Haze	S	Calm	0	0	Fair	
Concho, Texas	27.94	709.7	29.55	750.6	68	20.0	74	SW	8	3.6		0	0			0	0	Clear	
Corsicana, Texas	29.44	747.8	29.90	759.4	67	19.4	84	S	3	1.3		5cs;k	2s	W;SW	Calm	0	0	Fair	
Davenport, Iowa	29.19	741.4	29.79	756.7	73	22.8	67	S	5	2.2		5c	0	W		0	0	Fair	
Deadwood, Dakota	25.41	645.4			43	6.1	100	Calm	0	0			10s		NW	1.54	39.1	Cloudy	
Decatur, Texas	28.64	727.4	29.75	755.6	70	21.1	70	S	20	8.9		2ck	0	S		0	0	Fair	
Denison, Texas	29.05	737.9	29.82	757.4	68	20.0	79	S	12	5.4		0	5ks		S	0	0	Fair	
Denver, Colorado	24.69	627.1	29.91	759.7	47	8.3	70	N	24	10.7			10s		N	1.71	43.4	Cloudy	
Des Moines, Iowa	28.87	733.3	29.69	754.1	70	21.1	70	Calm	0	0			10s		SW	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.31	744.5	29.96	761.0	64	17.8	53	SW	9	4.0		5cs	0	Calm		0	0	Fair	
Dodge City, Kansas	26.98	685.3	29.18	741.2	52	11.1	60	S	16	7.2		2c	2s	S	S	0	0	Fair	
Dubuque, Iowa	29.10	739.1	29.75	755.6	75	23.9	60	SW	9	4.0		5k	Haze	SW	Calm	0	0	Fair	
Duluth, Minnesota	29.06	738.1	29.73	755.1	46	7.8	100	NE	10	4.5			10n		NE	2.85	72.4	Heavy rain.	
Eagle Pass, Texa	28.99	736.3	29.68	753.9	70	21.1	75	NE	7	3.1			10ks		NE	0	0	Cloudy	
Eastport, Maine	30.10	764.5	30.17	766.3	46	7.8	84	S	10	4.5			Fog		S	0	0	Foggy	
Edinburg, Texas					70	21.1	85	S			1	4c	4s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.11	663.2			49	9.4	23	NW	7	3.1		0	0			0	0	Clear	
Erie, Pennsylvania	29.35	745.5	30.04	763.0	69	20.6	61	SW	15	6.7		8c	Sm'e	Calm	Calm	0	0	Fair	
Escanaba, Michigan	29.10	739.1	29.74	755.4	54	12.2	74	S	5	2.2		0	0			0.93	23.6	Clear	
Florence, Arizona	28.48	723.4	30.08	764.0	55	12.8	39	N	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	28.00	711.2			50	10.0	77	E	4	1.8		2ck	5s	Calm	E	0	0	Cloudy	
Fort Craig, New Mexico	25.48	647.2	29.54	750.3	54	12.2	14	W	14	6.3		0	0			0	0	Clear	
Fort Davis, Texas	25.12	638.0	30.08	764.0	58	14.4	12	SW	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.26	743.2	29.77	756.1	73	22.8	63	SE	18	8.0		0	0			0	0	Clear	
Fort Griffin, Texas	28.55	725.2	29.77	756.1	64	17.8	83	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.52	699.0			48	8.9	85	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.59	700.8	29.44	747.8	65	18.3	68	S	6	2.7		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.83	757.7	29.86	758.4	35	1.7	100	S	41	18.3			10ks		S	0	0	Cloudy	
Fort Sill, Indian Territory	28.52	724.4	29.57	751.1	69	20.6	70	S	13	5.8		5k	0	SW		0.01	0.3	Fair	
Fort Stevenson, Dakota	28.14	714.7			48	8.9	62	W	2	0.9		5c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.13	714.5	29.63	752.6	72	22.2	62	S	1	0.4		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.56	758.4	29.90	759.4	74	23.3	63	S	12	5.4		0	2ks		S	0	0	Clear	
Graham, Texas	28.72	729.5	29.72	754.9	68	20.0	79	SE	4	1.8		7cs	0	S		0	0	Fair	
Grand Haven, Michigan	29.24	742.7	29.86	758.4	70	21.1	57	S	28	12.5		0	5s		Calm	Inap.	Inap.	Fair	
Indianapolis, Indiana	29.17	740.9	29.91	759.7	69	20.6	52	SE	8	3.6		5c	0	Calm		0	0	Fair	
Indianola, Texas	29.86	758.4	29.88	758.9	73	22.8	67	S	13	5.8		1c	2s	Calm	S	0	0	Fair	
Jacksboro, Texas	28.77	730.7	29.85	758.2	73	22.8	55	S				0	0			0	0	Clear	
Jacksonville, Florida	29.89	759.2	29.91	759.7	69	20.6	90	NE	8	3.6			10n		Calm	0.60	15.2	Light rain	
Keokuk, Iowa	29.17	740.9	29.74	755.4	77	25.0	63	S	12	5.4		5k	0	S		0	0	Fair	
Key West, Florida	29.85	758.2	29.89	759.2	75	23.9	72	NW	5	2.2		1k	1ks	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.13	765.3	30.16	766.1	57	13.9	100	NE	13	5.8		8ck	0	Calm		0	0	Fair	
Knoxville, Tennessee	29.11	739.4	30.10	764.5	66	18.9	71	NE	4	1.8		0	0			0	0	Clear	
La Crosse, Wisconsin	28.97	735.8	29.66	753.4	71	21.7	62	S	5	2.2			10s		Calm	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.02	660.9	30.18	766.6	44	6.7	30	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.40	746.7	29.72	754.9	77	25.0	57	S	2	0.9		0	0			0	0	Clear	
Leavenworth, Kansas	28.85	732.8	29.64	752.8	72	22.2	67	S	16	7.2			10s			Inap.	Inap.	Cloudy	
Los Angeles, California	29.64	752.8	29.98	761.5	50.0	10.0	65	NE	2	0.9		3c	0	W		0	0	Fair	
Louisville, Kentucky	29.50	749.3	30.04	763.0	66	18.9	54	SE	3	1.3		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.56	750.8	30.23	767.8	64	17.8	78	NE	3	1.3		0	8ks		E	0	0	Cloudy	
Madison, Wisconsin	28.82	732.0	29.74	755.4	71	21.7	75	S	12	5.4		0	5s		SW	0.04	1.0	Fair	
Marquette, Michigan	29.03	737.3	29.71	754.6	55	12.8	93	NW	4	1.8			10ks		NW	0.39	9.9	Cloudy	
Mason, Texas	28.25	717.5	29.96	761.0	62	16.7	83	S	2	0.9		2cs	2s	S	S	0	0	Fair	
Memphis, Tennessee	29.70	754.4	30.01	762.2	70	21.1	56	SE	2	0.9		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.09	738.9	29.78	756.4	69	20.6	75	SW	16	7.2		0	8s		SW	0	0	Cloudy	
Mobile, Alabama	29.96	761.0	30.00	762.0	68	20.0	77	N	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	29.81	757.2	30.04	763.0	68	20.0	74	NE	5	2.2		0	0			0	0	Clear	
Morgantown, West Virginia	29.10	739.1	30.11	764.8	71	21.7	58	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	38	3.3	80	NW	33	14.8		8ck	Sm'e	NW	Calm	0	0	Smoky	
Nashville, Tennessee	29.54	750.3	30.06	763.5	72	22.2	58	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	30.16	766.1	30.28	769.1	53	11.7	83	S	6	2.7			Fog		Calm	0	0	Foggy	
New London, Connecticut	30.23	767.8	30.28	769.1	52	11.1	90	S	4	1.8			Fog		S	0	0	Dense fog	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	73	22.8	72	NE	2	0.9		0	0			0	0	Clear	
Newport, Rhode Island	30.24	768.1	30.29	769.4	49	9.4	93	SW	5	2.2			Fog			0.02	0.5	Foggy	
New York, New York	30.12	765.0	30.30	769.6	51	10.6	93	S	2	0.9			10s;sm		E	0	0	Cloudy	
Norfolk, Virginia	30.17	766.3	30.23	767.8	57	13.9	100	NE	9	4.0			Fog		Calm	0	0	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.75	674.4	29.23	742.4	51	10.6	89	NE	40	17.9			10n		NE	0.11	2.8	Light rain	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	50.0	10.0	93	S	4	1.8			10s		Calm	0.06	1.5	Cloudy	
Omaha, Nebraska	28.53	724.6	29.55	750.6	72	22.2	71	SE	6	2.7		10k	0	SE		Inap.	Inap.	Cloudy	
Oswego, New York	29.76	755.9	30.08	764.0	67	19.4	64	S	16	7.2		8c	0	Calm		0	0	Fair	
Pembina, Dakota	29.06	738.1	29.88	758.9	49	9.4	71	N	4	1.8		2c	2s	W	Calm	0	0	Fair	
Philadelphia, Pa	30.24	768.1	30.29	769.4	53	11.7	100	SE	4	1.8			Fog		SE	0	0	Dense fog	
Phœnix, Arizona	28.83	732.3	30.67	779.0	48	8.9	43	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.64	448.1	29.85	758.2	12	—11.1	100	NE	56	25.0			10n		Calm	2.04	51.8	Heavy snow	
Ploche, Nevada	24.12	612.6	29.89	759.2	41	5.0	33	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.35	745.5	30.13	765.3	67	19.4	55	S	4	1.8		0	0			0	0	Clear	
Port Huron, Michigan	29.30	744.2	29.93	760.2	69	20.6	43	S	17	7.6			10ks		S	0	0	Cloudy	
Portland, Maine	30.09	764.3	30.14	765.5	53	11.7	67	S	8	3.6		Haze	0	Calm		0	0	Clear	
Portland, Oregon	30.09	764.3	30.19	768.8	48.5	9.2	93	Calm	0	0			10s		S	0.17	4.3	Cloudy	
Prescott, Arizona	24.77	629.2	30.13	765.3	33	0.6	42	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.07	738.4	29.87	758.7	67	19.4	84	SE	2	0.9		5k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	29.85	758.2	29.87	758.7	70	21.1	80	NW	3	1.3		2k	8s	W	W	0.39	9.9	Cloudy	
Red Bluff, California	29.74	755.4	30.11	764.8	52	11.1	86	NW	6	2.7		0	0			0	0	Clear	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	72	22.2	76	SE			1	0	8s		Calm	0	0	Fair	
Rochester, New York	29.45	748.0	30.05	763.3	67	19.4	60	SW	15	6.7		5k	Haze	SW		0	0	Fair	
Roseburg, Oregon	29.61	752.1	30.18	766.6	51	10.6	93	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Sacramento, California	30.01	762.2	30.09	764.3	52	11.1	93	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.92	760.0	70	21.1	53	S	14	6.3			10s		SW	0	0	Cloudy	
St. Marks, Florida	29.94	760.5	29.95	760.7	69	20.6	80	NE	10	4.5			10s		NE	0	0	Cloudy	
St. Paul, Minnesota	28.81	731.8	29.60	751.8	61	16.1	88	NW	12	5.4			10s			Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.78	653.5	30.06	763.5	43	6.1	36	Calm	0	0		0	0			0	0	Clear	
San Antonio, Texas	29.17	740.9	29.75	755.1	71	21.7	75	S	1	0.4			10ks		SE	Inap	Inap.	Cloudy	
San Diego, California	29.92	760.0	30.00	762.0	52	11.1	79	N	4	1.8		2ck	0	Calm		0	0	Clear	
Sandusky, Ohio	29.36	745.7	30.00	762.0	68	20.0	60	S	18	8.0		2c	0	N		0	0	Fair	
Sandy Hook, New Jersey	30.25	768.3	30.28	769.1	49	9.4	100	Calm	0	0			Fog		Calm	0	0	Dense fog	
San Francisco, California	30.05	763.3	30.12	765.0	51.6	10.9	90	W	5	2.2			Fog		W	0	0	Foggy	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	42	5.6	50	NW	14	6.3		1cs	0	Calm		Inap.	Inap.	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.8	68	20.0	84	NE	17	7.6			10s		NE	0.05	1.3	Cloudy	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	70	21.1	80	Calm	0	0		0	8ks		S	0	0	Fair	
Silver City, New Mexico	24.29	617.0	30.54	775.7	41	5.0	48	N	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.07	763.8	30.10	764.5	64	17.8	100	NE	16	7.2			10n		NE	0.21	5.3	Light rain	
Springfield, Massachusetts	30.12	765.0	30.25	768.3	54	12.2	80	SW	7	3.1		0	5ks		SW	0	0	Fair	
Stockton, Texas	26.85	682.0	29.85	758.2	54	12.2	38	Calm	0	0		0	0			0	0	Clear	
Thatcher's Island, Mass	30.15	765.8	30.21	767.3	53	11.7	86	S	16	7.2		5cs	0	Calm		0	0	Fair	
Toledo, Ohio	29.31	744.5	29.96	761.0	72	22.2	42	SW	12	5.4		0	1s		Calm	0	0	Clear	
Tucson, Arizona	27.56	700.0	30.11	764.8	48	8.9	49	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.75	755.6	30.21	768.1	56.0	13.3	81	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.98	736.1	29.78	756.4	70	21.1	75	NE	2	0.9		0	10s		SE	0	0	Cloudy	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	70	21.1	53	SE	1	0.4		0	0			0	0	Clear	
Virginia City, Montana	24.30	617.2	29.78	756.4	37	2.8	63	SE	1	0.4		0	0			0	0	Clear	
Visalia, California	29.70	754.4	30.08	764.0	53	11.7	84	NW	1	0.4		0	0			0	0	Clear	
Washington, D. C.	30.16	766.1	30.28	769.1	57	13.9	94	E	3	1.3			10s;fg		Calm	0	0	Cloudy	
Wickenburg, Arizona					49	9.4	37	Calm			0	0	0			0	0	Clear	
Wilmington, N. Carolina	30.02	762.5	30.09	764.3	64	17.8	94	NE	8	3.6			10n		NE	0.03	0.8	Light rain	
Winnemucca, Nevada	25.75	654.0	30.11	764.8	39	3.9	82	SW	3	1.3		1k	0	Calm		0	0	Clear	
Wood's Holl, Mass	30.25	768.3	30.29	769.4	50	10.0	86	SW	10	4.5			Fog		Calm	0	0	Dense fog	
Yankton, Dakota	28.39	721.1	29.62	752.3	58	14.4	88	NW	5	2.2		5c	2s	S	Calm	0	0	Cloudy	
Yuma, Arizona	29.80	756.9	29.97	761.2	56	13.3	51	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.28	718.3	29.67	753.6	68	20.0	74											Fair	J. B. Gordon.
Havana, Cuba, W. I.	29.85	758.2	29.90	759.4	77	25.0	69	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.24	641.1			65.5	18.6	85	Calm			0		10ks			0.57	14.5		Thomas Herran.
Navassa, W. I.	29.82	757.4	29.90	759.4	79	26.1		W								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	85	29.4	64	E			3	4c	5k	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.04	763.0	30.10	764.5	26	— 3.3	94	N	8	3.6		2k	4s	NW	N	0.15	3.8	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,676 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,596 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.46 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.17‡	766.3‡			54	12.2	100	SW	8	3.6			10		W					Overcast	
Navy Yard, Pensacola, Fla.	30.00‡	762.0‡			72	22.2	76	NE	13	5.8			5		SE					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.72‡	754.9‡			64	17.8	94	Calm			0		2s		NE	0.33	8.4			Clearing	
Adams, N. 6° 03′, W. 79° 44′	29.92‡	760.0‡			79	26.1	91	NW			2		8		NW					Fair	
Alaska, Sitka, Alaska	29.98‡	761.6‡			45	7.2	84	E			2		2		NW	0	0			D. clouds	
Alliance, Algiers, Algeria	30.19‡	766.8‡			64	17.8	62	N			2		2							Pleasant	
Ashuelot, Hong-Kong, China	29.92‡	760.0‡			81	27.2	83	E			1–2		2		Calm			Smooth		Hazy	
Canonicus, Pensacola, Fla	30.06‡	763.5‡			77	25.0	77	ENE			2		8		ENE			Smooth		Fair	
Colorado, New York, N. Y	30.28‡	769.1‡			53	11.7	86	Calm	0	0			10			0	0			Foggy	
Constitution, N. 24° 34′, W. 62° 55′	29.84‡	757.9‡			79	26.1	95	ENE			3		8		ENE			Smooth	SE	Cloudy	
Despatch, Port Mahon, Spain	30.16‡	766.1‡			61	16.1	55	NNW			3		5			0	0	Smooth		Pleasant	
Enterprise, Havre, France	30.17‡	766.3‡			55	12.8	80	NNW			1		1		NNW			Smooth		Blue sky	
Franklin, Norfolk, Va	30.22‡	767.6‡			58	14.4	100	NNE	8.4	3.8			10		NNE	0	0			Foggy	
Hartford, Montevideo, Uruguay.*	29.85‡	758.9‡			66	18.9	74	N			5		8		N	0	0			Cloudy	
Michigan, Erie, Pa					69	20.6	70	S			6		5							Fair	
Monongahela, Yokohama, Japan	29.68‡	753.9‡			66	18.9	89	WNW			0–1		n			Heavy	Heavy			D. clouds	
New Hampshire, Port Royal, S. C	29.97‡	761.2‡			68	20.0	90	N	19	8.5			10		NE	0.10	2.5			Cloudy	
Onward, Callao, Peru †*	30.07‡	763.8‡			60	15.6	94	N			1		10					Long	W	Foggy	
Palos, Shanghai, China	29.92‡	760.0‡			63	17.2	89	W			2		10							Overcast	
Passaic, Washington, D. C					61	16.1	82	Calm			0		10							Cloudy	
Pensacola, Callao, Peru	29.95‡	760.7‡			60	15.6	94	SW	2	0.9			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va	30.23‡	767.8‡			58	14.4	94	NNE			4		10		Calm			Slight	N;E	Misty	
Powhatan, Hampton Roads, Va	30.20‡	767.1‡			63	17.2	89	NE			2		10		Calm	0.25	6.3			Dense fog	
Quinnebaug, Alexandria, Egypt	29.83‡	757.7‡			70	21.1	66	NNE			3		2		N					Fair	
Ranger, Amoy, China	29.93‡	760.2‡			76	24.4	91	NNE			2		10		SW			Smooth		Cloudy	
Richmond, N. 15° 42′, E. 113° 57′	29.55‡	758.2‡			85	29.4	83	ENE			3		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.79‡	756.7‡			74	23.3	86	S			1		0							Clear	
Santee, Annapolis, Md	30.26‡	768.6‡			68	20.0	84	E			1		10			0	0			Dense fog	
Saratoga, N. 35° 56′, W. 26° 09′	30.32‡	770.1‡			61	16.1	88	SSE			4		10		SE	Light	Light	Mod'ate	SE	Overcast	
St. Louis, League Island, Pa	30.25‡	768.3‡			53	11.7	100	ESE	1	0.4			10		ESE	0	0			Foggy	
Trenton, Villafranca, France	29.86‡	758.4‡			71	21.7	49	Calm			0		8		Calm	0	0	Smooth		Cloudy	
Tuscarora, Acapulco, Mexico	29.91‡	759.7‡			78	25.6	78	WSW			2		0			0	0	Smooth		Hazy	
Vandalia, Aspinwall, New Granada	29.94‡	760.5‡			75	23.9	100	Calm			0		2		SE			Smooth		Fair	
Wabash, Boston, Mass	30.23‡	767.8‡			61	16.1	66	SW	6	2.7			2			0	0			Fair	
Wyoming, Villafranca, France	29.85‡	758.2‡			61	16.1	77	WNW			1		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 47° 53′, W. 36° 01′...†*		30.14	765.5	57	13.9		W			1		8		WSW		Smooth	W	Cloudy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, Hong-Kong, China		29.99‡	761.7‡				Calm			0		8ck		NW	0			D. clouds	L. B. Walls.
S. S. Colima, N. 19° 37′, W. 105° 24′...†		29.96‡	761.0‡	75	23.9		S			2		8		SE	0	Small	confused	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, N. 43° 39′, W. 124° 45′...†		30.15‡	765.8‡	53	11.7	80	SW			3		0		WSW		Mod'ate	W	Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.82‡	757.4‡				W			3				W				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 29° 30′, E. 120° 35′		30.05‡	763.3‡	77	25.0	57	W			1		1			Light	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 27° 03′, W. 73° 56′		30.03‡	762.8‡	74.0	23.3	90	SE			3		5			1 hour	Mod'ate	SE	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 48° 13′, W. 17° 02′		30.31‡	769.9‡	59.0	15.0	85	W			4		10		W		Smooth	W	Drizzling	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 10′, W. 19° 15′		30.20‡	768.6‡				WNW			3		8		NW		Rough	N	Light rain	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4; nor distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.23‡	767.8‡	58	14.4	88	SW			1		1		SW	0			Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 26° 13.′ W. 75° 57′		29.94‡	760.5‡	76	24.4	73	SE	8	3.6			2ks		S	0.64 in. or 16.3mm	Short	SE	Clear.	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, Arrayo, Porto Rico, W.I.		29.66‡	753.4‡				S	4	1.8			2						Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

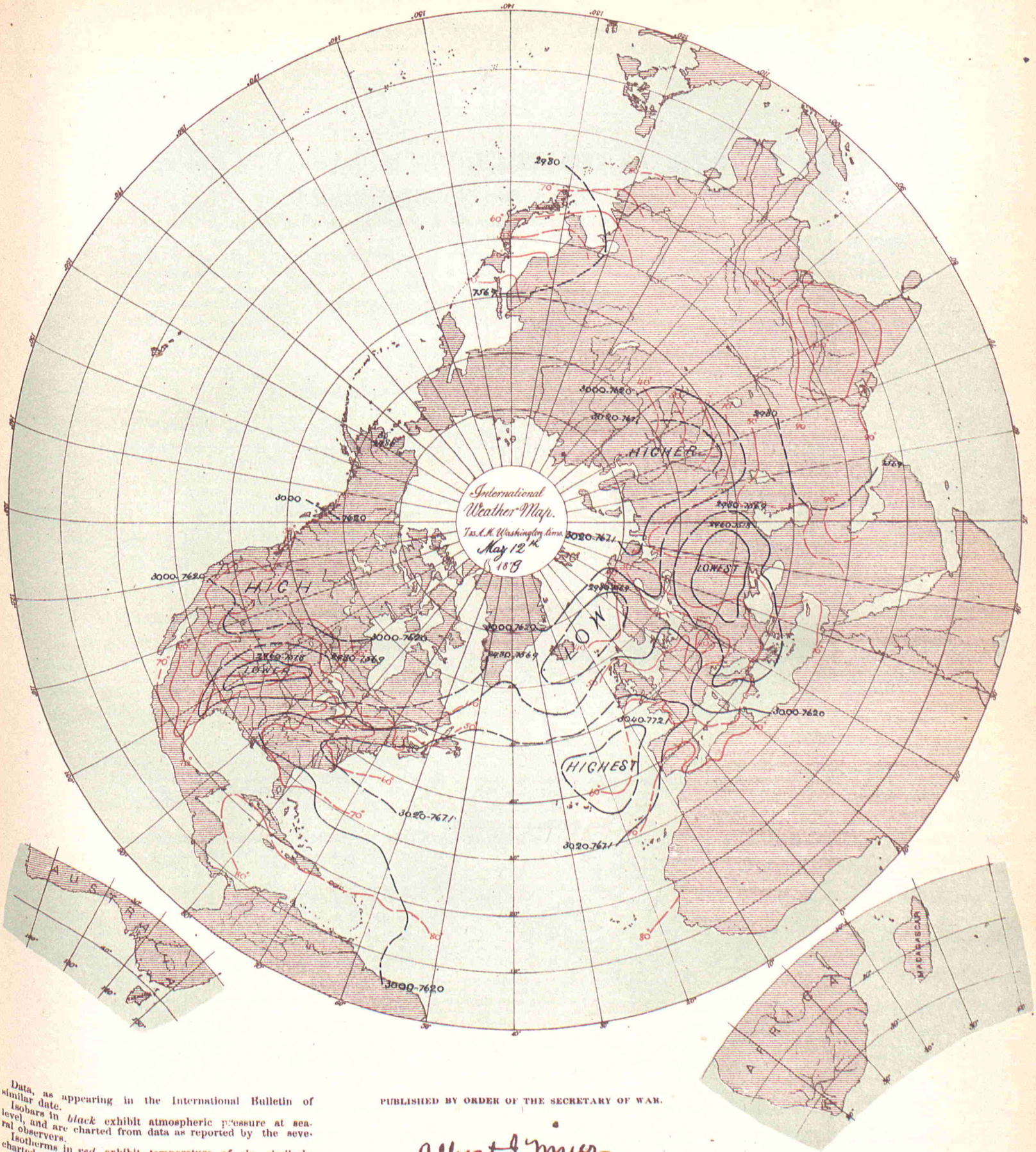
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.17	766.2	69.4	20.8	68	NW			2		0			0	0	Clear	Kesxuche.
Algiers			30.17	766.4	65.8	18.8	62	NNE			2		0			0	0	Clear	Tourliiere.
La Calle			30.19	766.8	62.4	16.9	73	NW			5		5			0.311	7.90	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.21	767.2															Gau.
Saida			30.17	766.2	70.9	21.6	15	NE			2		0			0	0	Clear.	Herbin.
Tebessa			30.22	767.5	58.5	14.7	47	NW			7		5			0	0	Cloudy	Watrin.
Geriville			30.16	766.0	68.4	20.2	26	N			2		2			0	0	Fair	Brugniaux.
Laghouat			30.18	766.6	71.2	21.8	45	ENE			3		0			0	0	Clear	Bertrand.
Biskra			30.19	766.9	80.2	26.8	16	NW			3		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.46	748.8	30.04	762.9	51.8	11.0	73	SW			2		10			0.028	0.7		Prof. Ivan Stozir.
Orr cow, I. R. Observatory	29.27	743.4	30.06	763.5	39.9	4.4	93	WSW			1		10			0.988	25.1		Dr. Wierzbiski.
Eperies	29.00	736.7	29.89	759.2	47.1	8.4	67	NW			5		108			0.425	10.80		Julius Mikolik.
Gratz	28.78	731.0	30.03	762.7	55.9	13.3	38	NW			7		0			0	0		Andreas Rospini.
Hermannstadt	28.39	721.0	29.80	756.8	57.6	14.2	66	NW			1		10			0.071	1.80		Prof. A. Gottschling.
Kremsmünster	28.79	731.2	30.15	765.7	49.3	9.6	58	W			2		10			0	0		Prof. C. Wagner.
Lemberg	28.81	731.8	29.81	757.1	44.2	6.8	85	NW			3		10			0.449	11.4		Dr. T. Stanecki.
Pola	29.91	759.8	30.02	762.6	57.9	14.4	63	WNW			2		4			0.213	5.4		I.R.Hydrographic Office
Szathmar	29.41	747.0	29.87	758.7	57.6	14.2	67	W			3		7			0	0		Julius Csics, S. J.
Szegedin	29.60	751.8	29.87	758.8	61.9	16.6	44	W			1		7			0	0		Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	62.2	16.8	63	W			1		4			0	0	Almost clear	P. Busin.
Vienna	29.37	746.1	30.10	764.5	49.1	9.5	60	N			2		10			0.336	8.5		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maescyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maescyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.89	759.2	29.99	761.7	51.3	10.7		SSE	16	7.2			6			0.105	2.67	D. clouds	W. Boswell.
Ardrossan	29.96	761.0	29.98	761.5	51	10.6		SW			2		6					D. clouds	William McNeil.
Armagh, Observatory			30.00	762.0	55.8	13.2		WSW	4	1.8			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.01	762.2	55.0	12.8		NW	8	3.6			9					Overcast	John Hartnup.
Bolton (Sharples)			30.00	762.0	53.5	11.9		W	6	2.7			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.60	751.8	30.00	762.0	56.1	13.4		W			1		8			0	0	Overcast	J. McLandsborong.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	84	28.9		SE			2		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			30.05	763.3	62.0	16.7		SW			2		7					D.clouds	H. Todd.
Cardington			30.05	763.3	64.0	17.8		SW			2		6					D. clouds	John McLaren.
Chatham, School M. E.	29.98	761.5	30.11	764.8	61.3	16.3		Calm			0		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.95	760.7	30.00	762.0	56	13.3		SSE			2		8					D. clouds	J. Mac Gowan.
Dover	30.30	769.6	30.33	770.4	49	9.4		SW			4		5					½ clouded	J. Costello.
Falmouth, Observatory	29.85	758.2	30.08	764.0	55.2	12.9		W			2		10					Foggy	The Staff.
Fort Napier (Natal)	27.55	699.8	29.86	758.4	76.6	24.8		E			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	86	30.0		SW			2		4					D. clouds	
Galway, Queen's College			29.96	761.0	56	13.3		WSW			2		5					Blue sky	Prof. A. H. Curtis.
Gibraltar (Mediterranean.)	30.08	764.0	30.14	765.5	67.5	19.7		E			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.76	755.9	29.96	761.0	48.9	9.4		WSW			1		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.09	764.3	30.10	764.5	45	7.2		SSW			3		5					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.93	760.2	30.10	764.5	56.6	13.7		WSW			2		9					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.91	759.7	30.14	765.5	50.5	10.3		SSW			2		10					Drizzling	Dr. S.E.Hoskins,F.R.S.
Helston	30.03	762.8	30.15	765.8	57	13.9		SW			2		8k					Fair	M. P. Moyle.
Holyhead	30.01	762.2	30.03	762.8	55	12.8		SSW			3		1					Blue sky	John Tilston.
Jersey	29.90	759.4	30.20	767.1	49.6	9.8		S			1		10			Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	30.07	763.8	30.11	764.8	55.5	13.1		SSW	18	8.0			9	W	SW			Threatening	The Meteorological Of.
Leicester, Museum.	29.76	755.9	30.02	762.5	58.3	14.6		SW			1		9					D. clouds	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.86	758.4	29.93	760.2	63	17.2		NW			2		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.86	758.4	29.96	761.0	54	12.2		Calm			0		10			Blank	Blank	Overcast	W. D. Penny.
Nassau (Bahamas)			29.94	760.5	73.2	22.9		SW			1		6			0.41	10.4	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.83	757.7	30.02	762.5	56.8	13.8		SSW			2		10k		SSW	0.011	0.28	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.50	749.3	30.02	762.5	54.8	12.7		SSW			4		10					Threatening	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.08	764.0	52	11.1		WSW			3		9					Squally	H. E. Bellamy.
Plymouth	30.00	762.0	30.07	763.8	52.3	11.3		SSW			2		10					Threatening	John Merrifield.
Prince Town	28.60	726.4	30.09	764.3	48.5	9.2		SW			6		10					Raining	H. Tooker.
*Roche's Point	30.00	762.0	30.09	764.3	56	13.3		ESE			3		10					Overcast	Wm. Kennedy.
Saint Ann's Head	29.82	757.4	29.99	761.7	49	9.4		SE			1		8					Foggy	John C. Walker.
Sandwick Manse (Orkneys)			29.96	761.0	47.5	8.6		WNW	10	4.5			2					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	71.6	22.0		SW			1		7			Blank	Blank	D. clouds	Serg't W. H.Lyne.
Sheffield	29.74	755.4	30.02	762.5	58.4	14.7		SW			2		10			Blank	Blank	Overcast	W. F. Cooper.
Silloth Rectory	29.97	761.2	30.00	762.0	55.0	12.8	71	W			4		10			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.62	752.3	30.02	762.5	55.5	13.1		W			2		7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.90	759.4	30.12	765.0	52.6	11.4		SW			3		10					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.06	763.5	30.10	764.5	58	14.4		SW			4		0					Gloomy	W. Newcombe.
Valencia, Observatory	30.01	762.2	30.03	762.8	54.2	12.3		W	10	4.5			4					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.81	757.2	29.85	758.2	59.8	15.4	84	NNW	14	6.3		10	10			0.590	14.99	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.06	763.5	53.0	11.7	94	S			2		9k			0.02	0.5	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.99	761.7	50.5	10.3		SW			2		9k			0.04	1.0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.78	756.4	29.97	761.3	78.0	25.6	82	WSW	4.0	1.8		4	4		WNW	0.20	5.1	Cloudy	C. Meldrum.
Melbourne, Observatory	29.91	759.7	30.00	762.0	54.0	12.2	92	SSE	9	4.0			10			0.20	5.1	Drizzling	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.96	761.0	51	10.6		W			3	3	0	W		0.2	5.		J. Youngclause.
North Unst (Shetland Is.)			29.91	759.7	47	8.3		SW			4	5	2	SW					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-3	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
§Brig Alliance, N. 18° 38′, W. 54° 30′			Showery	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle,				Capt. A. J. Brown.
Ship British Commodore, N. 44° 40′, W. 30° 40′			D. cloud's	Capt. J. W. Thorne.
City of Agra,				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole, N. 40° 15′, W. 18° 43′			Overcast	Capt. E. W. Turner.
S. S. Nizam				Capt. Barlow.
S. S. Royal Alaxandria, Off Sandy Hook, N. J.			Foggy	W. P. Hughes.
S. S. Strathleven,				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER
Punta Arenas																			Mr. Ansart.
San José	26.26	667.0	29.98	761.5	67.1	19.5	90	SE			1	1ck				0.7	18.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.08	763.9	30.12	765.1	47.1	8.4	76	NW			2		5						
Fanöe	30.13	765.4	30.15	765.9	51.4	10.8	68	W			2		2						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.84	757.9	29.87	758.8	45.5	7.5	76	NE			2		8					Raining	
Vestervig	30.02	762.4	30.19	766.7	49.3	9.6	79	SW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.67	753.5	30.22	767.5	60.1	15.9	58	W			1		8		W	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.04	763.1	30.15	765.8	64.8	18.2	43	SW			1		5		E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.90	759.4	30.15	765.9	59.4	15.2	45	W			2					0	0		Klein, Commandant.
Avignon, Normal School	30.05	763.3	30.13	765.3	67.1	19.5	38	N			4		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.63	752.6	30.19	766.8	60.1	15.6	43	NE			1		5kn		W	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.80	759.2	30.15	765.8	63.0	17.2	50	S			1		8		WSW	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.34	745.1	30.22	767.6	59.7	15.4	50	N			1		2		N	0	0	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.39	746.4	30.31	769.8	62.8	17.1	46	N			1		2k	N	N	0	0	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.65	753.2	30.21	767.2	59.4	15.2	70	NW			1		5	N	N	0	0	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.89	759.1	30.13	765.3	57.2	14.0	89	SW			1		10		SW	0.010	0.25	Foggy	De Rermaree, Director.
Carcassonne, Normal School	29.84	757.8	30.24	768.2	64.4	18	53	WNW			3		5	WNW	WNW	0	0	Cloudy	September, Director.
Caen, Normal School	30.15	765.8	30.23	767.7	54.3	12.4	76	W			1		10			0.012	0.3	Covered	Lair, Director.
Chartres, Normal School	29.57	751.1	30.13	765.3	65.3	18.5	84	W			1		9	E	N	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.88	758.9	30.20	767.0	57.6	14.2	63	E			1		5	NW	NW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.85	732.9	30.20	767.1	61.5	16.4	40	N			1		5		N	0	0		Alluard, Director.
Commercy, Normal School	29.33	745.0	30.19	766.8	57.7	14.3	47	NW			2		8c;kn		NW	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.98	736.2	30.13	765.2	63.1	17.3	20	NW			3		2		NW	0	0	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.43	747.4	30.19	766.7	59.0	15.0	39	N			1		2k	NW		0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	30.06	763.6	30.28	769.1	63.7	17.6	55	W			1		5		SW	0.055	1.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.92	759.9	30.23	767.8	61.2	16.2	49	NW			2		5	WNW	NW	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.24	742.8	30.19	766.8	60.8	15.7	39	NW			2		2ck	N	N	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.15	765.8	30.25	768.3	56.5	13.6	86	WSW			2				WSW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.75	755.6	30.02	762.4	66.9	19.4	48	NW			3		1			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.14	740.1	30.18	766.5	59.5	15.3	64	S			1		10n		N			Rainy	Barbier, Director.
Nismes, Normal School	29.95	760.7	30.15	765.7	66.2	19	48	N			2		0			0	0	Clear	Boyer, Director.
Privas, Normal School	29.13	739.8	30.19	766.7	60.8	16	50	N			1	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.33	643.3			36.0	2.2	67	W			2		5			0	0	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.25	768.3	30.28	769.1	63.9	17.7	57	W			3		8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.10	764.5	30.19	766.7	55.6	13.1	66	WSW			1		10		W	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.15	765.8	30.18	766.6	55.2	12.9	79	NW			1		8	NW	NW			Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.00	762.0	30.17	766.2	64.4	18.0	47	SW			1				WSW	0.091	2.3		E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.29	769.3	50.0	10	62	W			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.59	751.5	30.32	770.0	57.9	14.4	71	NW			2		5			0	0		Mercadier Juller.
Versailles, Observatory	29.66	753.4	30.15	765.9	60.8	16.0	44	WNW			1					0.006	0.14		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.54	750.3	30.24	768.2	65.3	18.5	44	N			1		2		NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	82.4	28										0.24	6.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.60	751.8	30.21	767.3	63.9	17.7	29	NNE			1		1		NNE	0	0	Clear	Mr. Jays.
Mont-Louis	24.98	634.4	30.29	769.4	46.4	8.0	51	WNW	18.6	8.3			0			0	0		M. Cave.
Nice			30.11	764.7	64.4	18.0	63	NW			1		2			0	0	Fine	Dr. A. Nicolice, Jr.
Perpignan	29.88	759.0			62.4	16.9	50	SW			1		10		WSW	0.008	0.2		Marié Davy, Director.
Pic du Midi (Summit) H. P.	30.13	765.4	30.24	768.1	62.1	16.7	40	NE	22.4	10.0			3		NW	0	0		Dr. Fines.
Pic du Midi (Plantade) H. P.																			M. Baylac.
Tours	22.64	575.1			37.8	3.2		W			1		1			0.038	0.96	Fine	Gen'l de Nansouty.
Zi-Ka-Wei (near Shanghai)	30.00	762.1	30.20	767.1	61.7	16.5	53	NW			1		6		W	0	0		Cousin-Marquet.
	30.02	762.4	30.04	763.1	59.7	15.4	83	ENE	8.3	3.7			0			0	0	Clear	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grèasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-1	Clouds. Amount. Up'er 0-10	Low'r 0-10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.32	744.7	30.13	765.2	57.0	13.9	44	Calm			0		6	NW		0.004	0.1		Prof. Dr. Hoh.
Berlin	29.97	761.2	30.14	765.5	58.3	14.6	46	N			1		6			0	0		Prof. Arndt.
Breslau	29.57	751.1	30.10	764.6	54.3	12.4	46	N			3		10			0.246	6.25		Royal University Obs'y.
Carlsruhe	29.74	755.3	30.16	766.1	62.6	17.0	43	SW			2		9	W		0	0		Albert Senz.
Cassel	29.58	751.3	30.19	766.8	58.1	14.5	51	WNW			2		8	SE		0.029	0.74		Dr. H. Möhl.
Crefeld	29.99	761.8	30.15	765.9	61.3	16.3	48	SW			2		7k			0	0	Hazy	Director Lose.
Emden																			
Frankfort on the Main	29.80	756.8	30.17	766.2	61.7	16.5		S			1		6			0	0		Prof. Prestel.
Freienwalde on the Oder	30.10	764.4	30.13	765.4	60.6	15.9	63	WNW			3		8k	WNW		0	0		Physical Society.
Friedrichshafen	28.77	730.8	30.22	767.6	51.4	11.8	57	SSE			2		6	NE		0	0		Assmann., M. D.
Hamburg	30.10	764.6	30.17	766.4	55.4	13.0	51	NW			2		8k	NE		0	0	Cloudy	M. Wilhelm.
Kiel	30.15	765.9	30.17	766.3	51.6	10.9	54	NNE			1		5			0	0		Captain F. Hegeman.
Königsberg (Prussia)	29.92	760.0	30.00	762.1	50.7	10.4	55	NW			5		4			0.020	0.5		Prof. G. Karsten.
Köslin			30.06	763.6	51.1	10.6		N			4		1			0	0		Prof. E. Luther.
Leipsic Observatory	29.74	755.4	30.16	766.1	58.3	14.6	51	NW			2		9	WNW		0	0		H. Müller.
Memel	29.89	759.3	29.94	760.5	43.7	6.5	75	NW			4		8c					Squally	Prof. Bruhns, Privy Counselor.
Neufahrwasser	30.06	763.6	30.08	764.0	46.2	7.9	75	NNE			3		4			0	0		Skalweit.
Posen	29.82	757.4	30.11	764.7	55.6	13.1	46	NW			6		5			0	0		A. Lothes.
Strassburg (in Alsace)	29.67	753.5	30.21	767.4	61.9	16.6	40	S			3		3	WNW		0	0		Dr. Magener.
Stuttgart	29.21	742.0	30.15	765.7	60.3	15.7	38	S			1		7	S		0	0		Imp. University Observatory.
Treves (Trier)	29.60	751.9	30.13	765.2	62.2	16.8	37	SW			7		5			0.001	0.02		Prof. Schoder.
Weissenburg (Bavaria)	28.65	727.8	30.17	766.3	54.5	12.5	40	Calm	0	0			9ck		NW	0	0		Prof. Flesch.
Wustrow	30.13	765.4	30.16	766.0	50.2	10.1	83	NW			1		4s			0	0		Dr. Van Bebber.
German Naval Series.																			E. Schütz, Dir.

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.36	745.7	29.75	755.6	65.3	18.5		SW			2.5							½ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.71	754.6	29.76	755.8	86.1	30.1	65	SW					0			0	0	Blue sky	
Deesa					101.8	38.8	19	WSW	8.9	4.0			0			0	0	Blue sky	
Bombay	29.73	755.2	29.77	756.1	84.5	29.2	79	NW	24.0	10.7			2	SSE		0	0	D. clouds	
Poona	27.84	707.2	29.81	757.3	85.9	29.9	54	W					10			0	0	Thunder	
Lahore	28.93	734.9	29.65	753.0	97.2	36.2	21	N	1.8	0.8			10			0	0	Overcast	
Belgaum	27.28	692.8	29.76	756.0	85.7	29.8	78	W	21.0	9.4			2		S	0	0	D. clouds	
Roorkee	28.76	730.4	29.61	752.2	100.5	38.1	13	W	2.1	0.9			0			0	0	Misty	
Agra	29.10	739.1	29.64	752.9	104.6	40.3	21	N					0			0	0		
Nagpur	28.66	727.9	29.66	753.3	100.7	38.2	19	Calm	4.6	2.1			7	N		0	0	D. clouds	
Lucknow	29.30	744.2	29.66	753.4	102.0	38.9	23	NNE	1.9	0.8			0			0	0	Blue sky	
Allahabad	29.35	745.4	29.64	752.9	103.6	39.8	18	Calm	1.8	0.8			0			0	0	Blue sky	
Patna	29.34	745.3	29.52	749.7	107.7	42.1	24	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.67	702.8	29.63	752.5	90.3	32.4	26	WNW	7.1	3.2			0			0	0	Blue sky	
Cuttack	29.63	752.5	29.70	754.5	92.1	33.4		SSE	5.0	2.2			5					Thunder-storm	
Calcutta (Alipore)	29.64	752.7	29.66	753.2	86.7	30.4	76	SSW	14.0	6.3			10	W		0	0	Overcast	
Goalpara	29.34	745.2	29.73	755.0	79.8	26.6	76	E	8.5	3.8			8		W	2.07	52.6	D. clouds	
Chittagong	29.65	753.2	29.74	755.5	86.3	30.2	78	S	5.8	2.6			1			0	0	Misty	
Sibsagar	29.51	749.6	29.85	758.2	74.1	23.4	85	ENE	3.8	1.7			10	W	W	0.21	5.3	Gloomy	
Jubbulpore	28.34	719.8	29.64	752.9	101.7	38.7	17	NNW	2.6	1.2			8		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument and temperature. Inches.	Barometer. Corrected for instrument and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	751.9	30.01	762.3	62.8	17.1	45	S	2.5	1.1			3			0	0		Prof. Giovanni Clodig.
Milan	29.54	750.2	30.06	763.4	64.4	18.0	26	SSW			2		1	NE		0	0		Prof. Schiaparelli.
Padua	29.93	760.1	30.03	762.8	62.1	16.7	37	WSW	3.8	1.7			4	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.3	30.05	763.2	61.0	16.1	30	SW	4.3	1.9			1			0	0		Prof. P. F. Denza.
Genoa	29.89	759.1	30.08	763.9	60.8	16.0	52	SE	8.1	3.6			4	NE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.15	715.0	30.06	763.4	56.5	13.6	34	NNW			2		0?	N?		0	0		Prof. D. C. Bruno.
Pesaro	30.02	762.4	30.06	763.6	56.5	13.6	56	NW	10.5	4.7			5			0	0		Prof. Luigi Guidi.
Florence	29.80	756.8	30.05	763.3	63.5	17.5	30	NE			2		8			0	0		Cav. F. Meucci.
Leghorn	29.95	760.7	30.03	762.8	62.6	17.0	43	N			4		8			0	0		Prof. P. Monte.
Rome	29.80	756.8	29.97	761.3	62.2	16.8	34	N	13.7	6.1			5			0	0		Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.92	760.0	52.7	11.5	63	NNE	11.2	5.0			6	N		0.193	4.9		Prof. C. De Giorgi.
Cosenza	29.02	737.2	29.91	759.6	58.3	14.6	72	NW	3.1	1.4			9			0.201	5.1		Prof. D. Conti.
Cagliari	29.81	757.1	30.00	762.0	64.9	18.3	38	NW			2		5	N		0.228	5.8		Prof. A. Pacinotti.
Palermo	29.72	754.8	29.97	761.2	58.6	14.8	52	NE	4.3	1.9			10	NNE		0	0		Prof. G. Cacciatore.
Syracuse	29.87	758.7	29.94	760.5	61.9	16.6	62	SE	3.8	1.7			8	SW		0.114	2.9		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.1	30.01	762.2	54.9	12.7	65	ENE	1.8	0.8			10			0.008	0.2		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.81	757.2	29.82	757.4	63.9	17.7	56	SW	10.8	4.8			0			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.76	755.9	29.96	761.0	63.0	17.2	81	W	6.7	0.3			2s			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.67	753.6	29.74	755.4	56.1	13.4	97	NE	5.8	2.6			10n			0.460	11.68	Light rain	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.01	635.2	30.02	762.5	56.8	13.8	50	NE			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.39	619.4	29.97	761.2	66.2	19.0	74	SE			1	1c	0			Inap.	Inap	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	29.98	761.6	57.7	14.3	62	Calm	0	0		0	5k		NW	0.008	0.2	½ clouded	The Staff.
Pabellon (Aguascalientes)					63.3	17.4	68	Calm			0	0	5k		SW	0.04	1.0	½ clouded	M. V. de Leon, M. E.
Tlacotalpam	29.85	758.1	29.86	758.3	77.7	25.4	87	Calm			0	4	0	Calm		0	0	Fair	M. M. Chàzaro.
San Luis Potosi	24.18	614.2	30.07	763.8	63.0	17.2	71	SE			2	0	0			0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas																			J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	54.5	12.5	63	E	0.4	0.2		2ck	0	NW		0.07	1.7	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.1	29.98	761.4	78.1	25.6	73	E			1	0	10		S	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.16	766.0	30.16	766.0	58.8	14.9		W								0	0		
Groningen	30.11	764.8	30.17	766.2	53.8	12.1		S			1					0.059	1.5		
Helder	30.15	765.9	30.15	765.9	52.5	11.4		ESE			1					0	0		
Hellevoetsluis	30.14	765.5	30.14	765.5	59.7	15.4	61	Calm			0					0	0		
Utrecht	30.13	765.2	30.17	766.4	59.5	15.3	47	SW			2		2			0	0	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	30.02	762.5	30.08	763.9	51.1	10.6	61	S	15.2	6.8			8			0	0		
Brönø	29.90	759.5	29.94	760.5	43.7	6.5	23	WNW	31	14			8			0.134	3.4		
Christiania	29.87	758.7	30.02	762.4	58.1	14.5	29	SW	7	3			0			0	0		
Tromsö	29.71	754.6	29.75	755.7	44.1	6.7	61	W	9	4			3			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.12	765.1	30.32	770.0	63.3	17.4	80	ESE	9.8	4.4			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.17	740.9	30.17	766.2	76.1	24.5	28	ESE	6.3	2.8			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.13	765.4	30.22	767.6	65.8	18.8	61	SW	4.3	1.9			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	757.8	30.19	766.7	74.7	23.7	27	ESE	4.9	2.2			0			0	0		The Staff.
Ponta Delgada (Azores)	30.24	768.2	30.32	770.0	64.4	18.0	65	ESE	11.9	5.3			4	NNE		0	0		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias, N. 39° 18′, W. 17° 13′			30.32	770.0	62.6	17.0		ESE			3		10		NE	2	NE	Drizzling	A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			30.02	762.5	77.9	25.5		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.83	757.6	81.5	27.5		WNW			2		4		SE	1	WNW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.97	761.2	84.6	29.2		N			1		10		N	1		Overcast	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.90	759.5	80.8	27.1		SW			2		3		SW	0	0	D. clouds	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.48	748.8	29.91	759.6	52.3	11.3	43	N	27	12			9cks;k						Astronomical Obs.
Wilna	29.34	745.2	29.75	755.6	60.1	15.6	62	NW	11	5			5						Astronomical Obs.
Dorpat	29.53	750.1	29.76	756.0	68.4	20.2	53	NW	9	4			0						Prof. Dr. Weihrauch.
St. Petersburg	29.68	753.9	29.70	754.3	70.2	21.2	42	E	7	3			6csn					Light clouds	Central Physical Obs.
Kieff	28.93	734.8	29.54	750.4	61.7	16.5	79	SSW	9	4			10k;ksn					Raining	Physical Cabinet.
Nikolaiev	29.70	754.3	29.77	756.1	57.7	14.3	84	SW	13	6			10n					Raining	Kurdakof.
Kertch	29.89	759.2	29.91	759.7	64.4	18.0	77	SSE	9	4			4						Lagorio.
Moscow	29.20	741.7	29.72	755.0	68.2	20.1	66	SSE	7	3			7ks						Meteorological Obs.
Lugan	29.47	748.4	29.67	753.5	70.0	21.1	41	SW	18	8			5			Blank	Blank		Meteorological Obs.
Archangel	29.70	754.3	29.72	754.8	69.8	21.0	42	NE	4	2			10						Capt. Sseliwerstow.
Tiflis	28.58	725.9	29.96	760.9	69.3	20.7	62	NW	9	4			6ks						Physical Observatory.
Astrakhan	29.83	757.7	29.75	755.6	83.1	28.4	35	SE	2	1			2s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.60	751.9	29.85	758.3	75.7	24.3	39	SE	4	2			1						Physical Cabinet.
Ekaterinburg	29.17	740.8	30.10	764.4	71.1	21.7	28	SE	20	9			4c					Light clouds	Meteorological Obs.
Nukuss	26.61	752.1	29.83	757.7	89.8	32.1	27	NNW	7	3			7cs						
Tashkend	28.37	720.5	29.86	758.5	77.0	25.0	40	E	31	14			6						Teich, A. M.
Barnaul	29.57	751.0	30.06	763.5	61.7	16.5	36	N	4	2			3					Light clouds	Meteorological Obs.
Yeniseisk	29.61	752.1	29.91	759.6	40.8	4.6	82	WNW	9	4			6						Marks.
Irkutsk																			
Peking (China)	29.57	751.0	29.71	754.6	65.3	18.5	31	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.63	752.6	29.73	755.1	44.8	7.1	96	NE	4	2			8k						
Nikolaievsk, on the Amoor	29.89	759.2	29.98	761.4	30.2	— 1.0	86	E	2	1			10n					Snowing	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.09	764.3	30.20	767.0	63.1	17.3	43	SSE	4.8	2.14			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.23	767.7	30.28	769.1	68.0	20.0	59	NW	1.5	0.68		2	2	N		0.055	1.4	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6			61.7	16.5	27	NE	5.4	2.40			0			0.020	0.5	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.98	710.8			71.8	22.1	46	S	3.7	1.67		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.06	763.4	30.20	767.1	75.2	24.0	43	ESE	4.3	1.94		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.29	743.9	30.17	766.2	68.2	20.1	55	NE	7.4	3.3		1	0			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	758.8	29.94	760.5	75.1	23.9	70	SE	1.6	0.7		0	0			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands	29.86	758.5	29.91	759.9	86.9	30.5	66	ESE	2.7	1.2			1ks		E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.6	30.16	766.1	76.3	24.6	21	ESE	16.7	7.4		0	0						Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.85	758.2	29.94	760.5	77.4	25.2	78	NE	2.2	1.00		5k	3k	NE	NE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.85	758.1	29.89	759.1	44.6	7.0	.....	W	.....	.....	2	.....	0	.....	.....	0.157	4.0	.....	
Umea	29.91	759.6	29.96	760.9	48.2	9.0	46	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.90	759.4	29.95	762.7	50.7	10.4	98	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.81	757.1	30.08	764.1	57.6	14.2	32	WNW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.91	759.6	29.96	761.1	47.1	8.4	67	WNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.88	759.0	29.96	760.9	60.6	15.9	29	NNW	7.4	3.3	.....	.....	1	.....	NW	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.78	730.9	30.19	766.9	57.2	14.0	28	NNE	.....	.....	4	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.58	725.8	30.21	767.2	56.1	13.4	44	SE	.....	.....	1	.....	6	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +5.9 mm.; Thermometer,—2.2 Cent.; Relative Humidity, —29 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.82	757.5	64.9	18.3	66	SE	7.	3.0	.....	.....	10	.....	SW	0.047	1.2	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.20	767.0	98.6	37.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.87	758.6	55.8	13.2	.....	W	.....	.....	2	.....	5	.....	.....	0.39	10.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.83	757.7	29.93	760.2	72.5	22.5	67	N	.....	.....	3	.....	10cs	.....	.....	0	0	Overcast	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.71	754.6	30.01	762.2	65	18.3	.....	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg
*Chatham, N. B	29.92	760.0	29.98	761.5	57	13.9	84	Calm	0	0	.....	5c	0	Calm	.....	0.06	1.5	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.94	760.5	29.98	761.5	53	11.7	89	SW	6	2.7	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.90	759.4	69.3	20.7	65	W	.....	.....	2	.....	10n	.....	.....	0	0	Misty	James Smith. M. A.
Dalhousie, N. B	29.81	757.2	29.97	761.2	55.5	13.1	89	W	.....	.....	1	0	0	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.97	761.2	30.02	762.5	49.3	9.6	78	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	29.99	761.7	46	7.8	96	SW	7	3.1	.....	5k	Fog	W	Calm	Inap.	Inap.	Foggy	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.00	762.0	53.2	11.8	83	S	1	0.4	.....	c	Haze	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.39	746.5	30.23	767.8	43	6.1	79	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.93	734.8	29.98	761.5	70	21.1	.....	S	.....	.....	1	1c	0	S	.....	0	0	Fine	James Grant.
*Halifax, N. S	29.82	757.4	29.95	760.7	57	13.9	85	W	6	2.7	.....	.....	8ks	.....	W	Inap.	Inap.	Fair	F. Allison, M. A.
Hamilton, Ontario	29.67	753.6	30.02	762.5	70.7	21.5	68	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.70	754.4	30.03	762.8	54	12.2	85	S	5	2.2	.....	Haze	Sm'e	Calm	S	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	29.94	760.5	29.97	761.2	57.0	13.9	87	SW	5	2.2	.....	.....	Fog	.....	.....	0.11	2.8	Foggy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.78	756.4	29.97	761.2	67	19.4	64	W	12	5.4	.....	.....	Sm'e	.....	.....	0	0	Smoky	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	29.96	761.0	66	18.9	76	SE	6	2.7	.....	2cs	0	SE	.....	0.02	0.5	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.28	743.7	30.00	762.0	66.7	19.3	29	Calm	.....	.....	0	0	0	.....	.....	0	0	Smoky	J. F. Jeffers, B. A.
Port Dover, Ontario	29.34	745.2	30.02	762.5	57	13.9	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.93	760.2	29.98	761.5	51.4	10.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.03	762.8	62	16.7	83	E	5	2.2	.....	0	Haze	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762.2	56	13.3	87	NE	.....	.....	3	.....	10n	.....	NE	0.06	1.5	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.53	750.0	29.98	761.5	63	17.2	78	Calm	0	0	.....	5ck	0	SW	.....	0.18	4.6	Fair	W. H. McIntyre.
St. Andrews, N. B	29.94	760.5	29.99	761.7	50	10.0	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.83	757.7	30.00	762.0	46	7.8	100	S	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.28	743.7	29.97	761.2	66	18.9	71	SE	11	4.9	.....	.....	Sm'e	.....	.....	0	0	Smoky	K. Stewart.
Stayner, Ontario	29.24	742.7	29.98	761.5	68	20.0	69	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy.	R. J. Cole.
Stratford, Ontario	29.76	755.9	29.99	761.7	67.5	19.7	67	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.94	760.5	29.98	761.5	53	11.7	98	SW	2	0.9	.....	.....	10n	.....	.....	0.10	2.5	Cloudy.	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.03	762.8	67	17.2	67	SW	8	3.6	.....	Haze	0	Calm	.....	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	29.89	759.2	29.99	761.7	54.0	12.2	90	NE	2	0.9	.....	10k	0	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.89	759.2	30.14	765.5	59.0	15.0	59	SW	.....	.....	.....	0	0	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.90	759.4	30.12	765.0	64	17.8	78	S	8	3.6	.....	Haze	Haze	.....	.....	0	0	Dense haze	
Alpena, Michigan	29.33	745.0	29.96	761.0	56	13.3	81	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	28.90	734.0	30.02	762.5	65	18.3	83	E	9	4.0	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Atlantic City, New Jersey	30.22	767.6	30.23	767.8	56	13.3	94	S	7	3.1	.....	10k	0	SW	.....	0	0	Cloudy	
Augusta, Georgia	29.90	759.4	30.07	763.8	73	22.8	72	NE	9	4.0	.....	2cs	5s	NW	E	0	0	Fair	
Baltimore, Maryland	30.16	766.1	30.21	767.3	65	18.3	94	S	4	1.8	.....	.....	10c	.....	Calm	Inap.	Inap.	Threatening	
Barnegat, New Jersey	30.18	766.6	30.20	767.1	57	13.9	94	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	28.40	721.3	30.26	768.6	48	8.9	77	N	4	1.8	.....	5k	0	E	.....	0	0	Fair	
Boerne, Texas	28.55	725.2	29.86	758.4	58	14.4	100	SW	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Boise City, Idaho	27.13	689.1	30.09	764.3	50	10.0	58	N	1	0.4	.....	5cs	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.94	760.5	30.09	764.3	66	18.9	74	SW	16	7.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.85	732.8	29.85	758.2	69	20.6	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.02	737.1	30.02	762.5	44	6.7	84	N	24	10.7	.....	8cs	0	S	.....	0.01	0.3	Cloudy	
Brownsville, Texas	29.85	758.2	29.89	759.2	77	25.0	69	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.34	745.2	30.03	762.8	61.5	16.4	69	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	66	18.9	45	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.73	755.1	30.01	762.2	69	20.6	61	S	14	6.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.60	751.8	29.97	761.2	72	22.2	67	S	5	2.2	.....	0	8ks	.....	S	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.21	640.3	30.01	762.2	59	15.0	13	NE	12	5.4	.....	2k	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	26.76	679.7	30.10	764.5	55	12.8	39	W	.....	.....	1	5k	0	NW	.....	0	0	Fair	
Campo, California	27.37	695.2	29.94	760.5	39	3.9	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.16	766.1	30.16	766.1	62	16.7	88	NE	10	4.5	.....	8cs	2ks	SW	NE	0.05	1.3	Cloudy	
Cape Henry, Virginia	30.18	766.6	30.19	766.8	60	15.6	88	SE	7	3.1	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	67	19.4	84	E	16	7.2	.....	5ck	2ks	NE	E	0.33	8.4	Cloudy	
Cape May, New Jersey	30.15	765.8	30.18	766.6	60	15.6	88	SE	5	2.2	.....	8k	Fog	S	SE	0	0	Cloudy	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	29.99	761.7	30.04	763.0	70	21.1	90	E	8	3.6	.....	8cs	0	E	.....	0	0	Fair	
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	38	3.3	81	NW	5	2.2	.....	0	0	.....	.....	0.06	1.5	Clear	
Chicago, Illinois	29.25	742.9	29.91	759.7	69	20.6	65	S	3	1.3	.....	0	5ks;hz	.....	SW	0	0	Fair	
Cincinnati, Ohio	29.39	746.5	30.02	762.5	68	20.0	65	SE	4	1.8	.....	1k	0	SE	.....	0	0	Clear	
Cleveland, Ohio	29.33	745.0	30.02	762.5	72	22.2	54	SE	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Coleman City, Texas	28.25	717.5	29.88	758.9	62	16.7	51	N	10	4.5	.....	0	1s	.....	Calm	0	0	Clear	
Columbus, Ohio	29.23	742.4	30.02	762.5	74	23.3	51	SE	5	2.2	.....	5ck	2s	Calm	Calm	0	0	Fair	
Concho, Texas	28.14	714.7	29.80	756.9	61	16.1	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.94	760.5	67	19.4	89	S	5	2.2	.....	2k	5s	Calm	W	0	0	Fair	
Davenport, Iowa	29.21	741.9	29.82	757.4	69	20.6	65	SE	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Deadwood, Dakota	25.58	649.7	.....	.....	42	5.6	91	S	1	0.4	.....	0	0	.....	.....	0.08	2.0	Clear	
Decatur, Texas	28.82	732.0	29.98	761.5	60	15.6	65	E	8	3.6	.....	2ck	0	SE	.....	0	0	Fair	
Denison, Texas	29.15	740.4	29.93	760.2	60	15.6	77	NE	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Denver, Colorado	24.97	634.2	30.19	766.9	46	7.8	84	S	2	0.9	.....	5ck	2s	NW	Calm	0	0	Fair	
Des Moines, Iowa	28.87	733.3	29.71	754.6	64	17.8	78	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
Detroit, Michigan	29.34	745.2	29.99	761.7	68	20.0	60	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.36	694.9	29.60	751.8	55	12.8	68	NW	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.14	740.1	29.80	756.9	68	20.0	65	S	4	1.8	.....	1ck	5ks	SW	Calm	0	0	Fair	
Duluth, Minnesota	29.32	744.7	30.00	762.0	51	10.6	93	NE	4	1.8	.....	.....	10n	.....	Calm	0.80	20.3	Light rain	
Eagle Pass, Texas	29.23	742.4	29.94	760.5	69	20.6	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.93	760.2	30.00	762.0	47	8.3	85	E	1	0.4	.....	2ck;hz.	Haze	W	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	70	21.1	85	Calm	.....	.....	0	.....	8s	.....	S	0	0	Cloudy	
El Paso, Texas	26.21	665.7	.....	.....	60	15.6	33	W	8	3.6	.....	5cs	2s	W	W	0	0	Fair	
Erie, Pennsylvania	29.34	745.2	30.02	762.5	74	23.3	55	SW	10	4.5	.....	0	Sm'e	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.31	744.5	29.95	760.7	54	12.2	87	N	12	5.4	.....	.....	10s	.....	NW	0.59	15.0	Cloudy	
Florence, Arizona	28.42	721.9	30.02	762.5	65	18.3	26	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.23	717.0	.....	.....	42	5.6	100	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.72	653.3	29.79	756.7	54	12.2	43	NW	12	5.4	.....	2c	2s	Calm	Calm	0	0	Fair	
Fort Davis, Texas	25.27	641.8	30.23	767.8	60	15.6	39	N	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.33	745.0	29.85	758.2	69	20.6	56	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Griffin, Texas	28.81	731.8	30.06	763.5	62	16.7	51	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.64	702.0	.....	.....	47	8.3	85	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.79	705.8	29.66	753.4	65	18.3	58	NE	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	29.63	752.6	29.66	753.4	33	0.6	100	SE	17	7.6	.....	.....	10n	.....	SE	0.02	0.5	Rainy	
Fort Sill, Indian Territory	28.75	730.2	29.84	757.9	61	16.1	55	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.40	721.3	.....	.....	46	7.8	60	NE	11	4.9	.....	1ck	0	NE	.....	0.01	0.3	Fair	
Fredericksburg, Texas	28.19	716.0	29.70	754.4	69	20.6	27	S	2	0.9	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.93	760.2	29.97	761.2	74	23.3	76	Calm	0	0	.....	0	1ks	.....	Calm	0	0	Clear	
Graham, Texas	28.94	735.1	29.98	761.5	60	15.6	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.30	744.2	29.92	760.0	70	21.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.15	740.4	29.80	759.2	70	21.1	61	SE	1	0.4	.....	5k	0	S	.....	0	0	Fair	
Indianola, Texas	29.97	761.2	30.00	762.0	74	23.3	81	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.84	732.5	29.95	760.7	62	16.7	94	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.97	761.2	74	23.3	81	NE	5	2.2	.....	2k	0	NE	.....	0.07	1.8	Clear	
Keokuk, Iowa	29.17	740.9	29.75	755.6	67	19.4	72	S	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Key West, Florida	29.91	759.7	29.94	760.5	78	25.6	73	E	4	1.8	.....	0	1ks	.....	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.16	766.1	30.18	766.6	59	15.0	88	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.09	738.9	30.06	763.5	70	21.1	70	NE	2	0.9	.....	0	2ks	.....	SE	0	0	Fair	
La Crosse, Wisconsin	29.08	738.6	29.78	756.4	63	17.2	83	N	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	48	8.9	49	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair	
Laredo, Texas	29.56	750.8	29.90	759.4	73	22.8	50	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.90	734.0	29.70	754.4	60	15.6	71	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.61	752.1	29.95	760.7	53.0	11.7	90	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.46	748.3	30.00	762.0	70	21.1	66	S	4	1.8	.....	8k	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.48	748.8	30.14	765.5	68	20.0	84	Calm	0	0	.....	0	8s	.....	S	0	0	Cloudy	
Madison, Wisconsin	28.89	733.8	29.83	757.7	65	18.3	78	S	7	3.1	.....	1c	0	SW	.....	0	0	Clear	
Marquette, Michigan	29.29	744.0	29.99	761.7	50	10.0	93	N	4	1.8	.....	.....	10ks	.....	N	1.42	36.1	Cloudy	
Mason, Texas	28.40	721.3	30.12	765.0	65	18.3	84	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Memphis, Tennessee	29.66	753.4	29.96	761.0	71	21.7	71	SE	4	1.8	.....	8ck	0	Calm	.....	0	0	Cloudy	
Milwaukee, Wisconsin	29.18	741.2	29.89	759.2	59	15.0	70	E	5	2.2	.....	1k	Sm'e	Calm	.....	0	0	Clear	
Mobile, Alabama	29.94	760.5	29.98	761.5	71	21.7	75	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Montgomery, Alabama	29.75	756.7	30.02	762.5	71	21.7	75	E	3	1.3	.....	8k	0	E	.....	0	0	Fair	
Morgantown, West Virginia	29.08	738.6	30.09	764.3	75	23.9	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.98	609.1	30.34	770.6	47	8.3	85	NW	33	14.8	.....	5c	Sm'e	NW	Calm	0	0	Fair	
Nashville, Tennessee	29.53	750.0	30.04	763.0	75	23.9	60	SE	1	0.4	.....	2cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.04	763.0	30.15	765.8	67	19.4	84	SW	8	3.6	.....	0	5ks;hz	.....	W;calm	0	0	Fair	
New London, Connecticut	30.13	765.3	30.18	766.6	59	15.0	100	SW	7	3.1	.....	.....	Fog	.....	SW	0.01	0.3	Dense fog	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	75	23.9	72	NW	6	2.7	.....	0	8s	.....	NW	0	0	Fair	
Newport, Rhode Island	30.12	765.0	30.17	766.3	54	12.2	100	SW	8	3.6	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
New York, New York	30.02	762.5	30.20	767.1	61	16.1	100	SW	6	2.7	.....	.....	10ks	.....	E	0	0	Cloudy	
Norfolk, Virginia	30.14	765.5	30.19	769.8	68	20.0	79	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Metres per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.13	689.1	29.69	754.1	50	10.0	65	N	24	10.7		0	0			0.05	1.3	Clear	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	50.0	10.0	96	NW	1	0.4			10n		Calm	0.14	3.6	Light rain	
Omaha, Nebraska	28.57	725.7	29.62	752.3	59	15.0	76	E	3	1.3		0	2s		Calm	0.55	14.0	Clear	
Oswego, New York	29.74	755.4	30.04	763.0	72	22.2	58	SW	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	29.34	745.2	30.18	766.6	39	3.9	82	NW	14	6.3		0	0			0	0	Clear	
Philadelphia, Pa	30.15	765.8	30.20	767.1	63	17.2	94	SW	5	2.2			Fog		SW	0	0	Dense fog	
Phœnix, Arizona	28.70	729.0	30.46	773.7	65	18.8	22	E	3	1.3		8k	0	SW		0	0	Cloudy	
Pike's Peak, Colorado	17.88	454.1	30.10	764.5	18	— 7.8	68	NE	10	4.5		0	0			0.58	14.7	Clear	
Ploche, Nevada	24.04	710.6	29.81	757.2	48	8.9	29	S	2	0.9		1c	2s	S	S	0	0	Fair	
Pittsburg, Pennsylvania	29.30	744.2	30.09	764.3	67	19.4	64	S	1	0.4		0	0			0	0	Clear	
Port Huron, Michigan	29.33	745.0	29.97	761.2	69	20.6	56	S	11	4.9		0	0			0	0	Clear	
Portland, Maine	29.96	761.0	30.01	762.2	70	21.1	66	W	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Portland, Oregon	29.96	761.0	30.06	763.5	53.0	11.7	86	NW	3	1.3			10n			Inap.	Inap.	Light rain	
Prescott, Arizona	24.70	627.4	30.06	763.5	48	8.9	36	W	2	0.9		8cs	0	W		0	0	Cloudy	
Pilot Point, Texas	29.19	741.4	30.00	762.0	62	16.7	36	W	1	0.4		0	0			0.01	0.3	Clear	
Punta Rassa, Florida	29.92	760.0	29.94	760.5	73	22.8	67	E	7	3.1		2k	0	SE		0	0	Clear	
Red Bluff, California	29.51	749.5	29.86	758.4	62	16.7	72	N	2	0.9			10ks		SW	0	0	Cloudy	
Rio Grande City, Texas	29.77	756.1	29.99	761.7	72	22.2	80	SE			1	0	0			0	0	Clear	
Rochester, New York	29.44	747.8	30.03	762.8	71	21.7	62	SW	12	5.4		Haze	Sm'e			0	0	Smoky	
Roseburg, Oregon	29.45	748.0	30.02	762.5	52	11.1	79	N	1	0.4			10s		Calm	0	0	Cloudy	
Sacramento, California	29.79	756.7	29.87	758.7	57	13.9	87	S	2	0.9			10s		Calm	0	0	Cloudy	
St. Louis, Missouri	29.33	745.0	29.88	758.9	68	20.0	70	S	9	4.0			10s		S	0	0	Cloudy	
St. Marks, Florida	29.94	760.5	29.96	761.0	70	21.1	85	NE	8	3.6		0	9s		NE	0.20	5.1	Cloudy	
St. Paul, Minnesota	29.01	736.8	29.81	757.2	58	14.4	87	NW	14	6.3		2k	0	NW		1.72	43.7	Fair	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	48	8.9	43	Calm	0	0		8c	0	W		0	0	Cloudy	
San Antonio, Texas	29.29	744.0	29.86	758.4	68	20.0	84	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.91	759.7	29.98	761.5	58	14.4	88	NW	1	0.4		0	8ks		Calm	0	0	Fair	
Sandusky, Ohio	29.37	746.0	30.02	762.5	69	20.6	65	S	11	4.9		10k	0	S		0	0	Cloudy	
Sandy Hook, New Jersey	30.15	765.8	30.18	766.6	60	15.6	100	SW	8	3.6			Fog		SW	0	0	Dense fog	
San Francisco, California	29.86	758.4	29.92	760.0	52.6	11.4	80	W	7	3.1			10s		Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	39	3.9	73	Calm	0	0		0	0			0	0	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.8	70	21.1	90	NE	13	5.8			10s		NE	1.20	30.5	Cloudy	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	71	21.7	71	SW	4	1.8		2ck	0	Calm		0	0	Fair	
Silver City, New Mexico	24.32	617.7	30.52	775.2	45	7.2	46	Calm	0	0		2c	0	Calm		0	0	Fair	
Smithville, North Carolina	30.08	764.0	30.12	765.0	69	20.6	90	NE	10	4.5		1cs	1s	W	NE	0.83	21.1	Fair	
Springfield, Massachusetts	30.01	762.2	30.14	765.5	65	18.3	84	S	2	0.9		Haze	Haze			0	0	Hazy	
Stockton, Texas	27.03	686.6	30.03	762.8	64	17.8	53	E	16	7.2			10cs		E	0	0	Cloudy	
Thatcher's Island, Mass	30.03	762.8	30.08	764.0	51	10.6	93	SW	14	6.3		10cs	0	W		0	0	Cloudy	
Toledo, Ohio	29.32	744.7	29.97	761.2	73	22.8	55	SW	5	2.2		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.48	698.0	30.03	762.8	55	12.8	38	S	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.66	753.4	30.15	765.8	53.0	11.7	80	SE	4	1.8			10ks		Calm	0	0	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas																			
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	70	21.1	75	Calm	0	0		*5k	0	SW		0	0	Fair	
Virginia City, Montana	24.23	615.4	29.80	756.9	41	5.0	57	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.53	750.0	29.90	759.4	58	14.4	76	Calm	0	0			10s		Calm	0	0	Cloudy	
Washington, D. C.	30.08	764.0	30.19	766.8	66	18.9	95	S	4	1.8			10s		SE	0	0	Cloudy	
Wickenburg, Arizona					58	14.4	32	Calm			0		10ks		SW	0	0	Threatening	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	72	22.2	76	E	10	4.5		1c	0	Calm		0.87	22.1	Clear	
Winnemucca, Nevada	25.58	649.7	29.94	760.5	48	8.9	43	NW	8	3.6		5k	2s	S	Calm	0	0	Cloudy	
Wood's Holl, Mass	30.13	765.3	30.16	766.1	52	11.1	100	SW	14	6.3			Fog		SW	0	0	Dense fog	
Yankton, Dakota	28.57	725.7	29.82	757.4	55	12.8	81	N	18	8.0			10n		Calm	0.27	6.9	Light rain	
Yuma, Arizona	29.66	753.4	29.82	757.4	66	18.9	54	Calm	0	0		2cs	5ks	Calm	Calm	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark	28.30	718.8	29.66	753.4	65	18.3	78											Fair	J. B. Gordon.
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	77	25.0	65	Calm	0	0		0	0			0.02	0.5	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.29	642.4			64.0	17.8	87	Calm			0		10n			0.16	4.1		Thomas Herran.
Navassa, W. I.	29.85	758.2	29.93	760.2	78	25.6		S								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	83	28.3	75	NE			2	0	5k			0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.19	766.8	30.24	768.1	37.0	2.8	95	W	15	6.7		1c	0	W		0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.46 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.94‡	760.5‡			53	11.7	100	SW	17	7.6			0			0	0			Clear	
Navy Yard, Pensacola, Fla.	29.98‡	761.5‡			73	22.8	85	NE	6	2.7			5		SE					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.72‡	754.9‡			57	13.9	97	NE			3		10n		NE	0.81	20.6			Light rain	
Adams, N. 3° 25′, W. 80° 04′	29.92‡	760.0‡			80	26.7	96	SW			3		10		SW					Cloudy	
Alaska, Sitka, Alaska	30.03‡	762.8‡			42	5.6	83	Calm			0		0			0	0			Blue sky	
Alliance, N. 36° 51′, E. 0° 24′	30.29‡	769.4‡			65	18.3	68	NW			1		0							Pleasant	
Ashuelot, Hong-Kong, China	30.00‡	762.0‡			74	23.3	86	NE			4		2		Calm			Mod'ate	NE	Fair	
Canonicus, Pensacola, Fla	29.99‡	761.7‡			71	21.7	95	NNE			4		5		NNE			Smooth		Fair	
Colorado, New York, N. Y.	30.21‡	767.3‡			67	19.4	89	SW	2	0.9			10			0	0			Light fog	
Constitution, N. 25° 30′, W. 64° 10′	29.84‡	757.9‡			75	23.9	90	SSW			4		8		SW			Smooth	S	Showery	
Despatch, N. 39° 17′, E. 3° 35′	30.19‡	766.8‡			61	16.1	82	N			3		9			0	0	Long	N	Pleasant	
Enterprise, Havre, France	30.16‡	766.6‡			55	12.8	80	W			1–2		4		W			Smooth		Hazy	
Franklin, Norfolk, Va.	30.17‡	766.3‡			68	20.0	84	ENE	6	2.7			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	30.02‡	762.5‡			58	14.4	70	S			3		10		S	0	0			Cloudy	
Michigan, Erie, Pa					74	23.3	60	SW			4		0							Clear	
Monongahela, Yokohama, Japan	29.71‡	754.6‡			58	14.4	94	NNE			3		10n			Heavy	Heavy			Raining	
New Hampshire, Port Royal, S. C.	30.01‡	762.2‡			72	22.2	90	ENE	22	9.8			8		NE	0.01	0.3			Cloudy	
Onward, Callao, Peru †*	30.09‡	764.3‡			61	16.1	94	NNW			2		10					Long	W	Foggy	
Palos, Shanghai, China	30.01‡	762.2‡			65	18.3	78	ENE			2		0							Light haze	
Passaic, Washington, D. C.					70	21.1	95	Calm			0		10							Cloudy	
Pensacola, Callao, Peru	30.01‡	762.2‡			61	16.1	94	NNE	2	0.9			10			0	0	Smooth		Foggy	
Portsmouth, Hampton Roads, Va.	30.20‡	767.1‡			58	14.4	94	E			2		10		Calm	0	0	Smooth		Cloudy	
Powhatan, Hampton Roads, Va.	30.15‡	765.8‡			64	17.8	78	NE			2		10		Calm	0	0			Dense fog	
Quinnebaug, Alexandria, Egypt	29.86‡	758.4‡			71	21.7	75	NNE			4		5		N					Fair	
Ranger, Amoy, China	30.03‡	762.8‡			73	22.8	90	NE			2		10		SW			Smooth		D. clouds	
Richmond, N. 18° 18′, E. 114° 05′	29.90‡	759.4‡			82	27.8	87	NNE			3		2		NNE	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡			69	20.6	95	SE			1		0							Clear	
Santee, Annapolis, Md.	30.23‡	767.8‡			65	18.3	94	SW			1		10			0	0			Overcast	
Saratoga, N. 36° 36′, W. 25° 33′	30.28‡	769.1‡			65	18.3	78	SE			4		10		SE	0	0	Mod'ate	SE	D. clouds	
St. Louis, League Island, Pa	30.19‡	766.8‡			63	17.2	42	Calm	0	0			10			0	0			Misty	
Trenton, Villafranca, France	30.10‡	764.5‡			72	22.2	62	SE			1–2		2		SE	0	0	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.88‡	758.9‡			78	25.6	82	Calm			0		9		Calm	2.8	7.1	Smooth		Hazy	
Vandalia, Aspinwall, New Granada	29.85‡	758.2‡			74	23.3	100	SE			1		10		N			Smooth		Cloudy	
Wabash, Boston, Mass.	30.20‡	767.1‡			67	19.4	89	SW	6	2.7			10			0	0			Cloudy	
Wyoming, Villafranca, France	30.07‡	763.8‡			63	17.2	78	ESE			2		5		SE			Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 46° 08′ W. 42° 11′...†*		29.93	760.2	70	21.1		W			1		5		W		Smooth	NW	Cloudy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.93‡	760.2‡				Calm			0		5k		S	0			Blue sky	L. B. Walls.
S. S. Colima, N. 17° 36′, W. 102° 28′..†		29.96‡	761.0‡	77	25.0		ENE			3		5		WSW	0	Small	ENE	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse, N. 47° 50′, W. 124° 55′...†		30.05‡	763.3‡	50	10.0	86	NE			1		4				Smooth	W	Drizzling	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.86‡	758.4‡				WNW			4				W				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; P. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 27° 46′, E. 125° 18′		29.99‡	761.7‡	77	25.0	77	ESE			2		5ck			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Off Abaco, Bahama I's.		30.03‡	762.8‡	79.0	26.1	78	ESE			2		2		E	5 h'rs	Smooth	ESE	Clear	Capt. C. Undütsch.
S. S. Leipzig, N. 49° 19′, W. 10° 34′		30.20‡	767.1‡	54.0	12.2	80	WNW			5		2		WNW		Mod'ate	W	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 33′, W. 24° 24′		30.35‡	770.9‡				NE			1		8		NW		Long	NW	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.19‡	766.8‡	60	15.6	88	W			2		1		W	0			Clear.	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 25° 46,′ W. 77° 25′		30.00‡	762.0‡	79	26.1	66	SSE	5	2.2			2k		E	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax"																			Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.67‡	753.6‡				SE	4	1.8			2		SE	0	Smooth		Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.10	764.4	69.1	20.6	62	NW			1		0			0	0	Clear	Kesxuche.
Algiers			30.07	763.7	65.1	18.4	65	NNE			2		5			0	0	Cloudy	Tourillere.
La Calle			30.17	766.4	67.6	19.8	67	NNW			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.24	768.0															Herbin.
Tebessa			30.09	764.3	80.2	26.8	33	N			4		2			0	0	Fair	Watrin.
Geriville			30.21	767.3	66.2	19.0	22	NW			4		5			0	0	Cloudy	Brugniaux.
Laghouat			30.11	764.8	70.3	21.3	30	SW			4		5			0	0	Cloudy	Bertrand.
Biskra			30.11	764.8	74.8	23.8	35	SSW			3		2			0	0	Fair	Chanvaux.
			30.15	765.7	79.0	26.1	37	SSE			4		0			0	0	Clear	

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,92[illegible].0? feet; Tebessa, 1,083? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.47	748.6	30.02	762.5	57.2	14.0	62	S			1		10			0.031	0.8	Raining	Prof. Ivan Stozir.
Eperies	29.24	742.6	30.00	762.1	55.4	13.0	51	NNW			3		6			0	0		Dr. Wierzbiski.
Gratz	29.04	737.5	29.91	759.7	55.4	13.0	49	NW			3		10s			0	0		Julius Mikolik.
Hermannstadt	28.77	730.8	30.00	762.1	60.8	16.0	56	NW			2		7			0	0		Andreas Rospini.
Kremsmünster	28.43	722.1	29.84	758.0	59.2	15.1	71	NW			2		9			0.280	7.10		Prof. A. Gottschling.
Lemberg	28.70	729.0	30.04	763.0	55.9	13.3	44	NW			2		10			0	0		Prof. C. Wagner.
Pola	28.83	732.3	29.83	757.6	47.1	8.4	87	NW			2		10			0.327	8.3		Dr. T. Stanecki.
Szathmar	29.95	760.8	30.06	763.6	62.6	17.0	54	WNW			2		3			0	0		I.R.Hydrographic Office.
Szegedin	29.48	748.9	29.95	760.8	51.1	10.6	83	W			2		10			0.008	0.2		Julius Csics, S. J.
Trieste	29.69	754.2						N			1		10			0	0		Karl Stancel.
Vienna	29.96	761.0	30.06	763.6	66.2	19.0	60	W			1		6			0	0		P. Busin.
	29.33	744.9	30.04	762.9	60.3	15.7	41	NNW			3		4			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.87	758.7	29.97	761.2	47.8	8.8		NNE	18	8.0			9			0	0	Overcast	W. Boswell.
Ardrossan	29.91	759.7	29.93	760.2	48	8.9		NW			2		8					Hail-showers	William McNeil.
Armagh, Observatory			30.02	762.5	51.9	11.1		NNW	15	6.7			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.85	758.2	46.4	8.0		WNW	15	6.7			10					Raining	John Hartnup.
Bolton (Sharples)			29.82	757.4	48.2	9.0		NNW	24	10.7			10					Threatening	Thomas Mackereth.
Bradford, Yorkshire	29.42	747.2	29.82	757.4	50.1	10.1		N			2		10			0	0	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.98	761.5	84.5	29.2		SE			1		6					Gloomy	Pvt. G. Surgener, A.
Cambridge, Observatory			29.77	756.1	49.0	9.4		SW			1		10					Thunder&showers	H. Todd.
Cardington			29.82	757.4	54.0	12.2		W			1		10					Hail & rain	John McLaren.
Chatham, School M. E.	29.69	754.1	29.82	757.4	49.1	9.5		SW			1		10					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.95	760.7	29.99	761.7	47	8.3		NNE			4		10					Raining	J. Mac Gowan.
Dover	29.81	757.2	29.83	757.7	52	11.1		SW			5		5					½ clouded	J. Costello.
Falmouth, Observatory	29.78	756.4	30.01	762.2	51.9	11.1		NW			5		6					Overcast	The Staff.
Fort Napier (Natal)	27.49	698.2	29.80	756.9	82.0	27.8		E			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	86	30.0		SW			1		3					D. clouds	
Galway, Queen's College			30.07	763.8	56	13.3		NNW			5		6					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.01	762.2	30.06	763.5	66.5	19.2		E			2		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.73	755.1	29.94	760.5	52.8	11.6		NNE			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.77	756.1	52	11.1		SSE			1		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.63	752.6	29.80	756.9	54.2	12.3		SW			3		7					Raining	The Staff, for G.B.Airy.
Guernsey	29.75	755.6	29.97	761.2	53.5	11.9		NW			4		0					Blue sky	Dr. S.E.Hoskins,F.R.S.
Helston	29.96	761.0	30.08	764.0	54	12.2		NW			6		2ck			0.9	23.	Fine	M. P. Moyle.
Holyhead	29.89	759.2	29.92	760.0	47	8.3		NNW			5		10					Overcast	John Tilston.
Jersey	29.72	754.9	30.01	762.2	52.9	11.6		W			6		3					D. clouds	J. Fisher.
Kew, Observatory	29.77	756.1	29.80	756.9	52.0	11.1		SW	14	6.3			7					Threatening	The Meteorological Of.
Leicester, Museum	29.51	749.5	29.77	756.1	45.7	7.6		NW			2		10					Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.98	761.5	30.06	763.5	65	18.3		NW			2		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.91	759.7	30.00	762.0	51	10.6		ENE			2		2					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	80.8	27.1		SE			1		5			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.60	751.8	29.80	756.9	45.7	7.6		Calm			0		10ck		N	1.205	30.61	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.78	756.4	45.5	7.5		WNW			1		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.79	756.7	53	11.7		W			4		7					Squally	H. E. Bellamy.
Plymouth	29.87	758.7	29.94	760.5	56.7	13.7		WNW			4		7					D. clouds	John Merrifield.
Prince Town	28.50	723.9	29.99	761.7	44.9	7.2		NW			7		3					Gloomy	W. H. Tooker.
*Roche's Point	30.00	762.0	30.10	764.5	55	12.8		N			6		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.77	756.1	29.93	760.2	46	7.8		NNW			4		4					Showery	John C. Walker.
Sandwick Manse (Orkneys)			30.05	763.3	45.1	7.3		N	27	12.1			7					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	70.0	21.1		SW			1		4					D. clouds	Serg't W. H.Lyne.
Sheffield	29.54	750.3	29.82	757.4	48.9	9.4		N			1		10			0.21	5.3	Overcast	W. F. Cooper.
Silloth Rectory	29.85	758.2	29.88	758.9	54.2	12.3	67	NW			5		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.42	747.2	29.83	757.7	53.0	11.7		SSW			1		9			Blank	Blank	Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	29.61	752.1	29.83	757.7	51.6	10.9		W			2-3		8			Blank	Blank	Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.97	761.2	30.01	762.2	56	13.3		NW			8		4					D. clouds	W. Newcombe.
Valencia, Observatory	30.18	766.6	30.20	767.1	53.9	12.2		N	26	11.6			6			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.86	758.4	29.90	759.4	62	16.7	70	NW	15	6.7		8	4			0.945	24.01	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.14	765.5	50.0	10.0	93	S			2		10n			0.04	1.0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.96	761.0	48.9	9.4		E			2		10s			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.76	755.9	29.95	760.6	76.8	24.9	84	SE	5.0	2.2		2	5	Var.		0.17	4.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.09	764.3	30.18	766.6	51.3	10.7	90	SSE	9	4.0			6			0.04	1.0	Drizzling	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.14	765.5	47	8.3		N			4	0	0			0	0		J. Youngclause.
North Unst (Shetland Is.)			30.03	762.8	43	6.1		N			6	2	7	NE					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
H. M. S. "Fawn,"				Capt. W. J. L. Wharton.
§Brig Alliance, N. 19° 08′, W. 54° 24′				Capt. W. Scott.
S. S. Amanda			D. clouds	Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore, N. 45° 45′, W. 28° 00′				Capt. J. W. Thorne.
—— City of Agra	3	SSE	Blue sky	Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole, N. 41° 30′, W. 20° 17′				Capt. E. W. Turner.
S. S. Nizam			D. clouds	Capt. Barlow.
S. S. Royal Alexandria, N. 39° 15′, W. 71° 45′	3	S	Misty	W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.26	667.0	29.98	761.5	66.6	19.2	93	SE				9ks				Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.02	762.5	30.07	763.7	54.7	12.6	48	SSE			2		0						
Fanöe	29.94	760.4	29.96	760.9	61.2	16.2	91	SE			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.14	765.6	30.18	766.5	40.8	4.9	56	NE			2		3						
Vestervig	29.85	758.2	30.02	762.5	57.7	14.3	78	SE			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.49	749.1	30.04	763.1	53.6	12	97	WNW			1		10			0.004	0.1	Raining	Collignon, Director.
Amiens, Normal School	29.86	758.4	29.97	761.2	54.7	12.6	90	SW			1		10			0.16	4.	Covered	Bonvallet, Director
Arras, Engin'r School	29.68	753.9	29.94	760.5	53.2	11.8	78	W			2		10		W	0.157	4.0	Raining	Klein, Commandant.
Avignon, Normal School	29.98	761.5	30.06	763.5	71.6	22	44	N			1		1			0	0	Very fine	Giraud, Director.
Bar-sur-Seine	29.47	748.4	30.02	762.4	60.6	15.9	52	WSW			1		8kn		WSW	Inap	Inap.	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.69	754.2	29.96	761.0	53.1	11.7	81	W			1		10		W	0.020	0.50	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	29.20	741.6	30.09	764.2	61.2	16.2	56	SSW			2		8		SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.1	30.18	766.5	68.2	20.1	53	SW			1		2k	SW	SW	0	0	Slightly cl'dy	Marlot, Director.
Bourges, Normal School	29.50	749.2	30.04	763.0	64.0	17.8	72	W			1		5	W	W	0	0	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.77	756.2	30.01	762.3	60.4	15.8	56	WNW			3		6		W	0.128	3.25		De Rermaree, Director.
Carcassonne, Normal School	29.67	753.5	30.07	763.8	72.7	22.6	37	W			1		2			0	0	Slightly cl'dy	September, Director.
Caen, Normal School	29.89	759.1	29.96	761.0	54.3	12.4	72	W			1		8		NW	0.110	2.8	Very cloudy	Lair, Director.
Chartres, Normal School	29.42	747.2	29.97	761.2	62.6	17	81	SW			3		9	N	E	0.08	2.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.6	29.98	761.6	61.2	16.2	58	SW			2		5	SW	SW			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.68	728.5	30.00	762.1	66.9	19.4	41	W			2		8		W	0	0		Allnard, Director.
Commercy, Normal School	29.18	741.2	30.04	762.9	55.8	13.2	73	WSW			3		8n		WSW	0.020	0.5	Very cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.97	735.9	30.11	764.9	68.5	20.3	31	SW			1		2		SW	0	0	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.34	745.3	30.10	764.5	63.3	17.4	39	W			1		0			0	0	Clear	Ablard, Director.
La Roche-sur-Yon, N. School	29.89	759.2	30.11	764.7	59.4	15.2	68	WSW			3		8		WSW	0.008	0.2	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.71	754.7	30.02	762.5	54.3	12.4	79	NNW			4		8		NW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.10	739.2	30.02	762.5	66.0	18.9	50	SE			2		2ck	SW	SW	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.99	761.7	30.09	764.2	57.6	14.2	78	WSW			4				NW	0.039	1.0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.79	756.7	30.06	763.5	66.7	19.3	55	W			1–2		6		W	0	0		E. Stephan, Director.
Mirecourt, Normal School	28.99	736.4	30.04	762.9	56.5	13.6	75	SE			1		2kn		NW	0.24	6.	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.86	758.4	30.06	763.4	76.3	24.6	51	E			2		0					Clear	Boyer, Director.
Privas, Normal School	28.99	736.3	30.03	762.7	68.0	20	55	N			1	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.22	640.6			42.4	5.8	75	W			2		10		W	0	0	Covered	Allnard, Director.
Rochefort, Naval Obs'y	30.11	764.8	30.14	765.6	56.5	13.6	80	WSW			2		10	WSW	WSW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.89	759.1	29.97	761.3	49.8	9.9	87	W			1		10		W	0.138	3.5	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.5	30.01	762.3	57.6	14.2	76	NW			3		2	NW	NW	0.178	4.52	Light clouds	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.80	757.0	29.97	761.2	60.8	16.0	76	WSW			3				WSW	0.236	6.0		E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.28	769.1	53.6	12	65	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.42	747.2	30.14	765.6	65.1	18.4	63	E			1		1			0	0		Mercadier Julier.
Versailles, Observatory	29.47	748.5	30.00	762.0	56.5	13.6	73	WSW			2					0.317	8.05		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.43	747.5	30.13	765.2	69.8	21	75	SE			1		5		W	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	82.4	2.8										0	0		L'Abbé Marel ésl.
Lyons Obs'y (Park Station)	29.45	748.0	30.06	763.4	69.4	18.3	43	NE			1		5		S	0	0	Cloudy	Mr. Jays.
Mont-Louis	24.93	633.3	30.25	768.3	53.2	11.8	57	E	15.0	6.7			3		NE	0	0		M. Cave.
Nice			30.12	765.0	65.5	18.6	69	S			1		2			0	0	¾ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.69	754.0			59.4	15.2	73	SW			3		10		SW	0.071	1.8		Marié Davy, Director.
Perpignan	30.00	761.9	30.10	764.6	65.1	18.4	36	S	11.2	5.0			2		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.59	573.9			43.0	6.1		W			1		4			0	0	Fine	Gen'l de Nansouty.
Tours	29.83	757.6	30.02	762.6	60.3	15.7	75	W			3		7		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.94	760.4	29.96	761.0	66.0	18.9	78	SE	12.8	5.7			2ks			0	0	Fine	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grésque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grésque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–12	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.21	741.9	30.06	763.4	61.0	16.1	47	SW			5		8	SW		0	0		Prof. Dr. Hoh.
Berlin	29.88	758.9	30.05	763.2	63.3	17.4	40	S			2		6			0	0		Prof. Arndt.
Breslau	29.55	750.5	30.08	764.0	57.2	14.0	41	N			3		4	NW		0	0		Royal University Obs'y.
Carlsruhe	29.60	751.8	30.02	762.5	62.2	16.8	55	SW			2		9	SW		0.59	15.		Albert Senz.
Cassel	29.41	747.1	30.02	762.6	63.0	17.2	46	WSW			4		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.78	756.4	29.94	760.5	65.3	18.5	50	SW			4		8k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.67	753.5	30.03	762.8	62.6	17.0		SW			1		7			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	30.00	762.1	30.04	763.1	64.6	18.1	52	N			2		3ck	W		0	0		Assmann., M. D.
Friedrichshafen	28.63	727.2	30.06	763.4	57.2	14.0	50	SW			2		2	SW		0.311	7.9		M. Wilhelm.
Hamburg	29.93	760.1	30.00	761.9	61.2	16.2	54	SSE			3		7kn	S		0.004	0.1		Captain F. Hegeman.
Kiel	29.97	761.3	29.99	761.7	61.3	16.3	41	SE			2		2			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.90	759.4	29.98	761.5	53.2	11.8	51	NW			5		2			0	0		Prof. E. Luther.
Köslin			30.04	763.0	50.7	10.4		N			2		0			0	0		H. Müller.
Leipsic Observatory	29.61	752.1	30.02	762.6	65.1	18.4	39	SSW			2		8			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.90	759.5	29.95	760.7	46.4	8.0	69	NW			5		7c;cs						Skalweit.
Neufahrwasser	30.03	762.7	30.04	763.1	49.8	9.8	70	NNE			4		7			0	0		A. Lothes.
Posen	29.82	757.3	30.10	764.6	58.6	14.8	38	NW			4		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.51	749.6	30.05	763.3	63.9	17.7	49	SSE			2		10	SW				Raining	Imp. University Observatory.
Stuttgart	29.08	738.7	30.01	762.2	62.1	16.7	41	S			5		8	SW		0.016	0.4		Prof. Schoder.
Treves (Trier)	29.44	747.9	29.97	761.2	61.3	16.3	57	SW			8		10			0.063	1.60		Prof. Flesch.
Weissenburg (Bavaria)	28.56	725.5	30.04	763.0	62.2	16.8	28	SW	4	2			5ck		S	0	0		Dr. Van Bebber
Wustrow	30.03	762.8	30.06	763.4	56.7	13.7	51	N			2		0			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.42	747.3	29.81	757.2	65.7	18.7		SW			1.5							½ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.68	754.0	29.73	755.2	86.4	30.2	69	W					0			0	0	Blue sky	
Deesa					101.4	38.6	22	WSW	8.5	3.8			2	SW		0	0	D. clouds	
Bombay	29.75	755.6	29.79	756.6	85.1	29.5	80	WNW	20.0	8.9			1	SW		0	0	D. clouds	
Poona	27.78	705.6	29.72	755.0	93.0	33.9	46	NW					6			0	0	D. clouds	
Lahore	28.97	735.8	29.70	754.4	86.0	30.0	45	N	3.7	1.6			4			0	0	Cloudy	
Belgaum	27.33	694.1	29.87	758.6	75.8	24.3	80	W	7.0	3.1			9	N	N	0.98	24.9	Thunder-storm.	
Roorkee	28.76	730.5	29.62	752.3	100.3	37.9	15	NW	3.9	1.7			2			0	0		
Agra	29.10	739.3	29.64	752.9	104.1	40.1	19	W					0			0	0		
Nagpur	28.65	727.7	29.64	752.9	105.5	40.8	13	Calm.	2.6	1.2			9		SE	0	0	D. clouds	
Lucknow	29.26	743.2	29.62	752.3	103.0	39.4	25	NNE	0.8	0.4			0			0	0	Misty	
Allahabad	29.34	745.1	29.63	752.6	105.1	40.6	19	Calm	2.1	0.9			0			0	0	Blue sky	
Patna	29.45	748.0	29.62	752.4	99.2	37.3	39	E	1.3	0.6			0			0	0	Blue sky	
Hazaribagh	27.70	703.5	29.63	752.6	97.8	36.6	15	NW	5.0	2.2			0			0	0	Blue sky	
Cuttack	29.66	753.2	29.74	755.3	89.3	31.8		SSW	8.0	3.6			3			0	0		
Calcutta (Alipore)	29.73	755.1	29.75	755.6	86.7	30.4	72	SSW	9.0	4.0			8	WSW	WSW	0	0	D. clouds	
Goalpara	29.41	747.1	29.81	757.1	75.8	24.3	86	ENE	9.0	4.0			1	SW		1.05	26.7	D. clouds	
Chittagong	29.74	755.3	29.83	757.6	83.1	28.4	73	E	7.4	3.3			6			0	0	Misty	
Sibsagar	29.56	750.9	29.90	759.6	76.4	24.7	79	S	2.1	0.9			10	W	W	0.43	10.9	D. clouds	
Jubbulpore	28.33	719.7	29.64	752.7	103.7	39.8	22	NNW	2.4	1.1			5		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for gravity and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.63	752.7	30.04	763.1	65.3	18.5	42	SW	3.1	1.4			8			0	0		Prof. Giovanni Clodig.
Milan	29.53	750.1	30.05	763.2	67.5	19.7	35	SSW			2		0			0	0		Prof. Schiaparelli.
Padua	29.95	760.8	30.06	763.5	64.2	17.9	42	SE	7.4	3.3			10	N		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.13	740.0	30.04	762.9	63.7	17.6	32	S	2.5	1.1			0			0	0		Prof. P. F. Denza.
Genoa	29.89	759.2	30.08	764.1	63.5	17.5	58	SW	6.3	2.8			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.6	30.04	763.0	60.8	16.0	35	NW			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.98	761.5	30.07	763.8	60.8	16.0	48	NE	9.8	4.4			2			0	0		Prof. Luigi Guidi.
Florence	29.80	756.9	30.05	763.3	68.0	20.0	49	NW			4		7			0	0		Cav. F. Meucci.
Leghorn	30.00	761.9	30.08	764.0	61.3	16.3	62	NE			4		2			0	0		Prof. P. Monte.
Rome	29.87	758.7	30.05	763.2	67.1	19.5	31	N	5.6	2.5			1			0	0		Prof. P. S. Ferrari
Lecce	29.69	754.2	29.94	760.6	59.5	15.3	49	NNE	18.6	8.3			5	NE		0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.3	29.99	761.7	62.4	16.9	73	W	4.3	1.9			7			0	0		Prof. D. Conti.
Cagliari	28.89	759.1	30.08	764.0	66.6	19.2	35	W			2		3	W		0.205	5.2		Prof. A. Pacinotti.
Palermo	29.84	758.0	30.10	764.4	59.0	15.0	67	WNW	11.9	5.3			9	WNW		0.028	0.7		Prof. G. Cacciatore.
Syracuse	29.96	761.0	30.04	762.9	65.3	18.5	50	SE	8.7	3.9			1	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.4	30.06	763.5	62.2	16.8	50	WSW	11.9	5.3			3			0.016	0.4		Prof. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.06	763.5	30.07	763.8	58.8	14.9	80	NNE	6.7	3.0			0			0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.91	759.7	30.11	764.8	56.9	13.8	75	Calm	0.4	0.2			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.03	762.7	30.10	764.5	60.3	15.7	91	SSW	3.3	1.5		0	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.08	637.1	30.11	764.7	56.8	13.8	54	W			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.44	620.7	30.04	763.1	65.1	18.4	74	E			2	1c	1s	W		Inap.	Inap.	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.6	30.09	764.2	55.4	13.0	73	NW	2.2	1.0		0	4k		NW	Inap.	Inap		The Staff.
Pabellon (Aguascalientes)					63.8	17.4	71	Calm			0	0	4k		Calm	0	0	Fair	M. V. de Leon, M. E.
Tlacotalpam	29.95	760.8	29.97	761.1	75.2	24.0	90	NNW			1	7	3	SW	NNE	0	0	Covered	M. M. Chàzaro.
San Luis Potosi	24.21	615.0	30.06	763.5	66.9	19.4	78	SE			1	6	0	SE		0.11	2.8	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas																			J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.2	30.20	767.0	50.7	10.4	62	Calm	0	0		1	1	SW	SW	0.32	8.2	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	722.2	30.07	763.8	77.5	25.3	73	E			1	0	1			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.6	29.91	759.6	57.9	14.4		SW								0.031	0.8		
Groningen	29.86	758.5	29.92	759.9	59.0	15.0		S			2					0.004	0.1		
Helder	29.87	758.8	29.87	758.8	55.4	13.0		S			4					0.126	3.2		
Hellevoetsluis	29.89	759.1	29.89	759.1	54.7	12.6	86	SW			3					0.004	0.1		
Utrecht	29.88	758.9	29.93	760.1	54.7	12.6	91	SSW			3		8			0.339	8.6	Very cloudy.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.98	761.6	30.04	763.0	49.6	9.8	74	NNW	7.4	3.3			4			0.071	1.8		
Brönö	30.02	762.5	30.06	763.5	45.7	7.6	74	S	4	2			9			0	0		
Christiania	29.89	759.1	30.03	762.8	56.1	13.4	34	WSW	9	4			7			0	0		
Tromsö	29.91	759.6	29.95	760.7	41.4	5.2	63	SSW	11	5			5			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.11	764.8	30.30	769.6	64.8	18.2	73	ESE	10.5	4.7			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.04	737.6	30.02	762.6	79.7	26.5	30	NW	3.8	1.7			5	S		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.1	30.21	767.3	65.7	18.7	61	Calm	0	0			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.1	30.08	764.1	73.0	22.8	46	NW	7.4	3.3			2			0	0		The Staff.
Ponta Delgada (Azores)	30.24	768.2	30.32	770.0	65.1	18.4	62	ESE	15.4	6.9			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-5	Direction from—		
Bartholomew Dias, N. 38° 58′, W. 16° 41′			30.32	770.1	61.7	16.5		NE			5		3		NE	4	NE	Drizzling	A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids.			30.00	762.1	77.7	25.4		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.7	81.0	27.2		WNW			2		6		SE	1	WNW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.99	761.7	84.9	29.4		NW			2		3		NW	1		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.91	759.6	81.0	27.2		SW			3		0			1	SW	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.50	749.4	29.92	760.0	58.6	14.8	32	NNW	20	9			7cs					Solar corona	Astronomical Obs.
Wilna	29.36	745.7	29.77	756.2	55.4	13.0	86	NNW	9	4			10					Heavy clouds	Astronomical Obs.
Dorpat	29.63	752.5	29.86	758.5	58.3	14.6	52	N	9	4			6cs						Prof. Dr. Weihrauch.
St. Petersburg	29.83	757.6	29.84	758.0	58.1	14.5	59	NE	16	7			3cs					Light clouds	Central Physical Obs.
Kieff	29.04	737.6	29.66	753.3	58.5	14.7	75	WSW	13	6			10ksn						Physical Cabinet.
Nikolaiev	29.78	756.4	29.85	758.2	59.9	15.5	81	S	9	4			10n						Kurdakof.
Kertch	29.79	756.6	29.81	757.1	68.0	20.0	71	SSE	7	3			3						Lagorio.
Moscow	29.16	740.7	29.69	754.0	65.3	18.5	67	S	9	4			7ks						Meteorological Obs.
Lugan	29.65	753.1	29.85	758.2	72.7	22.6	43	S	4	2			2						Meteorological Obs.
Archangel	29.87	758.6	29.89	759.1	49.1	9.5	78	W	13	6			2cs						Capt. Sseliwerstow.
Tiflis	28.63	727.1	29.99	761.7	74.8	23.8	57	E	13	6			9ks						Physical Observatory.
Astrakhan	30.02	762.6	29.94	760.5	81.5	27.5	23	N	2	1			4s					Light clouds	Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.55	750.6	29.80	757.0	74.5	23.6	50	SW	9	4			0						Physical Cabinet.
Ekaterinburg	29.02	737.0	29.92	760.0	81.9	27.7	22	SSE	7	3			3c;ck						Meteorological Obs.
Nukuss	29.61	752.1	29.83	757.6	91.0	32.8	32	WNW	9	4			1c						
Tashkend	28.39	721.1	29.88	758.9	81.0	27.2	57	Calm	0	0			2						Teich, A. M.
Barnaul	29.52	749.9	30.02	762.4	59.4	15.2	33	NW	4	2			7					Light clouds	Meteorological Obs.
Yeniseisk	29.69	754.1	29.99	761.7	31.6	— 0.2	57	N	20	9			7						Marks.
Irkutsk																			
Peking (China)	29.74	755.3	29.88	758.9	65.7	18.7	27	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.79	756.7	29.89	759.2	41.5	5.3	92	SE	9	4			10n					Foggy	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.03	762.7	30.13	765.4	64.4	18	59	SSW	45.4	20.3		0			0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.13	765.2	30.18	766.6	66.4	19.1	62	NW	2.6	1.18		2	7	NW	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.6			70.7	21.5	29	W	3.4	1.53			4		0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.84	707.2			76.5	24.7	40	SE	4.5	2.00		3	1	SE	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.96	760.9	30.06	763.6	73.4	23.0	49	NNW	2.9	1.28		3	2	E	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.5	30.12	765.1	62.2	16.8	59	NNE	22.4	10.0			3		0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.89	759.3	29.96	761.0	78.1	25.6	77	ESE	2.9	1.3		3c	0	WSW	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.86	758.6	29.91	759.9	88.0	31.1	59	E	5.1	2.3			0		0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.4	30.07	763.8	75.0	23.9	36	ESE	15.2	6.8		0	9	SE				Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.89	759.2	29.98	761.5	78.8	26.0	80	S	0	0		4ks	3k		0.482	12.26	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	30.09	764.2	30.13	765.2	48.6	9.2		SW			2		0			0	0		
Umea	30.09	764.2	30.14	765.5	51.8	11.0	43	SW			2		0			0	0		
Hernosand	30.12	765.0	30.17	766.3	53.8	12.1	97	S			2		0			0	0		
Stockholm	29.89	759.2	30.07	763.7	56.1	13.4	7	NE			4		0			0	0		
Wisby	29.93	760.1	29.98	761.6	50.7	10.4	51	NE			6		0			0	0		
Sub-Series.																			
Upsala	29.99	761.7	30.06	763.6	59.4	15.2	25	NE	10.3	4.6			0			0	0		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.4	30.05	763.2	59.7	15.4	40	N			2		1			0	0	Clear	The Observatory.
Zurich	28.45	722.5	30.08	763.9	62.6	17.0	40	S			2		4			0.264	6.7	Fair	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.4 mm.; Thermometer, —0.9 Cent.; Relative Humidity, —17 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.82	757.4	70.2	21.2	45	SE	8	3.5			8		SW	0	0		The Observatory.
Fao, Persian Gulf																			
Valona			29.95	760.8	61.7	16.5		W			2		5			0.64	1.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.71	754.6	29.82	757.5	73.4	23.0	78	NE			2		10k		SW	0.024	0.61	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.64	752.8	29.94	760.5	68	20.0		SW	1	0.4		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.00	762.0	30.06	763.5	56	13.3	75	NE	6	2.7		5c	2ks	NE	NE	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.03	762.8	30.07	763.5	57	13.9	82	SE	2	0.9			8s		NW	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.87	758.7	59.3	15.2	90	E			1		10s			0	0	Overcast	James Smith M. A.
Dalhousie, N. B	29.91	759.7	30.08	764.0	53.8	12.1	84	E			1		10ks			0	0	Overcast	H. A. Johnson.
Esquimault, B. C	29.76	755.9	29.80	756.9	48.3	9.1	100	Calm	0	0			10			0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.02	762.5	30.04	763.0	44	6.7	80	NE	30	13.4		5k	5s	W	Calm	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.04	763.0	63.8	17.7	74	SE	1	0.4		0	Haze			0	0	Hazy	Prof. Harrison.
*Fort Garry, Manitoba	29.42	747.2	30.27	768.8	42	5.6	91	N	2	0.9		0	0			0	0	Clear	James Stewart.
Granton, Ontario	28.84	732.5	29.90	759.4	66	18.9		S			1		10u			0	0	Overcast	James Grant.
*Halifax, N. S	29.96	761.0	30.10	764.5	54	12.2	80	SE	6	2.7		Haze	0			0	0	Hazy	F. Allison, M. A.
Hamilton, Ontario	29.59	751.6	29.95	760.7	66.7	19.3	82	SW			1	10cs	0	SW		0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.61	752.1	29.94	760.5	59	15.0	83	SE	6	2.7		Haze	Sm'e		SE	0	0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	30.08	764.0	30.11	764.8	48.1	8.9	86	E	4	1.8		1ck	0			0	0	Fair	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.73	755.1	29.92	760.0	60	15.6	86	NE	6	2.7		8ck	Sm'e	W		0.02	0.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.19	741.4	29.87	758.7	58	14.4	97	SE	6	2.7			10u		SE	0.07	1.8	Heavy rain	Rev. R. Mosly.
Peterboro, Ontario	29.19	741.4	29.91	759.7	68.7	20.4	69	Calm			0	0	0			Inap.	Inap	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.95	760.7	60	15.6	94	S	4	1.8		5k	5n	S	S	Inap.	Inap.	Cloudy	H. Morgan.
Port Hastings, N. S	30.03	762.8	30.08	764.0	48.6	9.2		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.31	744.5	29.94	760.5	61	16.1	91	SE	2	0.9		5ck	0	SW		0.19	4.8	Fair	M. Payne.
*Quebec, Quebec	29.69	754.1	30.01	762.2	56	13.3	81	NE			3	0	2ks		NE	0.03	0.8	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.44	747.8	29.88	758.9	60	15.6	94	Calm	0	0			Fog			0.24	6.1	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	48	8.9	96	S			1		Fog			0.09	2.3	Foggy	Dr. Gove.
St. John, N. B	29.86	758.4	30.02	762.5	51	10.6	100	SW	5	2.2			Fog			0.11	2.8	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	67	19.4	78	S	7	3.1		2k	Sm'e			0.03	0.8	Smoky	K. Stewart.
Stayner, Ontario	29.10	739.1	29.89	759.2	72	22.2	71	Calm	0	0		2ck	0	SW		0.15	3.8	Fair	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.91	759.7	63.0	17.2	92	SW	5	2.2		2c	5s	SW		0.03	0.8	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.07	763.8	30.11	764.8	60	15.6	75	Calm	0	0		2ck	Sm'e			0	0	Smoky	T. C. Hill.
*Toronto, Ontario	29.56	750.8	29.94	760.5	56	13.3	93	Calm	0	0			10ks		SW	0.03	0.8	Light rain	Magnetic Observatory.
Windsor, N. S	29.94	760.5	30.03	762.8	56.0	13.3	93	N	4	1.8			9n;k			0.04	1.0	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.94	760.5	30.19	766.8	48.0	8.9	92	Calm				Fog	Fog			0	0	Foggy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.83	757.7	30.05	763.3	68	20.0	74	S	3	1.3		Haze	Haze			0	0	Hazy	
Alpena, Michigan	29.26	743.2	29.90	759.4	51	10.6	93	E	5	2.2			Fog		Calm	0.05	1.3	Foggy	
Atlanta, Georgia	28.82	732.0	29.93	760.2	65	18.3	89	E	8	3.6			10n		Calm	0.19	4.8	Light rain	
Atlantic City, New Jersey	30.13	765.3	30.15	765.8	60	15.6	82	S	6	2.7		2c	0	Calm		0	0	Clear	
Augusta, Georgia	29.81	757.2	29.98	761.5	69	20.6	80	W	4	1.8			10s		W	0.05	1.3	Cloudy	
Baltimore, Maryland	30.08	764.0	30.13	765.3	64	17.8	89	SE	3	1.3			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.10	764.5	30.12	765.0	68	20.0	70	SW	6	2.7		5c	0	Calm		0	0	Fair	
Bismarck, Dakota	28.42	721.9	30.27	768.8	48	8.9	70	Calm	0	0		0	0			0	0	Clear	
Boerne, Texas	28.58	725.9	29.89	759.2	59	15.0	54	NW	1	0.4		0	0			0	0	Clear	
Boise City, Idaho	27.07	687.6	30.03	762.8	53	11.7	73	NW	4	1.8		5k	0	Calm		0.02	0.5	Fair	
Boston, Massachusetts	29.88	758.9	30.03	762.8	68	20.0	70	SW	10	4.5		Haze	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.87	733.3	29.88	758.9	68	20.0	90	SE	1	0.4		0	8s		SE	0	0	Fair	
Breckenridge, Minnesota	29.15	740.4	30.16	766.1	44	6.7	84	N	8	3.6		0	0			0	0	Clear	
Brownsville, Texas	29.92	760.0	29.97	761.2	77	25.0	69	SE	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.25	742.9	29.91	759.7	69	20.6	61	SW	9	4.0		5cs	Haze	SW	Calm	0	0	Fair	
Burkes, Arizona					66	18.9	23	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.66	753.4	29.94	760.5	68	20.0	74	S	7	3.1		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.48	748.8	29.85	758.2	66	18.9	84	SE	5	2.2			10s		SE	0.51	13.0	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.20	640.1	30.00	762.0	64	17.8	39	E	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona	26.76	679.7	30.10	764.5	51	10.6	34	NW			1	0	0			0	0	Clear	
Campo, California	27.43	696.7	30.00	762.0	35	1.7	70	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.07	763.8	30.07	763.8	69	20.6	85	SE	11	4.9		Haze	8s		SE	0	0	Cloudy	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	62	16.7	77	SE	8	3.6		2k	0	SE		0	0	Clear	
Cape Lookout, N. Carolina	30.03	762.8	30.04	763.0	69	20.6	85	SE	21	9.4		8k	0	E		0.04	1.0	Cloudy	
Cape May, New Jersey	30.06	763.5	30.09	764.3	62	16.7	83	SE	6	2.7		0	0			0	0	Clear	
Castroville, Texas	29.24	742.7	29.93	760.2	66	18.9	74	W	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	29.91	759.7	29.96	761.0	70	21.1	85	NE	4	1.8			10s		NE	0.12	3.0	Cloudy	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	40	4.4	82	Calm	0	0		5ck	0	SW		0	0	Fair	
Chicago, Illinois	29.16	740.7	29.83	757.7	58	14.4	88	E	5	2.2			10s		Calm	0.21	5.3	Threatening	
Cincinnati, Ohio	29.27	743.4	29.89	759.2	70	21.1	75	SE	7	3.1		7k	0	SE		0.24	6.1	Fair	
Cleveland, Ohio	29.22	742.2	29.91	759.7	70	21.1	53	SE	10	4.5		5ck	0	SW		0.04	1.0	Fair	
Coleman City, Texas	28.30	718.8	29.95	760.7	60	15.6	55	N	10	4.5		0	2s		Calm	0	0	Fair	
Columbus, Ohio	29.10	739.1	29.90	759.4	69	20.6	70	S	6	2.7		2c	5s	S	Calm	0	0	Fair	
Concho, Texas	28.18	715.8	29.84	757.9	62	16.7	61	N	4	1.8		5ck	0	Calm		0	0	Fair	
Corsicana, Texas	29.54	750.3	30.00	762.0	61	16.1	77	N	4	1.8		0	0			0	0	Clear	
Davenport, Iowa	29.20	741.7	29.81	757.2	61	16.1	88	N	1	0.4			10s		E	1.50	38.1	Cloudy	
Deadwood, Dakota	25.54	648.7			47	8.3	85	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas																			
Denison, Texas	29.20	741.7	29.98	761.5	60	15.6	77	NW	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.91	632.7	30.13	765.3	49	9.4	85	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.03	737.3	29.90	759.4	52	11.1	86	NE	13	5.8			10n		Calm	0.11	2.8	Light rain	
Detroit, Michigan	29.23	742.4	29.87	758.7	64	17.8	83	SW	2	0.9			10s		SW	0.03	0.8	Cloudy	
Dodge City, Kansas	27.54	699.5	29.82	757.4	53	11.7	73	N	18	8.0		0	0			0	0	Clear	
Dubuque, Iowa	29.19	741.4	29.87	758.7	61	16.1	77	N	5	2.2			10s		Calm	0.25	6.3	Cloudy	
Duluth, Minnesota	29.49	749.0	30.18	766.6	45	7.2	92	NE	4	1.8			Fog		Calm	1.04	26.4	Light rain	
Eagle Pass, Texa	29.26	743.2	29.66	740.7	70	21.1	66	NE	3	1.3		0	0			0	0	Clear	
Eastport, Maine	29.96	761.0	30.03	762.8	46	7.8	96	NE	1	0.4			Fog		NE	0.14	3.6	Foggy	
Edinburg, Texas					73	22.8	85	S			4	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.25	666.7			67	19.4	41	SE	4	1.8		0	0			0	0	Clear	
Erie, Pennsylvania	29.24	742.7	29.92	760.0	70	21.1	70	S	8	3.6		5k	5s	SW	SW	0	0	Cloudy	
Escanaba, Michigan	29.34	745.2	30.01	762.2	42	5.6	83	N	19	8.5			10s		NW	0.08	2.0	Cloudy	
Florence, Arizona	28.39	721.1	29.99	761.7	65	18.3	26	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	28.10	713.7			48	8.9	77	S	5	2.2		0	0			0	0	Clear	
Fort Craig, New Mexico	25.56	649.2	29.63	752.6	47	8.3	48	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	65	18.3	58	Calm	0	0		5c	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.33	745.0	29.86	758.4	62	16.7	77	W	6	2.7			10s		Calm	0	0	Cloudy	
Fort Griffin, Texas	28.85	732.8	30.12	765.0	61	16.1	71	N	3	1.3		0	0			0	0	Clear	
Fort Keogh, Montana	27.44	697.0			53	11.7	73	SE	8	3.6		2c	0	Calm		0	0	Clear	
Fort McKavett, Texas	27.84	707.1	29.73	755.1	60	15.6	71	NE	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.70	754.4	29.73	755.1	31	— 0.6	100	SE	52	23.2		0	5k		SE	0.03	0.8	Fair	
Fort Sill, Indian Territory	28.80	731.5	29.89	759.2	61	16.1	55	N	20	8.9		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.36	720.3			51	10.6	54	E	4	1.8		0	0			0	0	Clear	
Fredericksburg, Texas																			
Galveston, Texas	29.94	760.5	29.98	761.5	72	22.2	90	W	10	4.5		2c	0	Calm		0	0	Clear	
Graham, Texas	28.99	736.3	30.04	763.0	56	13.3	81	NW	1	0.4		0	0			0	0	Clear	
Grand Haven, Michigan	29.22	742.2	29.84	757.9	64	17.8	78	SE	4	1.8			10s		SE	0.02	0.5	Cloudy	
Indianapolis, Indiana	29.04	737.6	29.78	756.4	68	20.0	84	SE	5	2.2			10s		SE	0.06	1.5	Cloudy	
Indianola, Texas	30.00	762.0	30.02	762.5	73	22.8	85	W	3	1.3		0	0			0	0	Clear	
Jacksboro, Texas	28.91	734.3	30.02	762.5	65	18.3	54	NE	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.98	761.5	70	21.1	90	NE	5	2.2			10s		Calm	Inap.	Inap.	Cloudy	
Keokuk, Iowa	29.16	740.7	29.75	755.6	62	16.7	88	E	3	1.3			10s		S	1.09	27.7	Light rain	
Key West, Florida	29.93	760.2	29.96	761.0	78	25.6	73	SE	5	2.2			8s		Calm	0	0	Cloudy	
Kittyhawk, North Carolina	30.04	763.0	30.07	763.8	61	16.1	94	NE	5	2.2		0	0			0	0	Clear	
Knoxville, Tennessee	29.00	736.6	29.98	761.5	64	17.8	89	NE	2	0.9			10ks		SE	0.02	0.5	Cloudy	
La Crosse, Wisconsin	29.24	742.7	29.98	761.5	49	9.4	93	N	14	6.3			10n		Calm	0.42	10.7	Light rain	
La Mesilla, New Mexico	26.08	662.4	30.22	767.6	56	13.3	40	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.93	760.2	75	23.9	68	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	28.98	736.1	29.80	756.9	58	14.4	94	N	18	8.0			10s			1.18	30.0	Cloudy	
Los Angeles, California	29.68	753.9	30.01	762.2	54.0	12.2	83	E	2	0.9			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.33	745.0	29.86	758.4	71	21.7	66	S	6	2.7		5ck;k	2s	SW	Calm	0.02	0.5	Fair	
Lynchburg, Virginia	29.40	746.7	30.06	763.5	68	20.0	74	SE	2	0.9		0	2ks		Calm	0	0	Clear	
Madison, Wisconsin	28.80	733.8	29.84	757.9	57	13.9	87	NE	14	6.3			10s		NE	0.13	3.3	Cloudy	
Marquette, Michigan	29.34	745.2	30.06	763.5	38	3.3	100	NW	9	4.0			10n		Calm	0.25	6.3	Light rain	
Mason, Texas	28.42	721.9	30.16	766.1	63	17.2	57	W	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.54	750.3	29.84	757.9	67	19.4	79	S	3	1.3		5ck	0	SW		1.11	28.2	Fair	
Milwaukee, Wisconsin	29.16	740.7	29.89	759.2	44	6.7	92	NE	16	7.2			10n		Calm	0.12	3.0	Light rain	
Mobile, Alabama	29.89	759.2	29.93	760.2	73	22.8	81	S	1	0.4		0	2s		S	0	0	Fair	
Montgomery, Alabama	29.72	754.9	29.94	760.5	72	22.2	80	SE	6	2.7		2k	5ks	SE	SE	0.06	1.5	Fair	
Morgantown, West Virginia	28.96	735.6	29.96	761.0	72	22.2	62	Calm	0	0		0	0			0	0	Fair	
Mt. Washington, N. H.	24.04	610.6	30.40	772.1	53	11.7	73	NW	6	2.7		0	Sm'e		Calm	0	0	Fair	
Nashville, Tennessee	29.38	746.2	29.99	759.4	64	17.8	83	SE	12	5.4			10ks		SE	0.96	24.4	Cloudy	
New Haven, Connecticut	29.97	761.2	30.08	764.0	71	21.7	71	SW	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
New London, Connecticut	30.05	763.3	30.10	764.5	66	18.9	74	SW	6	2.7		Haze	0	Calm		0	0	Clear	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	75	23.9	77	SW	6	2.7		0	0			0	0	Clear	
Newport, Rhode Island	30.04	763.0	30.09	764.3	58	14.4	82	SW	7	3.1		2cs	Sm'e	Calm		Inap.	Inap.	Fair	
New York, New York	29.95	760.7	30.13	765.3	62	16.7	83	SW	4	1.8		1cs	Haze	Calm	Calm	0	0	Clear	
Norfolk, Virginia	30.04	763.0	30.10	764.5	71	21.7	71	SE	5	2.2		2cs	0	Calm		0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.27	692.6	29.89	759.2	44	6.7	88	N	4	1.8		9	0			0	0	Clear	
Olympia, Washington Ter.	29.78	756.4	29.81	757.2	50.5	10.3	93	Calm	0	0			10s		Calm	0.20	5.1	Cloudy	
Omaha, Nebraska	28.85	732.8	29.94	760.5	53	11.7	86	N	17	7.6			10s		N	Inap.	Inap.	Cloudy	
Oswego, New York	29.65	753.1	29.96	761.0	72	22.2	62	S	10	4.5		Haze	Sm'e	Calm	Calm	0	0	Smoky	
Pembina, Dakota	29.37	746.0	30.22	767.6	39	3.9	91	NW	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa	30.07	763.8	30.12	765.0	64	17.8	83	S	5	2.2		3cs;ck	Haze	Calm;W	Calm	0	0	Fair	
Phœnix, Arizona	28.70	729.0	30.46	773.7	62	16.7	32	N	2	0.9		0	0			0	0	Clear	
Pike's Peak, Colorado	17.91	454.9	30.12	765.0	20	— 6.7	27	N	7	3.1		0	0			0	0	Clear	
Pioche, Nevada	24.02	610.1	29.79	756.7	51.5	10.8	34	S	4	1.8		0	1s		Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.20	741.7	29.98	761.5	66	18.9	74	SE	1	0.4		5ck	0	Calm		Inap.	Inap.	Fair	
Port Huron, Michigan	29.24	742.7	29.88	758.9	62	16.7	88	SW	6	2.7			10n		Calm	Inap.	Inap.	Light rain	
Portland, Maine	29.96	761.0	30.01	762.2	63	17.2	67	SE	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Portland, Oregon	29.83	757.7	29.90	759.4	52.0	11.1	93	S	5	2.2			10n		SW	0.30	7.6	Light rain	
Prescott, Arizona	24.73	628.1	30.09	764.3	43	6.1	36	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas																			
Punta Rassa, Florida	29.95	760.7	29.97	761.2	75	23.9	72	SE	7	3.1		5cs;k	0	SW;Calm		0	0	Fair	
Red Bluff, California	29.55	750.6	29.91	759.7	59.5	15.3	68	S	8	3.6			10ks		S	0.53	13.5	Cloudy	
Rio Grande City, Texas	29.82	757.4	30.03	762.8	72	22.2	80	SE			1	0	0			0	0	Clear	
Rochester, New York	29.34	745.2	29.93	760.2	70	21.1	85	SW	11	4.9		0	Sm'e			0	0	Clear	
Roseburg, Oregon	29.39	746.5	29.96	761.0	48	8.9	78	W	3	1.3		0	5s		W	0.08	2.0	Fair	
Sacramento, California	29.90	759.4	29.99	761.7	53.5	11.9	83	SW	4	1.8			10s		SW	0	0	Cloudy	
St. Louis, Missouri	29.24	742.7	29.79	756.7	61	16.1	94	SE	6	2.7			10n		SE	0.19	4.8	Light rain	
St. Marks, Florida	29.95	760.7	29.96	761.0	70	21.1	90	NE	3	1.3		0	1s		E	0	0	Clear	
St. Paul, Minnesota	29.23	742.4	30.06	763.5	48	8.9	77	N	16	7.2			10s		N	0.01	0.3	Cloudy	
Salt Lake City, Utah	25.57	649.5	29.90	759.4	58	14.4	32	SE	4	1.8		9k	0	W		0	0	Cloudy	
San Antonio, Texas	29.33	745.0	29.99	759.4	69	20.6	70	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.97	761.2	30.04	763.0	57	13.9	87	Calm	0	0			10ks		Calm	0	0	Cloudy	
Sandusky, Ohio	29.25	742.9	29.89	759.2	69	20.6	70	SW	12	5.4		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.08	764.0	30.11	764.8	68	20.0	70	SW	6	2.7		0	Haze		Calm	0	0	Hazy	
San Francisco, California	29.97	761.2	30.04	763.0	52	11.1	89	W	7	3.1			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	52	11.1	51	Calm	0	0		5ck	0	W		0	0	Fair	
Savannah, Georgia	29.90	759.4	29.99	761.7	74	23.3	76	SE	1	0.4		5k	0	SW		0.07	1.8	Fair	
Shreveport, Louisiana	29.69	754.1	29.90	759.4	67	19.4	69	Calm	0	0		0	0			0.02	0.5	Clear	
Silver City, New Mexico	24.34	618.2	30.53	775.4	46	7.8	54	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.00	762.0	30.04	763.0	68	20.0	100	E	13	5.8			10s		E	0.15	3.8	Light rain	
Springfield, Massachusetts	29.94	760.5	30.06	763.5	65	18.3	78	S	5	2.2		Haze	Haze			0	0	Hazy	
Stockton, Texas	27.03	686.6	30.03	762.8	67	19.4	64	SE	9	4.0		5cs	0	W		0	0	Fair	
Thatcher's Island, Mass	29.98	761.5	30.04	763.0	51	10.6	93	SW	12	5.4		Haze	Haze			0	0	Hazy	
Toledo, Ohio,	29.22	742.2	29.87	758.7	71	21.7	75	S	3	1.3		1c	0	Calm		1.10	27.9	Clear	
Tucson, Arizona	27.47	697.7	30.02	762.5	57	13.9	40	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.48	748.8	29.96	761.0	54.6	12.2	93	N	2	0.9			10n		Calm	0.10	2.5	Light rain	
Unalaska, Aleutian Islands																			
Uvalde, Texas	29.12	739.6	29.92	760.0	70	21.1	70	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	29.68	753.9	29.93	760.2	72	22.2	71	SW	4	1.8		0	0			0	0	Clear	
Virginia City, Montana	24.23	615.4	29.71	754.6	52	11.1	35	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.61	752.1	29.97	761.2	63	17.2	51	NW	2	0.9		5ck;h'z	0	Calm		0	0	Fair	
Washington, D. C.	30.01	762.2	30.12	765.0	64	17.8	78	S	1	0.4		8c;h'z	Haze	Calm	Calm	0	0	Hazy	
Wickenburg, Arizona					56	13.3	46	NW			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.93	760.2	30.00	762.0	69	20.6	90	E	3	1.3			10s		Calm	SE	0.31	7.9	Cloudy
Winnemucca, Nevada	25.57	649.5	29.93	760.2	53	11.7	54	Calm	0	0		10k	0	SW		Inap.	Inap.	Cloudy	
Wood's Holl, Mass	30.05	763.3	30.09	764.3	56	13.3	80	SW	14	6.3		Haze	0			0	0	Clear	
Yankton, Dakota	28.84	732.5	30.14	765.5	48	8.9	78	N	12	5.4		2c	0	NW		0.08	2.0	Fair	
Yuma, Arizona	29.66	753.4	29.83	757.7	65	18.3	49	E	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.28	718.3	29.65	753.1	57	13.9	81											Cloudy	J. B. Gordon.
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	78	25.6	78	Calm	0	0		8cs	0	SW		0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.24	641.1			67.0	19.4	80	Calm			0	1cs	2ks			0.12	3.0		Thomas Herran.
Navassa, W. I.	29.86	758.4	29.94	760.5	79	26.1		S								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.02	762.5	83	28.3	71	E			2	5k	6ks	E		0	0	½ clouded	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.97	761.2	30.02	762.5	42.0	5.6	92	SW	14	6.3		2k	0	SW		0	0	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Grifin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 n.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.09‡	764.3‡			53	11.7	86	WSW	8	3.6			10		Calm	0	0				
Navy Yard, Pensacola, Fla.	29.96‡	761.0‡			74	23.3	86	SE	7	3.1			2		SE					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.06‡	763.5‡			61	16.1	94	Calm			0		0			0.01	0.3			Clear	
Adams, N. 1° 00′, W. 80° 48′	29.92‡	760.0‡			79	26.1	95	SW			3		10		SW					Cloudy	
Alaska, Sitka, Alaska	29.88‡	758.9‡			45	7.2	76	WNW			2		10			0	0			Overcast	
Alliance, N. 36° 41′, W. 4° 07′	30.16‡	766.1‡			65	18.3	63	WNW			1		5							Pleasant	
Ashuelot, Between Hong-Kong and Cheefoo, China, N. 26°, E. 123°	30.03‡	762.8‡			74	23.3	81	ESE			3		0					Smooth		Clear	
Canonicus, Pensacola, Fla	29.92‡	760.0‡			73	22.8	90	NE			1		5		NE					Fair	
Colorado, New York, N. Y	30.14‡	765.5‡			67	19.4	74	SW	5	2.2			2		NNW	0	0			Pleasant	
Constitution, N. 26° 31′, W. 65° 46′	29.92‡	760.0‡			75	23.9	95	SSW			2		4		SW			Smooth	SSW	Fair	
Despatch, N. 37° 34′, Long. 0° 00′	30.16‡	766.1‡			67	19.4	74	NE			3		3			0	0	Smooth		Fine	
Enterprise, Havre, France	30.03‡	762.8‡			53	11.7	86	SSW			4		10		S					Overcast	
Franklin, Norfolk, Va	30.08‡	764.0‡			69	20.6	80	ESE	6	2.7			5		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay.*	30.10‡	764.5‡			58	14.4	58	SW			4		0			0	0			Clear	
Michigan, Erie, Pa					71	21.7	71	SW			4		10		W					Cloudy	
Monongahela, Yokohama, Japan	30.09‡	764.3‡			66	18.9	68	S			1		0			0	0			Blue sky	
New Hampshire, Port Royal, S. C	29.96‡	761.0‡			72	22.2	85	Calm	0	0			8		Calm	0	0			Cloudy	
Onward, Callao, Peru †*	30.16‡	766.1‡			60.5	15.8	94	NW			1		10					Long	W	Foggy	
Palos, Shanghai, China	29.95‡	760.7‡			66	18.9	84	SE			3		5		SE					Cloudy	
Passaic, Washington, D. C					64	17.8	89	Calm			0		8?							Clear?	
Pensacola, Callao, Peru	29.95‡	760.7‡			60	15.6	94	Calm	0	0			10			0	0	Smooth		Overcast	
Portsmouth, Off Cape Henry, Va	30.11‡	764.8‡			62	16.7	88	E			1		2		Calm	0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va	30.07‡	763.8‡			65	18.3	89	SE			2		5		Calm	0	0			Fair	
Quinnebaug, Alexandria, Egypt	29.89‡	759.2‡			70	21.1	70	NNW			3		0							Clear	
Ranger, Amoy, China	30.03‡	762.8‡			76	24.4	95	NNW			1		5		SW			Smooth		D. clouds	
Richmond, N. 20° 56′, E. 114° 06′	29.91‡	759.7‡			78	25.6	100	ENE			4		5		ENE	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.97‡	761.2‡			71	21.7	95	SW			1		0							Clear	
Santee, Annapolis, Md	30.15‡	765.8‡			65	18.3	89	Calm			0		8		SW	0	0			Cloudy	
Saratoga, N. 35° 39′, W. 25° 20′	30.29‡	769.4‡			65	18.3	84	SE			5		8		NW	0	0	Mod'ate	SE	D. clouds	
St. Louis, League Island, Pa	30.15‡	765.8‡			64	17.8	94	Calm	0	0			2		WSW	0	0			Clear	
Trenton, Villafranca, France	30.11‡	764.8‡			70	21.1	66	SSE			0–1		0			0	0	Smooth		Clear	
Tuscarora, Acapulco, Mexico	29.94‡	760.5‡			77	25.0	77	Calm			0		2		Calm	0	0	Smooth		Fair	
Vandalia, Aspinwall, New Granada	29.93‡	760.2‡			80	26.7	82	NNE			3							Smooth		Fair	
Wabash, Boston, Mass	29.95‡	760.7‡			63	17.2	78	SW	12	5.4						0	0			Hazy	
Wyoming, Villafranca, France	30.08‡	764.0‡			67	19.4	79	SSW			0–1		0					Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 43° 36′ W. 48° 20′..†*		29.95	760.7	54	12.2		SW			2		Fog				Smooth	W	Foggy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.88‡	758.9‡				SE			3		2s		SW	0			Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†		30.05‡	763.3‡	51	10.6	79	NE			2		4				Smooth		Foggy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W		29.85‡	758.2‡				WNW			4				W				Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 25° 52′, E. 121° 29′		29.91‡	759.7‡	75	23.9	90	SW			3		6c			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Alligator Reef, Fla., N. 24° 51′, W. 80° 37′		30.14‡	765.5‡	80.0	26.7	74	S			2		2				Smooth	S	Clear	Capt. C. Undütsch.
S. S. Leipzig, Off Start Point, England.		30.01‡	762.2‡	52.5	11.4	83	NW			5		8		NW		Mod'ate	WNW	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 59′, W. 30° 22′		30.32‡	770.1‡				SSW			3		2		SW		Smooth	SSW	Fair	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.99‡	761.7‡	69	20.6	90	W			1		1			0			Clear.	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 25° 24.' W. 78° 25'		30.03‡	762.8‡	72	26.1	66	SE	4	1.8			2k		SE	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 32° 15', W. 69° 50'...†		30.07‡	763.8‡	72	22.2		E			5		Haze		W		Long	Var.	Squally	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.66‡	753.4‡				NE	3	1.3			5		NE	0	Smooth		Fair	Capt. George Gardner.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

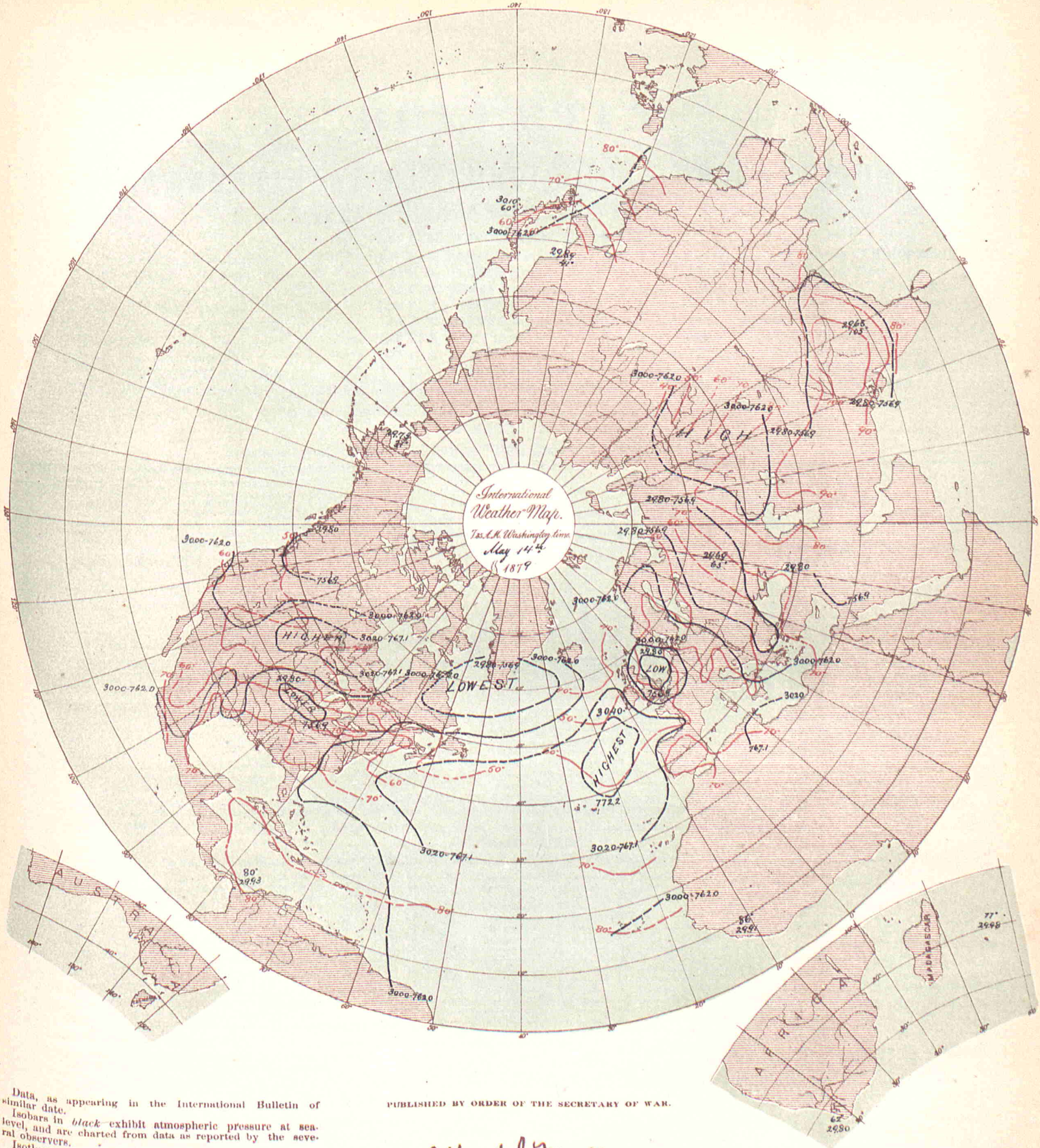
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 120 Pearl St Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco																			
Nemours			30.12	765.0	67.8	19.9	83	N			1		8			0.020	0.5	Very cloudy	Kesxuche.
Algiers			30.04	763.0	66.2	19.0	77	ENE			2		0			0	0	Clear	Tourilliere.
La Calle			30.08	763.9	63.3	17.4	82	ENE			5		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.18	766.5															Gau.
Saida			30.07	763.8	83.5	28.6	12	SW			3		8			0	0	Very cloudy	Herbin.
Tebessa			30.13	765.2	76.5	24.7	12	W			3		5			0	0	Cloudy	Watrin.
Geriville			30.06	763.5	73.8	23.2	36	S			6		10			0	0	Covered	Brugniaux.
Laghouat			30.02	762.5	79.2	26.2	40	SE			4		5			0	0	Cloudy	Bertrand.
Biskra			30.06	763.4	76.6	24.8	26	SE			1		8			0	0	Very cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Agram	29.44	747.8	29.97	761.3	68.9	20.5	45	S			2		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.98	761.6	60.4	15.8	42	SW			1		1			0	0		Dr. Wierzbiski.
Eperies	29.06	738.0	29.92	759.9	61.5	16.4	43	NW			1		7cs			0	0		Julius Mikolik.
Gratz	28.74	730.0	29.96	760.9	65.5	18.6	33	SSW			2		3			0	0		Andreas Rospini.
Hermannstadt	28.52	724.5	29.95	760.6	56.8	13.8	68	N			1		10			0.018	0.45		Prof. A. Gottschling.
Kremsmünster	28.64	727.5	29.96	760.9	61.3	16.3	43	W			2		5			0	0		Prof. C. Wagner.
Lemberg	28.87	733.3	29.85	758.1	56.7	13.7	53	NW			1		10			0	0		Dr. T. Stanecki.
Pola	29.93	760.2	30.04	763.0	64.8	18.2	59	WNW			2		0			0	0		I.R.Hydrographic Office.
Szathmar	29.53	750.1	29.99	761.8	59.7	15.4	49	W			2		9			0	0		Julius Csics, S. J.
Szegedin	29.72	754.9	30.00	761.9	59.7	15.4	52	E			1		6			0	0		Karl Stancel.
Trieste	29.96	761.0	30.06	763.6	62.6	17.0	64	NW			1		0			0	0	Clear	P. Busin.
Vienna	28.28	743.7	29.96	760.9	64.4	18.0	43	ENE			1		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m., Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.11	764.8	30.21	767.3	46.0	7.8		N	24	10.7			9			0	0	Squally	W. Boswell.
Ardrossan	30.15	765.8	30.17	766.3	53	11.7		NW			3		4					D. clouds	William McNeil.
Armagh, Observatory			30.26	768.6	54.5	12.5		NNW	10	4.5			2					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.06	763.5	46.2	7.9		WNW	41	18.3			10					Overcast	John Hartnup.
Bolton (Sharples)			29.99	761.7	44.4	6.9		NNW	60	26.8			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.53	750.0	29.93	760.2	44.1	6.7		NW			4		10			0.02	0.5	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	85	29.4		SE			1		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory			29.90	759.4	42.0	5.6		W			3		10					Raining	H. Todd.
Cardington			29.92	760.0	43.0	6.1		NW			5		10					Raining	John McLaren.
Chatham, School M. E.	29.83	757.7	29.96	761.0	44.8	7.1		W			4		10					Raining	J. Carmell, Sapper, R. E.
Donaghadee	30.18	766.6	30.23	767.8	50	10.0		N			5		3					D. clouds	J. Mac Gowan.
Dover	29.93	760.2	29.96	761.0	47	8.3		WNW			5		9					Raining	J. Costello.
Falmouth, Observatory	30.03	762.8	30.06	763.5	49.5	9.7		NW			6		4					D. clouds	The Staff.
Fort Napier (Natal)	27.31	693.7	29.62	752.3	85.0	29.4		NW			4		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	86	30.0		SW			1		4					D. clouds	
Galway, Queen's College			30.26	768.6	53	11.7		NW			2		8					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.05	763.3	66.4	19.1		E			1		0					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.97	761.2	30.17	766.3	52.9	11.6		N			3		9					Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.77	756.1	29.78	756.4	44	6.7		WNW			4		8					Overcast	G. T. Watson.
Greenwich, Royal Obs'y	29.79	756.7	29.97	761.2	45.6	7.2		WNW			5		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.95	760.7	30.17	766.3	52.5	11.4		NW			5		0					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.26	768.6	30.38	771.6	54	12.2		NW			6		2ck			0	0	Fine	M. P. Moyle.
Holyhead	30.15	765.8	30.18	766.6	47	8.3		N			6		1					Blue sky	John Tilston.
Jersey	29.91	759.7	30.20	767.1	52.1	11.2		WNW			6		2					D. clouds	J. Fisher.
Kew, Observatory	29.96	761.0	29.99	761.7	48.1	8.9		WNW	21	9.4			10					Raining	The Meteorological Of.
Leicester, Museum	29.68	753.9	29.94	760.5	42.8	6.0		NW			5		10					Drizzling	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	30.03	762.8	30.18	766.6	66	18.9		NW			1		2k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	30.16	766.1	30.25	768.3	51	10.6		ENE			4		0					Clear	W. D. Penny.
Nassau (Bahamas)			29.96	761.0	80.2	26.8		S			1		6			0	0	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.75	755.6	29.95	760.7	42.0	5.6		NNW			6		10ck		NNW	0.601	15.27	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.47	748.5	30.00	762.0	43.0	6.1		WNW			6		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.01	762.2	45	7.2		NNW			6		10					Raining	H. E. Bellamy.
Plymouth	30.13	765.3	30.20	767.1	55.3	12.9		NW			5		5					D. clouds	John Merrifield.
Prince Town	28.71	729.2	30.22	767.6	45.0	7.2		NW			6		5					Fine	W. H. Tooker.
*Roche's Point	30.29	769.4	30.40	772.1	55	12.8		NNW			5		2					¼ clouded	Wm. Kennedy.
Saint Ann's Head	30.06	763.5	30.23	767.8	49	9.4		NW			5		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			30.30	769.6	46.5	8.1		N	13	5.8			0					Blue sky	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.78	756.4	29.84	757.9	70.4	21.3		NE			2		5			Blank	Blank	D. clouds	Serg't W. H.Lyne.
Sheffield	29.67	753.6	29.96	761.0	46.5	8.1		NNW			3		10			0.51	13.0	Raining	W. F. Cooper.
Silloth Rectory	30.07	763.8	30.10	764.5	52.2	11.2	60	NE			6		5			0.016	0.25	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.60	751.8	30.00	762.0	46.0	7.8		NW			6		10			Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.80	756.9	30.01	762.2	56.4	13.6		NW			4-5		10					Raining	Rev.C.H.Griffith, F.M.S.
Truro, Royal Institution	30.23	767.8	30.26	768.6	54	12.2		NW			7		5					D. clouds	W. Newcombe.
Valencia, Observatory	30.34	770.6	30.36	771.1	54.0	12.2		WNW	15	6.7			5					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.04	763.0	30.08	764.0	63.1	17.3	70	NNW	11	4.9		6	6			0.360	9.14	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.23	767.8	60.0	10.0	94	S			2		10kn			0.09	2.3	Light rain	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.20	767.1	45.2	7.3		NE			3		10s			0.08	2.0	Showery	Andrew Gibb.
Mauritius, Observatory	29.76	755.9	29.94	760.5	78.3	25.7	71	WSW	4.5	2.0		2	1			0.57	14.5	Fine	C. Meldrum.
Melbourne, Observatory	30.15	765.8	30.24	768.1	47.8	8.8	89	SE	6	2.7			2			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.30	769.6	52	11.1		SW			2	0	0			0	0		J. Youngclause.
North Unst (Shetland Is.)			30.24	768.1	45	7.2		N			2	2	0	N					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Force.	Clouds. Amount.	Clouds. Direction.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn"																Capt. W. J. L. Wharton.
§Brig Alliance, N. 19° 19′, W. 54° 13′			30.01‡	762.2‡	83.2	28.4		Calm		0		3			D. clouds	Capt. W. Scott.
S. S. Amanda																Capt. B. Boyes.
Barque Belle-Isle																Capt. A. J. Brown.
Ship British Commodore, N. 46° 35′, W. 24° 20′			30.38	771.6	61	16.1		S		5		5		4	S	D. clouds	Capt. J. W. Thorne.
—— City of Agra																Capt. Thos. Young.
Barque Commewyne																Capt. A. Buchan.
Barque Fedalma																Capt. H. L. Fox.
Barque Mertole, N. 42° 44′, W. 20° 25′			30.52‡	775.2‡	57.7	14.3		E		4		0				Blue sky	Capt. E. W. Turner.
S. S. Nizam																Capt. Barlow.
S. S. Royal Alexandra, N. 40° 20′, W. 69° 20′			30.11	764.8	57	13.9		SSE		3		3		2	SE	Misty	W. P. Hughes.
S. S. Strathleven																Capt. O. W. Pearson.
S. S. Wyberton																Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	67.6	19.8	84	NE			2	8cs				Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.8	30.00	762.0	59.2	15.1	41	SE			2		0						
Fanöe	29.94	760.4	29.96	760.9	48.7	9.3	93	WSW			2		10					Raining	
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	30.21	767.4	30.25	768.3	48.2	9.0	72	SSW			2		3						
Vestervig	29.81	757.1	29.98	761.4	58.6	13.8	57	E			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.62	752.4	30.17	766.4	60.0	10	76	NW			2		8		NW	0.130	3.3	Very cloudy	Collignon, Director
Amiens, Normal School	29.93	760.2	30.04	763.0	55.8	13.2	53	W			3		5			0.055	1.4	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.76	755.8	29.92	762.4	50.4	10.2	64	N W			3				NW	0.213	5.4		Klein, Commandant.
Avignon, Normal School	30.04	763.0	30.12	765.0	62.6	17	56	NNW			1		10			0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.57	751.1	30.13	765.4	49.1	9.5	73	NNW			1		10			0.220	5.6	Sprinkling	G. Saillard, Director.
Beauvais, Normal School	29.78	756.5	30.05	763.3	54.1	12.3	50	WNW			3		8		NW	0.161	4.10	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.24	742.6	30.13	765.3	56.8	13.8	57	SW			2		5		SW	0.083	2.1	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.6	30.24	768.0	61.7	16.5	56	W			1		5cn	W	W	0.094	2.4	Cloudy	Marlot, Director
Bourges, Normal School	29.55	750.6	30.10	764.5	56.1	13.4	73	W			1		5	W	W	0.12	3.	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.98	761.6	30.23	767.8	53.6	12.0	48	WNW			3		k		NW	0	0		De Kermaree, Director.
Carcassonne, Normal School	29.79	756.6	30.21	767.2	57.9	14.4	60	W			2		10	W	W	0.177	4.5	Covered	September, Director.
Caen, Normal School	30.05	763.3	30.13	765.2	55.0	12.8	59	NW			3		2		S	0.087	2.2	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.54	750.4	30.11	764.9	55.4	13	90	N			3		8		W	0.138	3.5		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	755.9	30.04	763.1	52.7	11.5	63	SW			3		5	SW	SW			Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.77	730.7	30.11	764.8	60.4	15.8	32	W			2		5		W	0	0		Alluard, Director.
Commercy, Normal School	29.23	742.4	30.10	764.4	49.5	9.7	81	W			1		8kn		W	0.146	3.7	Very cloudy	Dr. Couiet, Director.
Commune de Gréasque*	29.01	736.8	30.15	765.8	59.5	15.3	50	NW			3		8		SW	0	0	¾ covered	L. Kina, Director.
Grenoble, Normal School	29.42	747.2	30.19	766.7	57.2	14.0	67	ENE			1		10kn			0	0	Covered	Ablard, Directo
La Roche-sur-Yon, N. School	30.02	762.6	30.24	768.0	59.9	15.5	49	W			1		5		WNW	0	0	Cloudy	Monillot, Director
Le Mans, Normal School	29.85	758.2	30.16	766.1	55.2	12.9	61	ENE			2		8	N	N	0.150	3.8	Very cloudy	Poirrier, Director
Lens-Le-Saulnier, N. School	29.20	741.7	30.12	765.0	59.0	15	48	W			6		2kn	W	W	0.150	3.80	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.16	766.0	30.26	768.5	57.6	14.2	65	NW			3				NW	0.020	0.5		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.80	757.0	30.07	763.8	63.1	17.3	52	WNW			2		10		WSW	0.039	1.0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.04	737.6	30.09	764.3	52.9	11.6	65	NNE			3		8n		SW	0.071	1.8	Very cloudy	Barbier, Director.
Nismes, Normal School	29.90	759.5	30.10	764.6	68.7	20.4	41	E			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	29.04	737.5	30.08	764.1	64.4	18	62	N			1		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.24	641.0			33.1	0.6	96	W			4		5			0	0	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.23	767.8	30.26	768.6	56.3	13.5	98	W			1		2	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.00	762.1	30.09	764.3	55.4	13.0	58	W			3		5		W	0.201	5.1	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.16	766.5	30.21	767.3	53.8	12.1	58	NW			4		2	NW	NW	0.069	1.74	Light clouds	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.93	760.1	30.09	764.3	56.1	13.4	61	WNW			2			WNW	WNW	0.102	2.6		E. Renou, Director.
Tarbes, Normal School	29.19	741.4	30.29	769.3	50.0	10	62	W			2		10	W	SW	0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.50	749.3	30.27	768.8	57.6	14.2	76	WSW			2		8			0	0		Mercadier Julier.
Versailles, Observatory	29.60	751.7	30.09	764.2	53.2	11.8	54	NW			2		2			0.127	3.22	Fair	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.47	748.4	30.17	766.4	60.8	16	63	W			1		3		NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	80.6	27										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.50	749.4	30.12	765.0	61.2	16.2	38	N			1		6		WSW	0	0	Very cloudy	Mr. Jays.
Mont-Louis	24.94	633.5	30.26	768.5	37.4	3.0	82	N	15.0	6.7			9			0.551	14.0	Raining	M. Cave.
Nice			30.09	764.2	64.4	18.0	69	SE			2		2			0	0	Hazy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.80	757.0			57.2	14.0	54	WNW			4		5		WNW	0.165	4.2		Marié Davy, Director.
Perpignan	30.12	765.0	30.23	767.7	54.7	12.6	74	N	5.6	2.5			10		WNW	0.193	4.9	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.56	573.0			35.2	1.8		W			1		10			0.030	0.76	Snowy	Gen'l de Nansouty.
Tours	29.91	759.8	30.11	764.8	56.5	13.6	66	N			2		7		NW	0.130	3.3		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.74	755.4	29.76	756.0	67.8	19.9	100	ESE	13.0	5.8			10n			0.677	17.2	Heavy rain	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.4	30.03	762.8	60.4	15.8	44	SW			2		3	SW		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.78	756.5	29.95	760.8	66.4	19.1	46	SW			1		5			0	0		Prof. Arndt.
Breslau	29.48	748.9	30.02	762.4	63.3	17.4	36	SW			1		2	NNW		0	0		Royal University Obs'y.
Carlsruhe	29.62	752.3	30.04	763.1	57.9	14.4	53	W			2		10	SW		0.193	4.9	Thunder-storm.	Albert Senz.
Cassel	29.43	747.5	30.04	763.0	56.8	13.8	55	WSW			4		8	NW		0.236	6.00		Dr. H. Möhl.
Crefeld	29.79	756.6	29.95	760.7	55.0	12.8	63	W			4		9			0.35	9.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.66	753.3	30.02	762.6	58.6	14.8		SW			2		6			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	29.92	759.9	29.96	760.9	66.4	19.1	56	S			4		9ks	S		0	0		Assmann., M. D.
Friedrichshafen	28.66	728.0	30.11	764.9	50.4	10.2	80	SE			4		10	NW		0.035	0.9		M. Wilhelm.
Hamburg	29.90	759.4	29.97	761.2	54.7	12.6	60	SW			1		7kn	SW		0.287	7.3		Captain F. Hegeman.
Kiel	29.96	760.9	29.97	761.3	52.2	11.2	79	W			1		10			0.044	1.12		Prof. G. Karsten.
Königsberg (Prussia)	29.86	758.5	29.94	760.6	55.4	13.0	42	NW			3		2			0	0		Prof. E. Luther.
Köslin			29.97	761.3	58.1	14.5		NE			2		0			0	0		H. Müller.
Leipsic Observatory	29.60	751.8	30.02	762.5	54.3	12.4	83	WSW			1		10	SW		0	0		Skalweit.
Memel,	29.87	758.7	29.92	759.9	46.0	7.8	68	NNW			5		6cs					Squally	A. Lothes.
Neufahrwasser	30.01	762.2	30.02	762.6	46.2	7.9	72	NNE			4		0			0	0		Dr. Magener.
Posen	29.77	756.2	30.06	763.4	62.4	16.9	34	NNW			1		1			0	0		Imp. University Observatory.
Strassburg (in Alsace)	29.54	750.3	30.08	764.1	61.0	16.1	46	WSW			3		8	WSW		0.198	5.02		Prof. Schoder.
Stuttgart	29.08	738.7	30.02	762.4	58.5	14.7	37	W			3		7	W		0.031	0.8		Prof. Flesch.
Treves (Trier)	29.50	749.4	30.03	762.7	52.3	11.3	67	SW			7		10			0	0		Dr. Van Bebber.
Weissenburg (Bavaria)	28.55	725.1	30.05	763.2	54.9	12.7	58	W	2	1			6ck	W	W	0.118	3.0		E. Schütz, Dir.
Wustrow	29.93	760.3	29.96	760.9	56.8	13.8	65	SE			4		10			0.217	5.5		
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.95	760.8	69.4	20.8		SW			1.0							⅛ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.69	754.1	29.74	755.0	85.9	29.9	58	W					3			0	0	D. clouds	
Deesa					102.3	39.1	19	WSW	9.0	4.0			0			0	0	Blue sky	
Bombay	29.68	753.9	29.72	754.9	86.1	30.1	78	WNW	23.0	10.3			0			0	0	Blue sky	
Poona	27.75	704.7	29.68	753.9	94.4	34.7	31	NW					2	NE		1.57	39.9	D. clouds	
Lahore	28.98	736.0	29.69	754.1	99.2	37.3	33	NW	4.4	2.0			0			0	0	Blue sky	
Belgaum	27.22	691.5	29.70	754.2	87.9	31.1	72	W	14.0	6.3			8	N	N	0.01	0.3	Showery	
Roorkee	28.76	730.6	29.63	752.5	97.9	36.6	12	NW	3.1	1.4			3			0	0	D. clouds	
Agra	29.11	739.5	29.65	753.1	104.1	40.1	14	W					0			0	0	Blue sky	
Nagpur	28.62	726.9	29.61	752.0	104.7	40.4	17	Calm	2.1	0.9			3	NE		0	0	D. clouds	
Lucknow	29.25	742.9	29.61	752.0	100.0	37.8	39	NNE	3.0	1.3			0			0	0	Blue sky	
Allahabad	29.32	744.7	29.62	752.3	103.4	39.7	28	NW	1.2	0.5			1		W	0	0	D. clouds	
Patna	29.42	747.2	29.59	751.6	99.6	37.6	39	Calm	1.5	0.7			0			0	0	Blue sky	
Hazaribagh	27.67	702.8	29.60	751.7	98.3	36.8	21	NW	7.9	3.5			0			0	0	Blue sky	
Cuttack	29.59	751.6	29.67	753.6	89.3	31.8		S	10.0	4.5			3			0	0		
Calcutta (Alipore)	29.67	753.5	29.69	754.1	87.8	31.0	64	S	10.0	4.5			6	SW		0	0	D. clouds	
Goalpara	29.36	745.6	29.75	755.6	76.7	24.8	88	E	4.7	2.1			9			0.84	21.3	D. clouds	
Chittagong	29.68	753.8	29.77	756.1	84.9	29.4	77	SW	5.7	2.6			0			0	0		
Sibsagar	29.45	748.0	29.78	756.5	80.1	26.7	78	SE	1.6	0.7			8			0	0	D. clouds	
Jubbulpore	28.30	718.8	29.60	751.8	103.7	39.8	19	Calm	2.4	1.1			7		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument and temperature. Inches.	Barometer. Corrected for instrument and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.63	752.5	30.04	762.9	65.8	18.8	54	SW	3.1	1.4			4			0	0		Prof. Giovanni Clodig.
Milan	29.49	749.1	30.01	762.2	70.0	21.1	33	SSE			2		3			0.520	13.2		Prof. Schiaparelli.
Padua	29.92	760.0	30.03	762.7	66.7	19.3	35	S	4.3	1.9			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.4	30.01	762.3	65.5	18.6	46	ESE	4.9	2.2			4	W		0.177	4.5		Prof. P. F. Denza.
Genoa	29.90	759.5	30.09	764.3	63.0	17.2	64	SW	7.4	3.3			4	S		0	0		Prof. G. M. Garibaldi.
Mondovi	28.10	713.6	30.00	762.1	64.2	17.9	42	NNW			4		2	NW		0	0		Prof. D. C. Bruno.
Pesaro	30.01	762.2	30.06	763.4	63.0	17.2	50	E	13.0	5.8			0			0	0		Prof. Luigi Guidi.
Florence	29.80	757.0	30.06	763.5	67.3	19.6	35	W			4		0			0	0		Cav. F. Meucci.
Leghorn	30.00	761.9	30.08	764.0	62.6	17.0	64	WSW			4		2			0	0		Prof. P. Monte.
Rome	29.91	759.7	30.09	764.2	69.6	20.9	42	WNW	8.1	3.6			2			0	0		Prof. P. S. Ferrari.
Lecce	29.78	756.5	30.04	763.0	64.4	18.0	42	E	8.7	3.9			3			0	0		Prof. C. De Giorgi.
Cosenza	29.19	741.4	30.07	763.8	63.7	17.6	69	SW	6.9	3.1			4			0	0		Prof. D. Conti.
Cagliari	29.91	759.6	30.10	764.5	64.2	17.9	59	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.87	758.7	30.13	765.2	60.8	16.0	49	NE	6.9	3.1			0			0	0		Prof. G. Cacciatore.
Syracuse	30.01	762.2	30.08	764.1	68.4	20.2	43	SSW	7.4	3.3			2	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.9	30.12	765.0	63.7	17.6	65	S	1.8	0.8			8			0	0		Prof. M. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.04	763.0	30.06	763.5	60.4	15.8	87	NNE	1.8	0.8			2s			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.04	763.0	59.3	15.2	86	Calm	0.1	0.04			0			1.010	25.65	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.91	759.7	29.98	761.5	63.2	17.3	75	SW	8.7	3.9		3cs				0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca							63												P. Ceballos.
Guadalajara	25.11	637.8	30.17	766.4	54.0	12.2		SSE			1	0	0			0	0	Very clear	Prof. L. Perez.
Leon	24.44	620.7	30.08	764.1	62.1	16.7	77	ESE			2	0	0			0.06	1.4		Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.4	30.04	762.9	57.7	14.3	71	S	3.4	1.5			10k		NW	0	0	Covered	The Staff.
Pabellon (Aguascalientes)					57.7	14.3	76	Calm			0	1c	2ks			0.04	0.9	Fair	M. V. de Leon, M. E.
Tlacotalpam	29.94	760.4	29.95	760.7	72.5	22.5	83	SE			2	7	3	W	SE	0	0	Covered	M. M. Chàzaro.
San Luis Potosi	24.19	614.5	30.13	765.2	60.1	15.6	46	ESE			2	6	1	Calm	Calm	0.25	6.3	Cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.51	571.8	30.01	762.3	62.1	16.7	55	W			1	0	1s		Calm	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.42	594.8	30.18	766.6	52.9	11.6	60	Calm	0	0		7	1	Calm	Calm	0.03	0.7	Cloudy	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.5	30.04	763.1	76.5	24.7	63	NE			1	0	0			0	0	Very clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.92	760.0	29.92	760.0	47.7	8.7		WSW								0.142	3.6		
Groningen	29.84	757.8	29.89	759.2	51.4	10.8		S			2					0.713	18.1		
Helder	29.84	757.8	29.84	757.8	48.9	9.4		S			4					0.031	0.8		
Hellevoetsluis	29.87	758.8	29.87	758.8	46.9	8.3	79	WSW			4					0.138	3.5		
Utrecht	29.87	758.6	29.91	759.8	47.7	8.7	81	WSW			3		8			0.012	0.3	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.08	763.9	30.13	765.3	54.7	12.6	52	NNW	10.3	4.6			1			0	0		
Brönø	30.17	766.3	30.21	767.3	44.6	7.0	82	NNW	18	8			8			0	0		
Christiania	29.93	760.2	30.07	763.8	64.4	18.0	22	ESE	0	0			3			0	0		
Tromsö	30.13	765.4	30.18	766.5	39.6	4.2	65	W	11	5			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.17	766.3	30.36	771.1	65.1	18.4	80	SSE	10.5	4.7			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.04	737.7	30.04	762.9	77.4	25.2	35	NNE	2.5	1.1			5	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.18	766.6	30.27	768.8	67.3	19.6	53	SW	3.8	1.7			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.9	30.11	764.9	65.5	18.6	53	NNW	23.7	10.6			0			0	0		The Staff.
Ponta Delgada (Azores)	30.31	769.9	30.38	771.7	67.6	19.8	65	ESE	9.8	4.4			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias, N. 38° 36′, W. 14° 44′			30.32	770.2	61.7	16.5		NNE			5		10		NE	5	NE	Overcast	A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			29.99	761.8	78.3	25.7		NE			4		0			4	NE	Blue sky	C.C.da Fonseca Ferreira, Com'd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.6	80.4	26.9		W			2		4		SE	1	W	D clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.93	760.2	85.6	29.8		NW			3		5		NW	0		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.92	760.0	82.4	28.0		SW			2		0			1	SW	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.51	749.6	29.93	760.2	59.0	15.0	36	NW	11	5			1cs						Astronomical Obs.
Wilna	29.36	745.8	29.78	756.5	48.7	9.3	88	NW	13	6			10					Raining	Astronomical Obs.
Dorpat	29.56	750.8	29.80	757.0	47.7	8.7	96	NNE	9	4			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.82	757.3	29.83	757.7	46.4	8.0	93	NE	11	5			10n					Raining	Central Physical Obs.
Kieff	29.10	739.0	29.72	754.8	59.7	15.4	67	NW	7	3			10ks						Physical Cabinet.
Nikolaiev	29.74	755.5	29.82	757.3	66.7	19.3	59	N	9	4			4ks						Kurdakof.
Kertch	29.72	754.9	29.74	755.4	57.6	14.2	99	NW	7	3			10					Raining	Lagorio.
Moscow	29.27	746.0	29.90	759.4	65.7	18.7	61	SE	9	4			6ks						Meteorological Obs.
Lugan	29.48	748.7	29.68	753.8	71.6	22.0	62	E	4	2			10			Blank	Blank		Meteorological Obs.
Archangel	30.11	764.7	30.13	765.2	55.2	12.9	39	NNE	13	6			1cs						Capt. Sseliwerstow.
Tiflis	28.47	723.2	29.83	757.6	75.9	24.4	52	Calm	0	0			9k						Physical Observatory.
Astrakhan	29.84	757.9	29.76	755.8	79.7	26.5	40	SE	11	5			9s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.75	755.7	30.01	762.2	75.4	24.1	37	WSW	2	1			7						Physical Cabinet.
Ekaterinburg	29.03	737.4	29.94	760.5	80.4	26.9	27	W	9	4			10n						Meteorological Obs.
Nukuss	29.63	752.5	29.84	758.0	90.9	32.7	35	NE	7	3			3cs						
Tashkend	28.44	722.4	29.94	760.5	76.8	24.9	53	NE	9	4			4						Teich, A. M.
Barnaul	29.56	750.7	30.05	763.3	54.0	12.2	38	Calm	0	0			9					Light clouds	Meteorological Obs.
Yeniseisk	29.84	757.9	30.14	765.5	43.3	6.3	48	NW	7	3			3						Marks.
Irkutsk																			
Peking (China)	29.74	755.4	29.88	759.0	64.9	18.3	39	Calm	0	0			8n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.83	757.6	29.93	760.1	51.1	10.6	83	Calm	0	0			0						
Nikolaievsk, on the Amoor	29.82	757.4	29.91	759.6	31.3	— 0.4	96	Calm	0	0			0						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.00	762.1	30.11	764.8	61.3	16.3	69	SSE	4.7	2.11		10				0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.25	768.3	30.30	769.7	62.1	16.7	55	NW	2.1	0.93		2	6	NE		0.028	0.7	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.9			51.3	10.7	53	NE	10.2	4.58			3			0.138	3.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4			70.5	21.4	45	NE	12.7	5.67		0	6			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.91	759.8	30.06	763.6	72.0	22.2	45	NE	5.4	2.42			2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.30	744.1	30.19	766.8	60.8	16.0	44	NNE	26.6	11.9		1	0			0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.88	759.0	29.95	760.7	77.8	25.4	76	ENE	2.0	0.9		0	0			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.83	757.6	29.88	759.0	86.0	30.0	68	E	1.8	0.8			0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.2	30.11	764.7	66.0	18.9	71	SW	8.5	3.8		0	0						Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.90	759.5	29.99	761.8	81.6	27.2	84	SE	0	0		5ck	4k			1.663	42.25	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.22	767.6	30.26	768.6	52.9	11.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	30.17	766.2	30.22	767.5	55.8	13.2	33	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.11	764.8	30.16	766.1	56.1	13.4	62	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.86	758.5	30.04	763.0	56.7	13.7	27	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.91	759.6	29.97	761.1	47.1	8.4	62	NNE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.98	761.4	30.05	763.3	55.8	13.2	29	NNE	17.9	8.0	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.5	30.09	764.3	59.5	15.3	45	W	.....	.....	2	.....	7	.....	.....	0.098	2.5	Cloudy	The Observatory.
Zurich	28.47	723.0	30.11	764.8	51.4	10.8	79	SE	.....	.....	2	.....	9	.....	.....	0.228	5.8	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.5 mm.; Thermometer, —1.2 Cent.; Relative Humidity, —12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.1	62.4	16.9	56	N	9	4.0	.....	.....	7	.....	N	0.051	1.3	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	80.6	32.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.8	62.2	16.8	.....	W	.....	.....	1	.....	0	.....	.....	0.24	6.	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.92	760.0	30.04	762.9	75.0	23.9	56	SW	.....	.....	3	.....	.....	.....	.....	0.003	0.07	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.54	750.3	29.83	757.7	68	20.0	.....	Calm	1	0.4	.....	.....	8s	.....	SW	0.07	1.8	Cloudy	W. R. Bigg
*Chatham, N. B	29.86	758.4	29.92	760.0	52	11.1	96	E	1	0.4	.....	.....	Fog	.....	Calm	0.24	6.1	Foggy	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.93	760.2	57	13.9	89	S	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.60	751.8	29.78	756.4	64.3	17.9	92	SE	.....	.....	1	.....	10s	.....	.....	0.26	6.6	Overcast	James Smith M. A.
Dalhousie, N. B	29.76	755.9	29.92	760.0	53.4	11.9	90	SW	.....	.....	1	5cs	0	.....	.....	0.62	15.7	Fair	H. A. Johnson.
Esquimault, B. C	30.01	762.2	30.06	763.5	46.3	7.9	84	W	4	1.8	.....	10ck	0	.....	.....	0.02	0.5	Overcast	W. H. Bevis.
*Father Point, Quebec	29.94	760.5	29.97	761.2	40	4.4	96	NE	13	5.8	.....	.....	10n	.....	NE	0.150	3.81	Cloudy	J. McWilliams.
Fredericton, N. B	29.88	758.9	29.94	760.5	52.0	11.1	88	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.18	741.2	30.00	762.0	52	11.1	63	S	4	1.8	.....	2c	Haze	SW	.....	0	0	Fair	James Stewart.
Granton, Ontario	28.74	730.0	29.84	757.9	47	8.3	.....	W	.....	.....	1	0	0	.....	.....	0.11	2.8	Foggy	James Grant.
*Halifax, N. S	29.86	758.4	29.99	761.7	57	13.9	86	SW	10	4.5	.....	0	2ks	.....	W	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.43	747.5	29.78	756.4	68.1	20.1	85	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.83	757.7	54	12.2	84	SE	7	3.1	.....	.....	10n	.....	SE	0.42	10.7	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.91	759.7	67.0	19.4	70	SW	6	2.7	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.63	752.6	29.83	757.7	54	12.2	93	SE	6	2.7	.....	.....	10n	.....	.....	0.03	0.8	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740.7	29.85	758.2	47	8.3	92	NE	18	8.0	.....	.....	10n	.....	NE	0.77	19.6	Heavy rain	Rev. R. Mosly.
Peterboro, Ontario	29.05	737.9	29.77	756.1	65.7	18.7	86	W	.....	.....	1	0	0	.....	.....	0.23	5.8	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.19	741.4	29.84	757.9	62	16.7	94	SW	6	2.7	.....	10k	0	SW	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.89	759.2	29.94	760.5	60.5	15.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.10	741.4	29.83	757.7	54	12.2	93	NW	8	3.6	.....	.....	Fog	.....	NW	0.20	5.1	Foggy	M. Payne.
*Quebec, Quebec	29.61	752.1	29.93	760.2	45	7.2	88	E	.....	.....	5	.....	10n	.....	NE	0.03	0.8	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.42	747.2	29.87	758.7	47	8.3	85	NW	2	0.9	.....	.....	10s	.....	NE	0.52	13.2	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.87	758.7	29.92	760.0	49	9.4	96	S	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.80	756.9	29.97	761.2	46	7.8	100	S	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.15	740.4	29.87	758.7	46	7.8	90	N	10	4.5	.....	.....	10s	.....	.....	1.04	26.4	Cloudy	K. Stewart.
Stayner, Ontario	29.04	737.6	29.82	757.4	45	7.2	100	NW	5	2.2	.....	.....	10n	.....	NW	1.30	33.0	Light rain	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.80	756.9	53.9	12.2	99	SW	5	2.2	.....	.....	Fog	.....	.....	0.06	1.5	Foggy	C. J. MacGregor, B. A.
*Sydney, C. B	29.90	759.4	29.94	760.5	63	17.2	71	SW	7	3.1	.....	Haze	0	.....	.....	0	0	Hazy	T. C. Hill.
*Toronto, Ontario	29.43	747.5	29.80	756.9	63	17.2	90	SW	8	3.6	.....	8ck	Haze	W	Calm	0.21	5.3	Cloudy	Magnetic Observatory.
Windsor, N. S	29.87	758.7	29.97	761.2	64.0	17.8	83	W	8	3.6	.....	1cs	0	.....	.....	0.17	4.3	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.84	757.9	30.10	764.5	48.0	8.9	85	SW	.....	.....	.....	10k	10s	.....	.....	0	0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.95	760.7	68	20.0	65	S	12	5.4		0	0			0	0	Clear	
Alpena, Michigan	29.31	744.5	29.96	761.0	45	7.2	92	N	10	4.5			10s		Calm	0.40	10.2	Cloudy	
Atlanta, Georgia	28.71	729.2	29.81	757.2	69	20.6	75	E	4	1.8		10k	0	SE		1.41	35.8	Cloudy	
Atlantic City, New Jersey	30.01	762.2	30.02	762.5	63	17.2	83	S	4	1.8		0	0			0	0	Clear	
Augusta, Georgia	29.71	754.6	29.88	758.9	68	20.0	84	W	1	0.4		0	0			0.29	7.4	Clear	
Baltimore, Maryland	29.95	760.7	30.00	762.0	67	19.4	84	S	4	1.8		5k	2s	SW	S	0	0	Fair	
Barnegat, New Jersey	28.99	761.7	30.01	762.2	65	18.3	78	S	4	1.8		0	0			0	0	Clear	
Bismarck, Dakota	28.07	713.0	29.93	760.2	54	12.2	67	SE	14	6.3		1c	0	NW		0	0	Clear	
Boerne, Texas	28.52	724.4	29.83	757.7	57	13.9	63	NW	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.23	691.6	30.19	766.8	43	6.1	83	NW	2	0.9		2k	2s	NW	NW	0.21	5.3	Fair	
Boston, Massachusetts	29.87	758.7	30.02	762.5	65	18.3	84	SW	16	7.2		2k	1ks	SW	SW	0	0	Fair	
Brackettville, Texas	28.81	731.8	29.81	757.2	69	20.6	80	NE	8	3.6		0	0			0	0	Clear	
Breckenridge, Minnesota	29.02	737.1	30.01	762.2	50	10.0	79	S	15	6.7		0	0			0	0	Clear	
Brownsville, Texas	29.89	759.2	29.94	760.5	77	25.0	69	S	8	3.6		0	0			0	0	Clear	
Buffalo, New York	29.13	739.9	29.81	757.2	54	12.2	93	W	9	4.0			10n;fog		SW;Calm	0.62	15.7	Light rain	
Burkes, Arizona					66	18.9	32	Calm			0	0	0			0		Clear	
Burlington, Vermont	29.57	751.1	29.85	758.2	68	20.0	65	S	16	7.2		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.45	748.0	29.83	757.7	63	17.2	89	N	4	1.8			10s		S	0.27	6.9	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	59	15.0	22	W	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona	26.72	678.7	30.06	763.5	54	12.2	32	SE			1	0	0			0	0	Clear	
Campo, California	27.43	696.7	30.00	762.0	34	1.1	70	E	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	72	22.2	80	Calm	0	0		Haze	5s		SE	0.03	0.8	Fair	
Cape Henry, Virginia	29.95	760.7	29.97	761.2	64	17.8	83	SE	8	3.6		5c	0	SW		0	0	Fair	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	67	19.4	95	SE	12	5.4			10s		SW	0.20	5.1	Cloudy	
Cape May, New Jersey	29.94	760.5	29.97	761.2	63	17.2	78	SE	6	2.7		0	0			0	0	Clear	
Castroville, Texas	29.17	740.9	29.86	758.4	65	18.3	73	W	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	29.82	757.4	29.88	758.9	73	22.8	85	S	3	1.3		2k	0	S		0	0	Fair	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	45	7.2	68	SW	4	1.8		5cs	0	NW		0	0	Fair	
Chicago, Illinois	29.25	742.9	29.94	760.5	45	7.2	92	N	13	5.8			10s		Calm	0.45	11.4	Cloudy	
Cincinnati, Ohio	29.20	741.7	29.82	757.4	70	21.1	72	SE	5	2.2		9cs	0	SW		0	0	Cloudy	
Cleveland, Ohio	29.12	739.6	29.81	757.2	65	18.3	84	W	4	1.8			10n		W	0.16	4.1	Heavy rain	
Coleman City, Texas	28.18	715.8	29.82	757.4	59	15.0	70	Calm	0	0		0	0			0	0	Clear	
Columbus, Ohio	29.00	736.6	29.80	756.9	66	18.9	69	S	2	0.9		5ck	0	S		0.01	0.3	Fair	
Concho, Texas	28.07	713.0	29.71	754.6	60	15.6	65	NW	1	0.4		0	0			0	0	Clear	
Corsicana, Texas	29.48	748.8	29.94	760.5	58	14.4	76	N	6	2.7		0	0			0	0	Clear	
Davenport, Iowa	29.35	745.5	29.99	761.7	50	10.0	79	NE	9	4.0			10s		Calm	0.71	18.0	Cloudy	
Deadwood, Dakota	25.14	638.5			60	15.6	44	SE	8	3.6		2k	0	SE		0	0	Fair	
Decatur, Texas	28.81	731.8	29.95	760.7	65	18.3	73	E	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.16	740.7	29.95	760.7	59	15.0	88	NW	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.68	626.9	29.90	759.4	51	10.6	86	N	4	1.8		5ck	0	Calm		0	0	Fair	
Des Moines, Iowa	29.15	740.4	30.03	762.8	50	10.0	79	NE	7	3.1		0	0			0.02	0.5	Clear	
Detroit, Michigan	29.19	741.4	29.85	758.2	51	10.6	93	NE	8	3.6			10n		Calm	0.14	3.6	Light rain	
Dodge City, Kansas	27.45	697.2	29.72	754.9	51	10.6	72	Calm	0	0		0	0			0	0	Clear	
Dubuque, Iowa	29.32	744.7	30.02	762.5	50	10.0	72	NE	8	3.6		1c	0	Calm		0.25	6.3	Clear	
Duluth, Minnesota	29.43	747.5	30.12	765.0	44	6.7	84	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.15	740.4	29.84	757.9	71	21.7	85	E	2	0.9		1ck	0	W		0	0	Clear	
Eastport, Maine	29.87	758.7	29.93	760.2	51	10.6	93	S	6	2.7			Fog		S	0.01	0.3	Foggy	
Edinburg, Texas					68	20.0	84	Calm	0	0		0	0			0	0	Clear	
El Paso, Texas	26.19	665.2			55	12.8	62	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.10	739.1	29.78	756.4	69	20.6	80	S	6	2.7			10s		SW	0.22	5.6	Cloudy	
Escanaba, Michigan	29.40	746.7	30.06	763.5	45	7.2	68	N	20	8.9		0	0			0	0	Clear	
Florence, Arizona	28.39	721.1	29.99	761.7	75	23.9	19	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.64	702.0			53	11.7	60	SE	7	3.1		1c	0	SW		0	0	Clear	
Fort Craig, New Mexico	25.48	647.2	29.54	750.3	55	12.8	53	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	60	15.6	39	W	5	2.2		0	0			0	0	Clear	
Fort Gibson, Indian Ter.	29.38	746.2	29.91	759.7	60	15.6	77	NW	5	2.2			10s		N	0	0	Cloudy	
Fort Griffin, Texas	28.71	729.2	29.97	761.2	57	13.9	69	N	2	0.9		0	0			0	0	Clear	
Fort Keogh, Montana	27.04	686.8			60	15.6	70	SE	4	1.8		10k	0	Calm		0	0	Cloudy	
Fort McKavett, Texas	27.70	703.6	29.54	750.3	70	21.1	75	S	3	1.3		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.65	753.1	29.68	753.9	32	0.0	100	SE	5	2.2			10s		Calm	0.02	0.5	Cloudy	
Fort Sill, Indian Territory	28.79	731.3	29.88	758.9	58	14.4	76	NW	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.98	710.7			55	12.8	62	SE	18	8.0		1c	0	SE		0	0	Fair	
Fredericksburg, Texas																			
Galveston, Texas	29.89	759.2	29.93	760.2	74	23.3	76	Calm	0	0		0	Haze			0	0	Clear	
Graham, Texas	28.91	734.3	29.96	761.0	56	13.3	87	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.26	743.2	29.90	759.4	51	10.6	93	E	13	5.8			10s		E	0.79	20.1	Cloudy	
Indianapolis, Indiana	29.01	736.8	29.76	755.9	59	15.0	88	NW	7	3.1			10s		Calm	0.07	1.8	Threatening	
Indianola, Texas	29.95	760.7	29.98	761.5	73	22.8	81	N	7	3.1		0	0			0	0	Clear	
Jacksboro, Texas	28.86	733.0	29.96	761.0	65	18.3	58	N	5	2.2		0	0			0	0	Clear	
Jacksonville, Florida	29.88	758.9	29.90	759.4	76	24.4	77	SW	4	1.8		2k	0	SW		0	0	Clear	
Keokuk, Iowa	29.30	744.2	29.90	759.4	54	12.2	80	NE	10	4.5			10s		N	0.03	0.8	Cloudy	
Key West, Florida	29.92	760.0	29.95	760.7	79	26.1	70	W	3	1.3		1k	0	Calm		0	0	Clear	
Kittyhawk, North Carolina	29.93	760.2	29.96	761.0	63	17.2	89	E	7	3.1		5c	0	SW		0	0	Fair	
Knoxville, Tennessee	28.90	734.0	29.88	758.9	60	15.6	97	E	1	0.4			Fog		Calm	0.05	1.3	Dense fog	
La Crosse, Wisconsin	29.34	745.2	30.05	764.0	49	9.4	71	N	2	0.9		0	0			Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	55	12.8	62	S	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.46	748.3	29.79	756.7	78	25.6	54	S	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.11	739.4	29.94	760.5	56	13.3	81	NE	11	4.9			10s			0.02	0.5	Cloudy	
Los Angeles, California	29.71	754.6	30.06	763.5	55.0	12.8	81	NE	4	1.8			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.27	743.4	29.80	756.9	66	18.9	74	S	2	0.9		2cs	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.26	743.2	29.72	754.9	67	19.4	90	SE	4	1.8			10n		Calm	0.04	1.0	Light rain	
Madison, Wisconsin	29.00	736.6	29.99	761.7	47	8.3	85	NE	15	6.7		0	0			0.04	1.0	Clear	
Marquette, Michigan	29.36	745.7	30.07	763.8	45	7.2	68	Calm	0	0		0	0			0.01	0.3	Clear	
Mason, Texas	28.34	719.8	30.08	764.0	59	15.0	65	NW	14	6.3		0	0			0	0	Clear	
Memphis, Tennessee	29.48	748.8	29.81	757.2	67	19.4	68	W	5	2.2			10s		SW	0	0	Cloudy	
Milwaukee, Wisconsin	29.24	742.7	29.98	761.5	45	7.2	84	N	23	10.3		10k	0	N		0.27	6.9	Cloudy	
Mobile, Alabama	29.79	756.7	29.83	757.7	70	21.1	75	S	6	2.7		5k	0	W		0	0	Fair	
Montgomery, Alabama	29.61	752.1	29.84	757.9	70	21.1	84	SE	2	0.9		3k	0	SE		0.65	16.5	Fair	
Morgantown, West Virginia	28.84	732.5	29.84	757.9	68	20.0	79	Calm	0	0			10s		Calm	0.18	4.6	Threatening	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	49	9.4	77	SW	15	6.7		2c	Sm'e	Calm	Calm	0.03	0.8	Fair	
Nashville, Tennessee	29.29	744.0	29.81	757.2	66	18.9	84	Calm	0	0		0	5ks		SW	0.10	2.5	Fair	
New Haven, Connecticut	29.91	759.7	30.02	762.5	63	17.2	83	SW	4	1.8			Fog		Calm	0	0	Foggy	
New London, Connecticut	30.00	762.0	30.04	763.0	62	16.7	83	S	3	1.3		1ck	Fog	SW;WSW	Calm	0	0	Clear	
New Orleans, Louisiana	29.82	757.4	29.87	758.7	75	23.9	60	NW	8	3.6		0	0			0	0	Clear	
Newport, Rhode Island	30.01	762.2	30.06	763.5	59	15.0	88	S	4	1.8		5c	Haze	W		0	0	Fair	
New York, New York	29.86	758.4	30.03	762.8	61	16.1	94	S	4	1.8		2ck	2ks	NE	Calm	0	0	Fair	
Norfolk, Virginia	29.91	759.4	29.96	761.0	71	21.7	71	SE	4	1.8		3cs	0	Calm		0	0	Clear	

UNITED STATES' SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	27.10	688.3	29.67	753.6	46	7.8	80	SE	7	3.1		2c	0	SW		0	0	Clear	
Olympia, Washington Ter.	29.95	760.7	29.99	761.7	43.0	6.1	92	Calm	0	0		0	2s		Calm	0.08	2.0	Fair	
Omaha, Nebraska	28.88	733.5	29.97	761.2	53	11.7	80	N	4	1.8		0	0			0	0	Clear	
Oswego, New York	29.54	750.3	29.85	758.2	66	18.9	74	S	4	1.8		10ks	0	SW		0.05	1.3	Cloudy	
Pembina, Dakota	29.15	740.4	29.97	761.2	47	8.3	77	SE	4	1.8		2c	0	W		0	0	Clear	
Philadelphia, Pa	29.95	760.7	30.00	762.0	67	19.4	79	S	6	2.7		1cs	0	Calm		0	0	Clear	
Phœnix, Arizona	28.71	729.2	30.47	773.9	65	18.3	35	E	1	0.4		0	Haze		Calm	0	0	Dense haze.	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	24	— 4.4	24	SW	32	14.3		0	0			0.04	1.0	Clear	
Ploche, Nevada	23.96	608.6	29.73	755.1	50	10.0	39	SW	8	3.6		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.06	738.1	29.83	757.7	67	19.4	74	S	4	1.8		8k	0	S		0.03	0.8	Fair	
Port Huron, Michigan	29.20	741.7	29.86	758.4	44	6.7	92	N	17	7.6			10s		Calm	0.11	2.8	Cloudy	
Portland, Maine	29.88	758.9	29.93	760.2	62	16.7	77	SW	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Portland, Oregon	30.14	765.5	30.21	767.3	44.3	6.8	86	SE	4	1.8		0	5ks		SW	Inap.	Inap.	Fair	
Prescott, Arizona	24.70	627.4	30.06	763.5	45	6.7	45	W	3	1.3		0	Sm'e		Calm	0	0	Clear	
Pilot Point, Texas																			
Punta Rassa, Florida	29.92	760.0	29.94	760.5	80	26.7	70	SW	7	3.1		2k	0	SW		0	0	Clear	
Red Bluff, California	29.87	758.7	30.24	768.1	45	7.2	76	N	3	1.3		0	0			Inap.	Inap.	Clear	
Rio Grande City, Texas	29.75	755.6	29.96	761.0	69	20.6	85	E			1	0	0			0	0	Clear	
Rochester, New York	29.21	741.9	29.79	756.7	69	20.6	70	S	4	1.8		5k	5s	W	Calm	0.51	13.0	Cloudy	
Roseburg, Oregon	29.65	753.1	30.23	767.8	44	6.7	92	SE	3	1.3		2ck	5s	Calm	Calm	0.03	0.8	Fair	
Sacramento, California	30.14	765.5	30.22	767.6	50	10.0	72	W	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.31	744.5	29.88	758.9	52	11.1	86	NE	13	5.8			10s		Calm	0.29	7.4	Cloudy	
St. Marks, Florida	29.88	758.9	29.90	759.4	71	21.7	90	Calm	0	0		1k	0	SW		0	0	Clear	
St. Paul, Minnesota	29.22	742.2	30.05	763.3	48	8.9	77	N	3	1.3		0	0			0	0	Clear	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	54	12.2	38	NW	18	8.0		0	8ks		W	0	0	Cloudy	
San Antonio, Texas	29.27	743.4	29.84	757.9	67	19.4	64	NE	2	0.9		0	0			0	0	Clear	
San Diego, California	30.00	762.0	30.07	763.8	58	14.4	82	SW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.16	740.7	29.80	756.9	64	17.8	89	Calm	0	0			10n		Calm	0.16	4.1	Light rain	
Sandy Hook, New Jersey	29.98	761.5	30.01	762.2	63	17.2	78	SE	2	0.9		2ck	Fog	W	SW	0	0	Foggy	
San Francisco, California	30.19	766.8	30.26	768.6	50.5	10.3	86	W	6	2.7		1k	0	W		0	0	Clear	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	52	11.1	54	E	2	0.9		1ck	0	Calm		0	0	Clear	
Savannah, Georgia	29.80	756.9	29.89	759.2	75	23.9	86	S	1	0.4		2k	0			Inap.	Inap.	Fair	
Shreveport, Louisiana	29.67	753.6	29.88	758.9	67	19.4	84	NW	4	1.8		0	0			0	0	Clear	
Silver City, New Mexico	24.29	617.0	30.50	774.7	44	6.7	59	NE	2	0.9		0	0			0	0	Clear	
Smithville, North Carolina	29.91	759.7	29.95	760.7	69	20.6	100	E	2	0.9			Fog		Calm	0.06	1.5	Foggy	
Springfield, Massachusetts	29.89	759.2	30.02	762.5	63	17.2	83	S	6	2.7			10ks		S	0	0	Cloudy	
Stockton, Texas	26.93	684.0	29.93	760.2	68	20.0	60	S	16	7.2		0	0			0	0	Clear	
Thatcher's Island, Mass	29.98	761.5	30.04	763.0	51	10.6	93	S	13	5.8			Fog			0	0	Foggy	
Toledo, Ohio	29.16	740.7	29.81	757.2	62	16.7	88	W	6	2.7			Fog		Calm	0.98	24.9	Foggy	
Tucson, Arizona	27.50	698.5	30.05	763.3	59	15.0	48	SE	1	0.4		0	0			0	0	Clear	
Umatilla, Oregon	29.70	754.4	30.20	767.1	46.0	7.8	55	W	28	12.5			10ks		W	0.19	4.8	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.05	737.9	29.85	758.2	67	19.4	64	NE	1	0.4		0	0			0	0	Clear	
Vicksburg, Mississippi	29.64	752.8	29.89	759.2	68	20.0	74	W	4	1.8		0	0			0	0	Clear	
Virginia City, Montana	24.00	609.6	29.48	748.8	47	8.3	77	Calm	0	0			10n		Calm	0.14	3.6	Light rain	
Visalia, California	29.80	756.9	30.17	766.3	60	10.0	66	NW	5	2.2		0	5s		Calm	0	0	Fair	
Washington, D. C.	29.86	758.4	29.97	761.2	68	20.0	79	S	8	3.6		1k	Haze			0	0	Fair	
Wickenburg, Arizona					57	13.9	41	E			1	0	Haze		Calm	0	0	Hazy	
Wilmington, N. Carolina	29.85	758.2	29.93	760.2	70	21.1	95	Calm	0	0		8k	0	SW		0.84	21.3	Fair	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	36	2.2	53	SW	9	4.0		0	0			0	0	Clear	
Wood's Holl, Mass	30.02	762.5	30.06	763.5	59	15.0	94	S	12	5.4		2c	2ks	SW	SW	0	0	Fair	
Yankton, Dakota	28.77	730.7	30.06	763.0	49	9.4	85	NE	1	0.4		0	0			0	0	Clear	
Yuma, Arizona	29.72	754.9	29.88	758.9	66	18.9	45	W	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.34	719.8	29.72	754.9	54	12.2	93											Cloudy	J. B. Gordon.
Havana, Cuba, W. I.	29.90	759.4	29.95	760.7	78	25.6	69	Calm	0	0		0	0			0	0	Hazy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.22	640.6			66.0	18.9	77	Calm			0	10cs	0			0.14	3.6		Thomas Herran.
Navassa, W. I.	29.89	759.2	29.97	761.2	78	25.6		SE										Rainy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	83	28.3	79	NE			3	0	5k			0.150	38.1	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.70	754.4	29.75	755.6	36.0	2.2	95	N	12	5.4		2k	0	N		0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.36‡	771.1‡			45	7.2	91	NNW	5	2.2			2		Calm					Clear	
Navy Yard, Pensacola, Fla.	29.87‡	758.7‡			76	24.4	91	SW	15	6.7			2		SW					Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡			65	18.3	68	SW			3		Haze		Calm	0	0			Clear	
Adams, S. 1° 42′, W. 81° 37′	29.97‡	761.2‡			77	25.0	91	S			3		8		SW					Fair	
Alaska, Sitka, Alaska	29.90‡	759.4‡			46	7.8	84	NNW			1		10		SE	0	0			Overcast	
Alliance, Malaga, Spain	30.11‡	764.8‡			66	18.9	64	SSE			2		1							Pleasant	
Ashuelot, Between Hong-Kong and Cheefoo, China, N. 32°, E. 124°	29.91‡	759.7‡			73	22.8	90	SE			3		2		SE			Mod'ate	SE	Fair	
Canonicus, Pensacola, Fla	29.84‡	757.9‡			77	25.0	86	S			4		5		S					Fair	
Colorado, New York, N. Y	30.04‡	763.0‡			65	18.3	84	SSE	3	1.3			5			0	0			Light fog	
Constitution, N. 26° 54′, W. 66° 23	29.99‡	761.7‡			76	24.4	91	SSW			1		1		Calm			Smooth	SSW	Clear	
Despatch, N. 36° 32′, W. 3° 58′	30.10‡	764.5‡			69	20.6	90	S			2		3			0	0	Smooth		Clear	
Enterprise, Havre, France	30.13‡	765.3‡			53	11.7	73	NW			4–5		2		W;N					D. clouds	
Franklin, Norfolk, Va.	29.94‡	760.5‡			76	24.4	56	E	6	2.7			8		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay.*	30.01‡	762.2‡			49	9.4	63	NW			5		0			0	0			Clear	
Michigan, Erie, Pa					70	21.1	70	S			2		10		S					Cloudy	
Monongahela, Yokohama, Japan	29.97‡	761.2‡			66	18.9	79	SSW			3		ks			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.88‡	758.9‡			74	23.3	90	Calm	0	0			2		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.09‡	764.3‡			61	16.1	94	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.77‡	756.1‡			67	19.4	100	ESE			3		10		SE					Rainy	
Passaic, Washington, D. C.					68	20.0	90	SW			2		8?							Clear?	
Pensacola, Callao, Peru	29.95‡	760.7‡			61	16.1	94	Calm	0	0			10			0	0	Smooth		Overcast	
Portsmouth, N. 36° 20′, W. 75° 18′	29.97‡	761.2‡			56	13.3	57	E			3		2		Calm	0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	29.96‡	761.0‡			68	20.0	84	ESE			2		8		Calm	0	0			Cloudy	
Quinnebaug, Alexandria, Egypt	30.04‡	763.0‡			70	21.1	75	WNW			4		0							Clear	
Ranger, Amoy, China	29.90‡	759.4‡			80	26.7	91	SSE			3		2		SW			Smooth		D. clouds	
Richmond, Hong-Kong, China	29.85‡	758.2‡			78	25.6	86	ENE			2		2		ENE	0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡			72	22.2	90	SW			2		0							Clear	
Santee, Annapolis, Md.	30.09‡	764.3‡			67	19.4	89	SE			1		8		S	0	0			Light fog	
Saratoga, N. 36° 49′, W. 23° 34′	30.39‡	771.9‡			64	17.8	78	SE			6		5		SE	0	0	Mod'ate	SE	D. clouds	
St. Louis, League Island, Pa	30.03‡	762.8‡			63	17.2	89	SE	3	1.3			2		ENE	0	0			Clear	
Trenton, Villafranca, France	30.07‡	763.8‡			71	21.7	71	ESE			1		5		S;E	0	0	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.91‡	759.7‡			79	26.1	78	Calm			0		1		Calm	0	0			Fair	
Vandalia, Aspinwall, New Granada	29.93‡	760.2‡			77	25.0	100	NNW			2		10		E			Smooth		Cloudy	
Wabash, Boston, Mass	29.97‡	761.2‡			69	20.6	65	SW	4	1.8			10			0	0			Cloudy	
Wyoming, Villafranca, France	30.05‡	763.3‡			64	17.8	89	SE			2		2		SE			Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria, Capt. T. Roberts, N. 42° 41′ W. 55° 22′...†*		30.04	763.0	60	15.6		WSW			2		Fog				Smooth	W	Foggy	M. C. Miles.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, Hong-Kong, China		29.87‡	758.7‡				WSW			2		2s		W	0			Blue sky	L. B. Walls.
S. S. Colima, N. 15° 47′, W. 98° 17′...†		29.98‡	761.5‡	81	27.2		NE			3		4		Calm	0		NNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehurst.
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter.†		30.10‡	764.5‡	52	11.1	86	SE			3		4				Smooth		Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.84‡	757.9‡				SSW			8		10		SW				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 24° 04′, E. 118° 42′		29.82‡	757.4‡	77	25.0	91	SW			2		8k			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 26° 20′, W. 84° 03′		30.02‡	762.5‡	80.0	26.7	74	NW			1		2				Smooth	NW	Clear	Capt. C. Undütsch.
S. S. Leipzig, Galloper Light-vessel, North Sea.		29.93‡	760.2‡	45.0	7.2	88	NW			4–6		10		NW		Mod'ate	NW	Drizzling	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 48′, W. 36° 04′		30.16‡	760.1‡				NNW			3		8		SW		4	SSW	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.95‡	760.7‡	74	23.3	90	W			1		1			0			Clear.	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 42′ W. 79° 10′		29.98‡	761.5‡	79	26.1	82	SE	6	2.7			2k		SE	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 34° 25′, W. 71° 35′ †.		29.87‡	758.7‡	71	21.7		Calm			0						Long		Squally	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.64‡	752.8‡				NE	3	1.3			2			0	Smooth	NE	Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

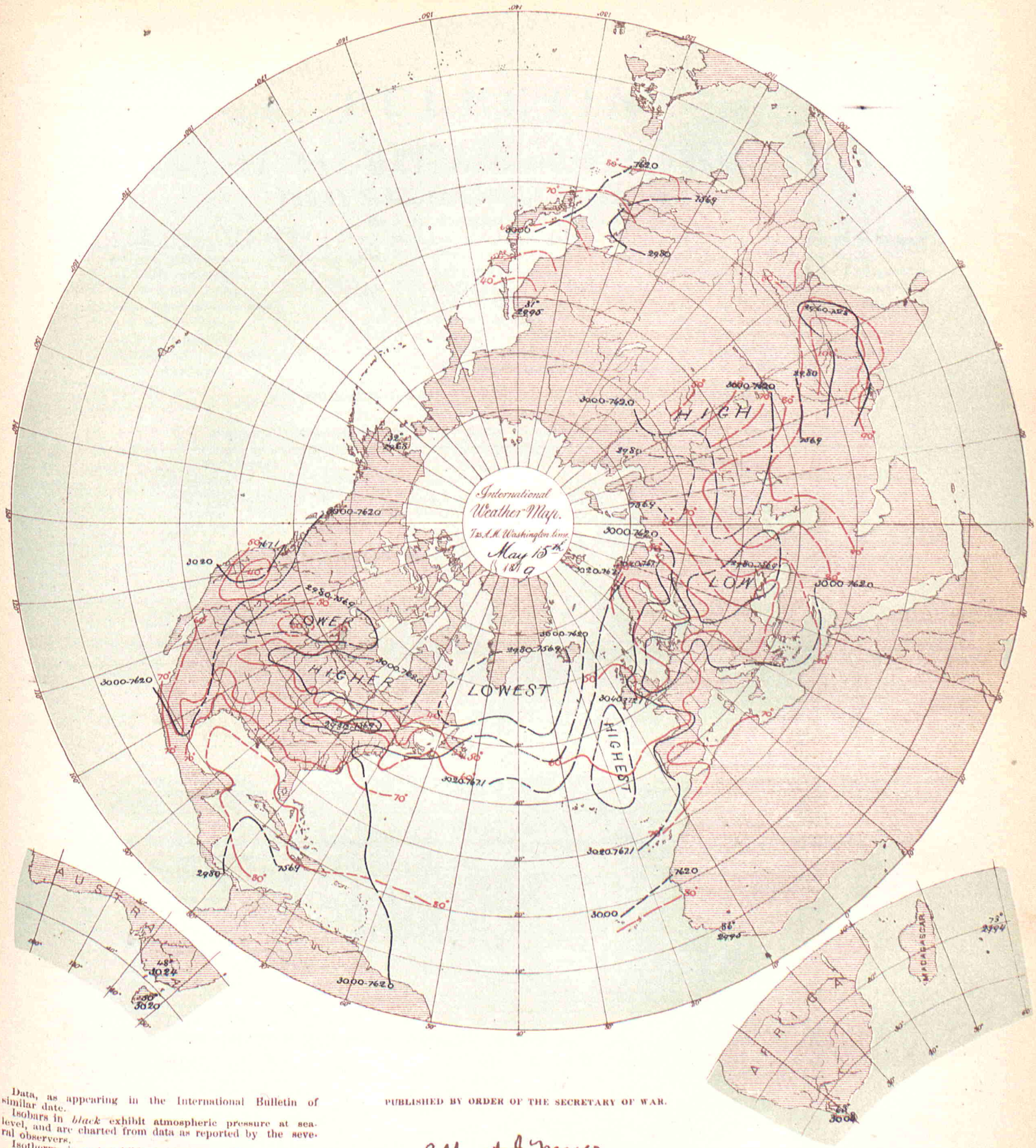
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.21	767.4	68.4	20.2	78	Calm			0		0			0.059	1.5	Clear	Kesxuche.
Algiers			30.12	765.0	58.6	14.8	86	NE			2		10			Inap.	Inap.	Covered	Tourilière.
La Calle			30.09	764.2	61.3	16.3	92	NW			4		10			0.198	4.90	Raining	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.7															Gau.
Saida			30.13	765.4	53.2	11.8	76	N			5		10			0	0	Covered	Herbin.
Tebessa			30.07	763.7	67.6	19.8	36	E			3		10			0.020	0.5	Covered	Watrin.
Geriville			30.04	763.1	60.3	15.7	42	N			5		8			0	0	Very cloudy	Brugniaux.
Laghouat			29.98	761.5	79.9	26.6	37	ENE			7		2			0	0	Fair	Bertrand.
Biskra			29.96	761.0	80.8	27.1	22	SE			1		10			0	0	Covered	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.43	747.6	29.97	761.1	69.8	21.0	50	E			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.27	743.4	30.02	762.4	65.5	18.6	47	SSE			1		4			0	0		Dr. Wierzbiski.
Eperies	29.10	739.0	29.95	760.8	65.1	18.4	31	N			2	3c		S		0	0		Julius Mikolik.
Gratz	28.73	729.8	29.95	760.7	66.9	19.4	41	W			2		7			0	0		Andreas Rospini.
Hermannstadt	28.58	726.0	29.99	761.8	63.5	17.5	62	WNW			1		6			0	0		Prof. A. Gottschling.
Kremsmünster	28.67	728.1	30.02	762.5	49.3	9.6	79	WNW			3		10			0	0		Prof. C. Wagner.
Lemberg	28.92	734.6	29.89	759.2	60.4	15.8	34	NE			3		6			0	0		Dr. T. Stanecki.
Pola	29.94	760.4	30.05	763.3	63.5	17.5	71	SE			1		6			0	0		I.R. Hydrographic Office.
Szathmar	29.55	750.5	30.00	762.0	67.8	19.9	34	SW			4		6			0	0		Julius Csics, S. J.
Szegedin	29.77	756.2	30.05	763.2	65.3	18.5	53	W			1		3			0	0		Karl Stancel.
Trieste	29.98	761.5	30.08	764.1	59.4	15.2	78	Calm			0		10			0.709	18.0	Raining	P. Busin.
Vienna	29.26	743.3	29.96	761.0	68.7	20.4	44	SE			2		2			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.04	763.0	30.14	765.5	49.9	9.9		S	18	8.0			1					Blue sky	W. Boswell.
Ardrossan	30.13	765.3	30.14	765.5	52	11.1		S			2		7					D. clouds	William McNeil.
Armagh, Observatory			30.16	766.1	54.5	12.5		S	11	4.9			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.20	767.1	50.9	10.5		W	20	8.9			3					Blue sky	John Hartnup.
Bolton (Sharples)			30.16	766.1	53.6	12.0		NW	12	5.4			8					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.77	756.1	30.17	766.3	52.7	11.5		NE			2		6			0.09	2.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	82	27.8		SE			2		6					Gloomy	Pvt. G. Surg ener, A.
Cambridge, Observatory			30.15	765.8	53.5	11.9		N			2		10					D. clouds	H. Todd.
Cardington			30.14	765.5	54.0	12.2		N			1		7					Overcast	John McLaren.
Chatham, School M. E.	30.02	762.5	30.15	765.8	48.1	8.9		Calm			0		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	30.11	764.8	30.16	766.1	53	11.7		SW			3		8					D. clouds	J. Mac Gowan.
Dover	30.08	764.0	30.10	764.5	51	10.6		NE			5		5					½ clouded	J. Costello.
Falmouth, Observatory	30.05	763.3	30.28	769.1	54.2	12.3		NW			3		10					Overcast	The Staff.
Fort Napier (Natal)	27.54	699.5	29.84	757.9	73.6	23.1		E			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	81	27.2		E			1		4					D. clouds	
Galway, Queen's College			30.09	764.3	54	12.2		SW			3		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.10	764.5	30.15	765.8	67.5	19.7		E			1		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.93	760.2	30.14	765.5	54.3	12.4		WSW			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.12	765.0	30.13	765.3	50	10.0		NE			3		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.98	761.5	30.15	765.8	49.5	9.7		N			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	30.08	764.0	30.22	767.6	53	11.7		NW			4		4					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.19	766.8	30.22	767.6	57	13.9		NW			2		3ck			0	0	Fine	M. P. Moyle.
Holyhead	30.17	766.3	30.20	767.1	56	13.3		SSW			2		3					D. clouds	John Tilston.
Jersey	29.95	760.7	30.25	768.3	52.6	11.4		WNW			5		5					D. clouds	J. Fisher.
Kew, Observatory	30.12	765.0	30.16	766.1	51.0	10.6		N	15	6.7			10					Raining	The Meteorological Of.
Leicester, Museum	29.94	760.5	30.20	767.1	48.4	9.1		NE			2		10					Drizzling	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.97	761.2	30.05	763.3	67	19.4		SE			3		2ck			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.98	761.5	30.07	763.8	57	13.9		Calm			0		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.97	761.2	81.0	27.2		SW			1		5			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.00	762.0	30.19	766.8	52.3	11.3		NNE			2		7k		NNE	0.043	1.10	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.66	753.4	30.18	766.6	52.2	11.2		NE			3		6					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.18	766.6	52	11.1		NNW			2		7					D. clouds	H. E. Bellamy.
Plymouth	30.15	765.8	30.22	767.6	60.0	15.6		NW			4		4						John Merrifield.
Prince Town																			W. H. Tooker.
*Roche's Point	30.17	766.3	30.27	768.8	58	14.4		SW			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	30.07	763.8	30.24	768.1	48	8.9		WNW			1		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			30.09	764.3	47.6	8.7		SSE	24	10.7			5					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.94	760.5	30.00	762.0	63.4	17.4		W			2		7					D. clouds	Serg't W. H.Lyne.
Sheffield	29.92	760.0	30.20	767.1	50.9	10.5		NNW			1		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.14	765.5	30.17	766.3	53.7	12.1	68	NE			3		7			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.76	755.9	30.17	766.3	56.0	13.3		W			2		8					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.97	761.2	30.19	766.8	49.3	9.6		N			2		10					Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.24	768.1	30.27	768.8	57	13.9		NW			6		10					Gloomy	W. Newcombe.
Valencia, Observatory	30.16	766.1	30.19	766.8	53.6	12.0		SW	26	11.6			10					Raining	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.19	766.8	30.23	767.8	61.8	16.6	88	W	9	4.0		8	10			0.270	6.86	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.27	768.8	50.0	10.0	94	S			1		10kn			0.12	3.0	Covered	Francis Abbott,F.R.A.S.
Leith, Restalrig Park	30.14	765.5	30.17	766.3	49.0	9.4		NE			1		10k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.78	756.4	29.97	761.3	77.2	25.1	72	WSW	6.5	2.9		0	1			0	0	Fair	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	50.1	10.1	85	SSE	7	3.1			0			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.02	762.5	59	15.0		S			4	5	5	S		0.3	8.		J. Youngclause.
North Unst (Shetland Is.)			30.18	766.6	46	7.8		E			2	2	3	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity; rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn"																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 19° 31′, W. 54° 24′			30.03‡	762.8‡	85	29.4		Calm			0		4					D. clouds	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore, N. 47° 26′, W. 19° 30′			30.29	769.4	58	14.4		SW			6		9			5	SW	Misty	Capt. J. W. Thorne.
—— City of Agra																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma																			Capt. H. L. Fox.
Barque Mertole, N. 43° 26′, W. 19° 44′			30.43‡	772.9‡	62	16.7		WSW			4		2					Blue sky	Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Royal Alexandra, N. 41° 20′, W. 66° 10′			30.16	766.1	53	11.7		SSE			6		2			3	SSW	Misty	W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2	29.95	760.7	67.1	19.5	81	SE			2	2cs				0.3	7.6		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.00	762.0	30.05	763.2	58.6	14.8	43	E			2		1						
Fanöe	30.04	762.9	30.06	763.4	55.2	12.9	75	W			4		8						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.91	759.7	29.95	760.6	45.3	7.4	91	SE			4		10						
Vestervig	29.91	759.7	30.08	764.0	55.4	13.0	59	WNW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.62	752.3	30.17	766.3	47.5	8.6	86	NNW			3		10			0.094	2.4	Raining	Collignon, Director.
Amiens, Normal School	29.91	759.8	30.02	762.5	65.5	18.6	59	NE			3		10			0.291	7.4	Covered	Bonvallet, Director.
Arras, Engin'r School	29.80	756.9	30.06	763.5	52.3	11.3	59	ESE			1				E	0.130	3.3		Klein, Commandant.
Avignon, Normal School	30.02	742.4	30.10	764.4	66.6	19.2	45	N			2		2		NNW	0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.50	749.2	30.06	763.6	49.5	9.7	73	SSW			1		10		SW	0.008	0.2	Sprinkling	C. Saillard, Director.
Beauvais, Normal School	29.79	756.6	30.04	763.0	49.8	9.9	75	NNW			2		8		NNW	0.322	8.20	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.23	742.4	30.13	765.2	53.8	12.1	53	SSW			2		8		SW	0.020	0.5	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.6	30.24	768.0	53.8	12.1	54	SW			1		8kn	SW	SW	0	0	Very cloudy	Marlot, Director.
Bourges, Normal School	29.56	750.7	30.11	764.8	52.9	11.6	60	W			1		10	W	W	0.031	0.8	Covered	A. Waquet, Director
Brest, Naval Observatory	29.99	761.8	30.24	768.0	58.6	14.8	60	NNW			1		8		NW	0	0		De Rermaree, Director.
Carcassonne, Normal School	29.80	757.0	30.22	767.5	61.2	16.2	40	W			3		5	W	W	0	0	Cloudy	September, Director.
Caen, Normal School	30.08	764.1	30.16	766.0	51.8	11.0	68	NW			4		8		NW	0.091	2.3	Very cloudy	Lair, Director.
Chartres, Normal School	29.51	749.5	30.09	764.2	64.8	18.2	84	NW			3		10		W			Raining	Vergier, Director
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.06	763.6	50.4	10.2	64	S			3		8	S	S	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.6	30.13	765.3	52.7	11.5	59	SW			1		8		W	0	0		Allnard, Director.
Commercy, Normal School	29.21	741.9	30.08	764.1	47.7	8.7	81	WNW			1		8n		WNW	0.256	6.5	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.8	30.11	764.8	59.0	15.0	31	NW			4		2		NW	0.075	1.9	¼ covered	L. Kina, Director.
Grenoble, Normal School	29.35	745.4	30.11	764.7	60.4	15.8	39	W			1		4k		W	0.004	0.10	Pretty clou'y	Ablard, Director.
La Roche-sur-Yon, N. School	30.03	762.7	30.24	768.2	54.1	12.3	65	NW			1		8		NW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.85	758.3	30.17	766.2	50.0	10	70	N			4		8	NW	N	0.016	0.4	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.19	741.3	30.10	764.5	57.0	13.9	45	W			4		10n	SW	SW	0.004	0.10	Covered	A. Baudry, Director.
Lorient, Naval Observatory	30.16	766.0	30.26	768.5	60.8	16.0	73	NW			3			N	NW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			30.06	763.4	63.9	17.7	23	NNW			4–6		1			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.98	736.2	30.03	762.8	52.2	11.2	85	NNE			1		8n		NE	0.087	2.2	Very cloudy	Barbier, Director.
Nismes, Normal School	29.91	759.6	30.11	764.7	68.0	20	34	N			2		2		N	0	0	Slightly cld'y	Boyer, Director.
Privas, Normal School	29.01	736.8	30.08	763.9	56.1	13.4	48	N			3		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.10	739.0			29.1	—1.6	100	W			8		10					Snow-fog	Allnard, Director.
Rochefort, Naval Obs'y	30.22	767.5	30.25	768.3	56.3	13.5	70	WSW			1		10	W	W	0.08	2.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.01	762.2	30.10	764.4	50.9	10.5	81	NNW			2		8	NW	NW	0.350	8.9	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.7	30.22	767.5	55.6	13.1	65	NNW			4		1	NW	NW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.88	758.9	30.04	763.1	45.9	7.7	93	W			0–1		10	NNW	NNW	0.469	11.9	Raining	E. Renou, Director.
Tarbes, Normal School	29.19	741.5	30.30	769.6	48.2	9	86	NW			1		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.57	751.0	30.30	769.5	58.6	13.8	52	WNW			3		6			0.185	4.7		Mercadier Julier.
Versailles, Observatory	29.55	750.5	30.04	763.0	47.5	8.6	81	NW			2					0.260	6.60		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.45	748.0	30.17	766.2	56.5	13.6	54	SW			3		5		W	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	84.6	29.2										0.24	6.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.51	749.6	30.13	765.3	56.7	13.7	41	W			2		7		WSW	0	0	Cloudy	Mr. Jays.
Mont-Louis	24.91	633.4	30.25	768.4	44.2	6.8	41	W	24.2	10.8			0			0	0		M. Cave.
Nice			29.97	761.1	64.8	18.2	62	SE			2		2			0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	756.0			45.1	7.3	100	WNW			2		6		NNW	0.177	4.5		Marié Davy, Director.
Perpignan	30.11	764.9	30.22	767.6	59.4	15.2	31	NW	26.2	11.7			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.59	573.8			32.7	0.4		W			2		5			0.220	5.6	Snowy	Gen'l de Nansouty.
Tours	29.94	760.4	30.13	765.4	54.3	12.4	56	NW			4		10		NW	0.102	2.6		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.91	759.6	29.93	760.3	61.9	16.6	90	NNE	5.4	2.4			0			0.890	22.6	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m, or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,436.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.06	763.5	56.5	13.6	50	W			4		8	W		0	0		Prof. Dr. Hoh.
Berlin	29.95	760.6	30.12	765.0	57.7	14.3	58	S			1		7			0.008	0.2		Prof. Arndt.
Breslau	29.51	749.5	30.04	763.0	66.0	18.9	39	NNE			1		2			0	0	Raining	Royal University Obs'y.
Carlsruhe	29.64	752.9	30.08	763.9	50.4	10.2	80	SW			0		10	SW		0.280	7.1		Albert Senz.
Cassel	29.47	748.5	30.08	764.0	60.1	15.6	42	E			3		5	NE		0.161	4.08		Dr. H. Möhl.
Crefeld	29.89	759.1	30.05	763.2	57.9	14.4	54	NE			4		8			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.69	754.2	30.06	763.6	59.5	15.3		S*			2		7			Inap	Inap.		Physical Society.
Freienwalde on the Oder	30.04	763.1	30.08	764.1	57.4	14.1	63	W			1		10ks	W		0.087	2.2	Raining	Assmann., M. D.
Friedrichshafen	28.62	727.0	30.06	763.5	54.0	12.2	66	SW			2		7	SW		0.252	6.4	Raining	M. Wilhelm.
Hamburg	30.02	762.6	30.10	764.4	57.6	14.2	59	NW			1		8k			0.047	1.2	Fair	Captain F. Hegeman.
Kiel	30.05	763.2	30.06	763.6	55.9	13.3	61	NNE			1		7			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.93	760.2	30.01	762.3	55.0	12.8	32	NW			5		0			0	0		Prof. E. Luther.
Köslin			30.00	762.0	60.4	15.8		NW			2		0			0	0		H. Müller.
Leipsic Observatory	29.67	753.7	30.10	764.4	57.0	13.9	53	ESE			1		10			0.138	3.5		Prof. Bruhns, Privy Counselor.
Memel	29.91	759.7	29.96	760.9	43.3	6.4	81	WNW			4		0					Squally	Skalweit.
Munich (München)	28.23	717.0	30.10	764.4	50.4	10.2	68	Calm			0		10	NW		0.476	12.1		Dr. C. Lang.
Neufahrwasser	30.04	762.9	30.05	763.3	51.1	10.6	57	NE			4		0			0	0		A. Lothes.
Posen	29.80	756.8	30.08	764.0	65.5	18.6	45	NW			1		2			0	0		Dr. Magener.
Strassburg (in Alsace)	29.56	750.9	30.12	765.1	47.3	8.5	83	WSW			3		10	S		0.004	0.10	Raining	Imp. University Observatory.
Stuttgart	29.10	739.1	30.05	763.2	50.4	10.2	76	W					10			0.228	5.8		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	725.0	30.06	763.4	51.8	11.0	64	Calm	0	0			9ck	SW	NNE	0.031	0.8		Dr. Van Bebber.
Wustrow	30.04	763.1	30.07	763.7	52.0	11.1	64	NNE			1		0			0	0		E. Schütz, Dir.
*German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 6o, instead of 2/5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.0	30.07	763.7	69.4	20.8		SW			1.5							½ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.68	753.9	29.73	755.2	86.9	30.5	59	SW					4			0	0	D. clouds	
Deesa	29.24	742.6	29.57	751.0	103.2	39.6	16	SW	7.8	3.5			0			0	0	Blue sky	
Bombay	29.71	754.6	29.74	755.5	85.3	29.6	79	NW	15.0	6.7			2	SSW		0	0	D. clouds	
Poona	27.78	705.5	29.73	755.2	89.1	31.7	54	NW					6		E	0	0	Threatening	
Lahore	28.87	733.3	29.57	751.1	102.3	39.1	20	E	2.0	0.9			1			0	0	Blue sky	
Belgaum	27.24	691.8	29.73	755.1	84.1	28.9	72	W	15.0	6.7			10	E	E	0.53	13.5	Thunder-storm	
Roorkee	28.70	729.0	29.55	750.7	101.9	38.8	6	NW	3.0	1.3			0			0	0	Blue sky	
Agra	29.03	737.4	29.56	750.8	106.6	41.4	17	NW					0			0	0	Blue sky	
Nagpur	28.58	726.0	29.59	751.5	101.7	41.5	17	S	3.2	1.4			9		NE	0	0	Gloomy	
Lucknow	29.23	742.4	29.58	751.4	103.5	39.7	21	NNE	2.9	1.3			0			0	0	Blue sky	
Allahabad	29.28	743.6	29.57	751.1	104.6	40.3	23	NW	3.5	1.6			7	W		0	0	D. clouds	
Patna	29.39	746.4	29.56	750.8	103.1	39.5	17	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.63	701.8	29.56	750.9	96.8	36.0	12	NNW	7.9	3.5			0			0	0	Blue sky	
Cuttack	29.63	752.5	29.71	754.5	88.3	31.3		S	21.0	9.4			6			0	0	Thunder	
Calcutta (Alipore)	29.63	752.6	29.65	753.1	86.2	30.1	71	SSW	12.0	5.4			6	W		0	0	D. clouds	
Goalpara	29.21	741.8	29.59	751.5	85.4	29.7	78	SE	3.8	1.7			7			0.22	5.6	D. clouds	
Chittagong	29.65	753.2	29.74	755.4	85.9	29.9	76	S	7.1	3.2			1			0	0		
Sibsagar	29.34	745.1	29.67	753.6	76.3	24.6	90	N	1.9	0.8			10	W	W	0.76	19.3	Overcast	
Jubbulpore	28.30	718.7	29.60	751.9	100.7	38.2	23	N	3.1	1.4			4		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for altitude and temperature. Inches.	Barometer. Corrected for altitude and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.08	764.0	55.0	12.8	85	NE	1.3	0.6			10			0.189	4.8		Prof. Giovanni Clodig.
Milan	29.47	748.5	29.98	761.6	57.4	14.1	73	E			2		10	SW		0.862	21.9		Prof. Schiaparelli.
Padua	29.95	760.7	30.06	763.4	55.6	13.1	85	N	7.4	3.3			10			0.094	2.4		Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.9	29.95	760.8	61.5	16.4	61	SSE	2.5	1.1			5	SE		0.492	12.5		Prof. P. F. Denza.
Genoa	29.84	757.8	30.03	762.7	61.3	16.3	54	SE	11.2	5.0			6	S		0.004	0.1		Prof. G. M. Garibaldi.
Mondovi	28.06	712.6	29.96	761.0	58.1	14.5	51	SSE			2		6			0.059	1.5		Prof. D. C. Bruno.
Pesaro	29.99	761.7	30.04	763.0	63.3	17.4	60	NE	9.8	4.4			10			0	0		Prof. Luigi Guidi.
Florence	29.81	757.2	30.07	763.7	59.4	15.2	75	NW			2		10	S		0.071	1.8		Cav. F. Meucci.
Leghorn	29.97	761.2	30.06	763.4	62.1	16.7	69	SSE			6		10	SW		0	0		Prof. P. Monte.
Rome	29.94	760.4	30.11	764.9	66.9	19.4	46	S	13.0	5.8			4			0	0		Prof. P. S. Ferrari
Lecce	29.87	758.7	30.12	765.1	66.2	19.0	63	SSW	4.9	2.2			1			0	0		Prof. C. De Giorgi.
Cosenza	29.21	741.9	30.10	764.4	69.4	20.8	69	SW	1.8	0.8			2			0	0		Prof. D. Conti.
Cagliari	29.87	758.6	30.06	763.5	63.3	17.4	73	SE			2		10	W		0	0		Prof. A. Facinotti.
Palermo	29.86	758.4	30.11	764.9	63.3	17.4	50	NE	5.6	2.5			3			0	0		Prof. G. Cacciatore.
Syracuse	30.06	763.5	30.13	765.3	68.4	20.2	44	WSW	8.7	3.9			2	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.1	30.17	766.2	64.4	18.0	55	SSW	1.8	0.8			2			0.248	6.3		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.67	753.6	29.69	754.1	58.8	14.9	92	NNE	5.1	2.3			10n			2.085	52.96	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.44	747.8	29.63	752.6	68.2	20.1	82	S	17.1	7.7			6s			1.100	27.94	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.89	759.2	29.96	761.0	66.7	19.3	82	SSE	6.8	3.0			10s			0.80	20.32	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.6	30.14	765.5	52.2	11.2	63	SW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.41	620.0	30.02	762.5	64.2	17.9	64	W			1	0	0			Inap.	Inap.	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.8	30.06	763.5	54.5	12.2	81	Calm	0	0		5c;k	0			0.59	15.0	½ clouded	The Staff.
Pabellon (Aguascalientes)					60.1	15.6	60	Calm			0	0	0			0.032	0.8	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.90	759.4	29.91	759.7	76.1	24.5	83	SE			2	9	0	SW		0	0	Cloudy	M. M. Chàzaro.
San Luis Potosi	24.20	614.6	30.22	767.5	54.0	12.2	34	SE			3	3	1	W	Calm	0.13	3.3	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.49	571.3	29.97	761.1	64.0	17.8	54	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.4	30.17	766.2	48.9	9.4	61	N	0.4	0.2		0	1		Calm	0.15	3.7	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.37	720.7	30.02	762.6	74.7	23.7	61	NE			2	0	1		NE	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.11	764.8	30.11	764.8	54.5	12.5		ESE								0.157	4.0		
Groningen	30.05	763.2	30.10	764.6	54.0	12.2		N			1					0	0		
Helder	30.10	764.5	30.10	764.5	50.9	10.5		NW			2					0	0		
Hellevoetsluis	30.08	764.1	30.08	764.1	56.7	13.7	66	NNW			1					0.008	0.2		
Utrecht	30.05	763.2	30.10	764.4	56.8	13.8	57	NE			2		8			0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.04	763.1	30.10	764.5	54.7	12.6	50	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.17	766.3	30.21	767.3	44.1	6.8	71	N	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.91	759.8	30.06	763.4	66.2	19.0	26	ESE	0	0	.....	.....	8	.....	.....	0	0	.....	
Tromsö	30.23	767.7	30.27	768.8	41.7	5.3	59	N	13	6	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.26	768.5	30.44	773.3	65.5	18.6	81	SE	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.20	741.6	30.21	767.4	67.1	19.5	23	N	18.1	8.1	.....	.....	2	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.24	768.2	30.33	770.4	67.2	19.6	58	SW	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.91	759.7	30.26	768.6	70.7	21.5	27	ENE	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.40	772.1	30.47	773.9	67.6	19.8	68	SE	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias, N. 38° 04′, W. 12° 40′	.....	.....	30.37	771.4	62.6	17.0	.....	N	.....	.....	7	.....	2	.....	N	6	N	D. clouds	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids	.....	.....	30.00	762.0	77.9	25.5	.....	NE	.....	.....	4	.....	0	.....	.....	4	NE	Blue sky	C. C. da Fonseca Ferreira, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando	.....	.....	29.87	758.7	81.0	27.2	.....	W	.....	.....	2	.....	3	.....	NW	1	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia	.....	.....	29.97	761.2	83.1	28.4	.....	N	.....	.....	2	.....	9	.....	.....	0	.....	D. Clouds	A. Ferreira, 2d Lt.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China	.....	.....	29.88	759.0	84.2	29.0	.....	E	.....	.....	2	.....	0	.....	.....	1	SE	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.59	751.6	30.01	762.2	60.6	15.9	34	NW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.48	748.7	29.90	759.4	50.9	10.5	73	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.52	749.8	29.76	755.8	60.1	15.6	71	NW	2	1	.....	.....	10kn	.....	.....	.....	.....	Heavy clouds	Prof. Dr. Weihrauch.
St. Petersburg	29.69	754.1	29.71	754.5	68.7	20.4	62	ENE	11	5	.....	.....	6ks;ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.04	737.6	29.66	753.4	57.4	14.1	61	NNW	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.72	755.0	29.80	756.8	59.9	15.5	50	N	9	4	.....	.....	10n	.....	.....	.....	.....	Raining	Kurdakof.
Kertch	29.87	758.8	29.89	759.3	63.0	17.2	89	SSW	7	3	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.12	739.5	29.64	752.8	70.7	21.5	61	SE	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.8	29.64	752.9	67.1	19.5	48	SSW	22	10	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.08	764.1	30.10	764.6	45.5	7.5	88	E	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.41	721.7	29.78	756.3	72.5	22.5	62	NNW	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.82	757.3	29.73	755.2	81.9	27.7	37	NNE	16	7	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750.4	29.79	756.7	86.9	30.5	34	E	9	4	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.10	739.0	30.01	762.2	79.3	26.3	27	NE	4	2	.....	.....	6k;c;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.59	751.6	29.81	757.1	92.3	33.8	21	NNE	11	5	.....	.....	6cs	.....	.....	.....	.....	.....	
Tashkend	28.34	719.8	29.82	757.5	81.0	27.2	54	S	2	1	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.34	745.2	29.84	757.8	47.1	8.4	69	SE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.73	755.1	30.02	762.4	50.9	10.5	32	WNW	4	2	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.56	750.8	29.70	754.4	71.6	22.0	50	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.85	758.1	29.95	760.6	45.9	7.7	88	SE	4	2	.....	5c	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.79	756.7	29.88	758.9	34.3	1.3	89	NE	2	1	.....	.....	4k	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.08	764.0	30.19	766.7	61.2	16.2	54	SSW	5.2	2.31	.....	.....	2	.....	.....	0.313	7.94	Raining	Antonio Rave, Director
Bilbao, Met. Obs'y	30.35	770.9	30.41	772.3	63.1	17.3	50	NW	3.4	1.54	.....	3	4	N	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.34	694.5	.....	.....	48.6	9.2	46	NE	9.9	4.44	.....	.....	4	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.99	711.0	.....	.....	63.3	17.4	29	E	8.9	4.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.01	762.2	30.17	766.2	64.4	18.0	66	NE	4.9	2.17	.....	5	5	SE	.....	0.128	3.25	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.45	748.1	30.35	770.9	61.5	16.4	48	NE	16.1	7.2	.....	0	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.90	759.4	29.96	761.0	79.3	26.3	72	SE	1.1	0.5	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.78	756.6	29.84	757.9	85.0	29.4	79	ESE	3.8	1.7	.....	0	0	.....	.....	0.453	11.5	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.10	764.5	30.20	767.0	70.0	21.1	52	S	10.3	4.6	.....	0	6	.....	S	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	80.6	27.0	84	NE	3.7	1.66	.....	4ks	4k	NE	NE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	30.09	764.3	30.13	765.3	47.5	8.6	....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.06	763.5	30.11	764.8	52.5	11.4	87	NE	.....	.....	6	.....	8	.....	.....	0	0	.....	
Hernosand	30.02	762.6	30.08	763.9	48.9	9.4	98	NE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Stockholm	29.80	756.9	29.98	761.4	54.7	12.6	30	NNW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Wisby	29.90	759.4	29.96	760.9	47.5	8.6	73	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.92	759.9	29.99	761.8	54.3	12.4	30	N	19.0	8.5	.....	.....	2	SE	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.66	728.0	30.08	764.1	55.4	13.0	33	W	.....	.....	3	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.45	722.7	30.13	765.3	43.0	6.1	88	NW	.....	.....	2	.....	9	.....	.....	0.146	3.7	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.9 mm.; Thermometer,—3.6 Cent.; Relative Humidity, —24 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.1	63.1	17.3	75	WNW	4	2.0	.....	.....	9	.....	WSW	0.425	10.8	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.04	763.0	89.6	32.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.2	63.1	17.3	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.95	760.7	30.07	763.7	75.0	23.9	55	SW	.....	.....	3	.....	2ks	.....	SW	0	0	D. clouds.	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.8	29.88	758.9	59	15.0	.....	SW	5	2.2	.....	.....	10n	.....	SW	1.35	34.3	Heavy rain.	W. R. Bigg
*Chatham, N. B	30.02	762.5	30.08	764.0	47	8.3	90	Calm	0	0	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	G. A. Blair.
Charlottetown, P. E. Island	30.06	763.5	30.10	764.5	61	16.1	85	S	9	4.0	.....	.....	8s	.....	SW	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.82	757.4	52.2	11.2	97	E	.....	.....	1	.....	10s	.....	.....	0.55	14.0	Overcast	James Smith M. A.
Dalhousie, N. B	29.90	759.4	30.07	763.8	42.0	5.6	100	E	.....	.....	2	.....	10n	.....	.....	1.11	28.2	Foggy	H. A. Johnson.
Esquimault, B. C	30.10	764.5	30.15	765.8	41.1	5.1	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	40	4.4	98	NE	13	5.8	.....	.....	Fog	.....	Calm	0.42	10.7	Foggy	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.07	763.8	58.0	14.4	86	SE	6	2.7	.....	.....	10s	.....	.....	0.11	2.8	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.86	733.0	29.66	753.4	57	13.9	69	S	10	4.5	.....	5ck	5ks	W	S	0	0	Fair	James Stewart.
Granton, Ontario	28.88	733.5	29.97	761.2	51	10.6	.....	N	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	30.02	762.5	30.15	765.8	52	11.1	95	SE	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.61	752.1	29.98	761.5	54.1	12.3	84	N	.....	.....	1	10cs	0	N	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.55	750.6	29.88	758.9	57	13.9	94	SW	4	1.8	.....	.....	10ks	.....	SW	0.61	15.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.09	764.3	30.13	765.3	68.0	20.0	72	SW	8	3.6	.....	5k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.66	753.4	29.86	758.4	52	11.1	93	SE	5	2.2	.....	.....	10n	.....	.....	0.10	2.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.26	743.2	29.95	760.7	49	9.4	85	W	9	4.0	.....	2ck	0	NW	.....	0.04	1.0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.18	741.2	29.92	760.0	52.7	11.5	86	W	.....	.....	1	.....	10ks	.....	.....	1.22	31.0	Overcast	J. F. Jeffers, B A.
Port Dover, Ontario	29.28	743.7	29.97	761.2	50	10.0	93	N	9	4.0	.....	.....	Haze	.....	.....	0.55	14.0	Cloudy	H. Morgan.
Port Hastings, N. S	30.09	764.3	30.14	765.5	68.5	20.3	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.97	761.2	51	10.6	89	N	8	3.6	.....	.....	5ks	.....	N	0.02	0.5	Clearing	M. Payne.
*Quebec, Quebec	29.65	753.1	29.97	761.2	46	7.8	96	NE	.....	.....	5	.....	10n	.....	Calm	0.29	7.4	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.42	747.2	29.88	758.9	50	10.0	86	W	6	2.7	.....	.....	8s	.....	W	0.13	3.3	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.00	762.0	30.05	763.3	50	10.0	98	S	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.95	760.7	30.12	765.0	48	8.9	100	S	12	5.4	.....	Fog	.....	.....	.....	0.56	14.2	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.28	743.7	30.00	762.0	47	8.3	74	NW	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	K. Stewart.
Stayner, Ontario	29.17	740.9	29.95	760.7	49	9.4	75	NW	11	4.9	.....	8k	0	NW	.....	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.95	760.7	50.2	10.1	82	NW	8	3.6	.....	1c	2s;ks	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.14	765.5	70	21.1	67	SW	9	4.0	.....	5k	0	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.58	751.3	29.97	761.2	52	11.1	80	NW	13	5.8	.....	5ck	0	NW	.....	0.18	4.6	Fair	Magnetic Observatory.
Windsor, N. S	30.04	763.0	30.13	765.8	63.0	17.2	83	S	14	6.3	.....	3k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.00	762.0	30.25	768.3	44.0	6.7	83	NE	.....	.....	.....	Fog	Fog	.....	.....	.....	.....	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,005 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.91	759.7	66	18.9	91	S	1	0.4			10n		S	0.20	5.1	Light rain	
Alpena, Michigan	29.37	746.0	30.01	762.2	50	10.0	58	NW	5	2.2		0	0			0	0	Clear	
Atlanta, Georgia	28.72	729.5	29.82	757.4	63	17.2	88	NE	12	5.4			10s		NE	0.08	2.0	Cloudy	
Atlantic City, New Jersey	29.92	760.0	29.93	760.2	63	17.2	100	E	2	0.9			Fog		Calm	0	0	Foggy	
Augusta, Georgia	29.70	754.4	29.87	758.7	68	20.0	84	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Baltimore, Maryland	29.88	758.9	29.93	760.2	66	18.9	95	SE	3	1.3			10n		Calm	0.03	0.8	Light rain	
Barnegat, New Jersey	29.89	759.2	29.91	759.7	59	15.0	100	E	1	0.4			Fog		Calm	0.10	2.5	Foggy	
Bismarck, Dakota	28.03	711.9	29.88	758.9	53	11.7	73	W	6	2.7		8c	0	SW		0	0	Cloudy	
Boerne, Texas	28.38	720.8	29.66	753.4	61	16.1	88	W			1	0	0			0	0	Clear	
Boise City, Idaho	27.25	692.1	30.21	767.3	35	1.7	80	SE	2	0.9		0	0			0	0	Clear	
Boston, Massachusetts	29.83	757.7	29.98	761.5	58	14.4	100	SE	4	1.8			Fog		Calm	0.09	2.3	Foggy	
Brackettville, Texas	28.66	728.0	29.65	753.1	69	20.6	70	NE	8	3.6		2ck	0	Calm		0	0	Fair	
Breckenridge, Minnesota	28.78	731.0	29.75	755.6	55	12.8	62	S	20	8.9		1c	0	Calm		0	0	Clear	
Brownsville, Texas	29.76	755.9	29.81	757.2	78	25.6	69	S	8	3.6		0	0			0	0	Clear	
Buffalo, New York	29.26	743.2	29.96	761.0	46	7.8	100	W	2	0.9			Fog		Calm	0.39	9.9	Foggy	
Burkes, Arizona					66	18.9	23	Calm	0	0		0	0			0	0	Clear	
Burlington, Vermont	29.60	751.8	29.88	758.9	65	18.3	80	S	12	5.4			10n		SW	Inap.	Inap.	Light rain	
Cairo, Illinois	29.55	750.6	29.94	760.5	59	15.0	88	N	10	4.5			10s		N	0.27	6.9	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.16	639 0	29.96	761.0	61	16.1	21	N	4	1.8			0			0	0	Clear	
Camp Verde, Arizona	26.70	678.2	30.03	762.8	53	11.7	19	NW			1	0	0			0	0	Clear	
Campo, California	27.38	695.4	29.95	760.7	31	— 0.6	69	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	67	19.4	100	SE	17	7.6			10n		Calm	0.31	7.9	Heavy rain	
Cape Henry, Virginia	29.89	759.2	29.91	759.7	68	20.0	84	SE	9	4.0		0	2ks		S	0	0	Clear	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	67	19.4	95	S	9	4.0			10n		Calm	0.12	3.0	Light rain	
Cape May, New Jersey	29.86	758.4	29.89	759.2	63	17 2	89	E	4	1.8			10ks		E	0.01	0.3	Cloudy	
Castroville, Texas	29.03	737.3	29.71	754.6	67	19.4	74	S	2	0.9		2ck	0	W		0	0	Fair	
Charleston, South Carolina	29.84	757.9	29.89	759.2	70	21.1	85	SW	3	1.3			10s		Calm	0.43	10.9	Cloudy	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	47	8.3	62	SW	10	4.5		0	0			0	0	Clear	
Chicago, Illinois	29.34	745.2	30.03	762.5	49	9.4	78	N	6	2.7		0	0			0	0	Clear	
Cincinnati, Ohio	29.31	744.5	29.95	760.7	57	13.9	81	NE	8	3.6			10s		NE	0.19	4.8	Cloudy	
Cleveland, Ohio	29.26	743.2	29.99	761.7	48	8.9	93	N	9	4.0			10s		N	0.42	10.7	Cloudy	
Coleman City, Texas	28.04	712.2	29.64	752.8	65	18.3	73	E	6	2.7		0	2s		Calm	0.65	16.5	Fair	
Columbus, Ohio	29.13	739.9	29.96	761.0	55	12.8	74	N	8	3.6			10s		N	0.55	14.0	Cloudy	
Concho, Texas	27.99	710.9	29.62	752.3	65	18.3	89	E	4	1.8		0	0			Inap.	Inap.	Clear	
Corsicana, Texas	29.40	746.7	29.85	758.2	62	16.7	77	E	4	1.8		0	5ks		E	0	0	Fair	
Davenport, Iowa	29.39	746.5	30.04	763.0	48	8.9	78	NE	2	0.9		0	0			0	0	Clear	
Deadwood, Dakota	25.33	643.4			46	7.8	54	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.70	729.0	29.81	757.2	69	20.6	61	S	10	4.5		2c	0	Calm		0	0	Clear	
Denison, Texas	29.08	738.6	29.85	758.2	63	17.2	83	SE	6	2.7		8cs	0	W		0	0	Fair	
Denver, Colorado	24.74	628.4	29.96	761.0	48	8.9	63	NW	5	2.2		0	0			0	0	Clear	
Des Moines, Iowa	29.11	739.4	29.99	761.7	52	11.1	73	Calm	0	0		0	0			0	0	Clear	
Detroit, Michigan	29.34	745.2	30.01	762.2	48	8.9	78	N	6	2.7		2cs	0	Calm		0	0	Clear	
Dodge City, Kansas	27.29	693.2	29.51	749.5	58	14.4	94	SE	16	7.2			8ks		SW	0	0	Cloudy	
Dubuque, Iowa	29.36	745.7	30.07	763.8	45	7.2	61	Calm	0	0		0	Fog		S	0	0	Foggy	
Duluth, Minnesota	29.30	744.2	29.97	761.2	49	9.4	78	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.00	736.6	29.70	754.4	69	20.6	56	NE	2	0.9		0	0			0	0	Clear	
Eastport, Maine	30.02	762.5	30.08	764.0	49	9.4	93	S	5	2.2			Fog		S	0	0	Dense fog	
Edinburg, Texas					70	21.1	95	S			1	0	0			0	0	Clear	
El Paso, Texas	26.11	663.2			64	17.8	7	NW	8	3.6		1c	0	NW		0	0	Clear	
Erie, Pennsylvania	29.25	742.9	29.96	761.0	51	10.6	93	SW	4	1.8			Fog		Calm	0.38	9.7	Light rain	
Escanaba, Michigan	29.39	746.5	30.05	763.3	49	9.4	64	Calm	0	0		0	0			0	0	Clear	
Florence, Arizona	28.37	720.6	29.97	761.2	65	18.3	49	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.83	706.9			48	8.9	49	W	4	1.8		0	0			0.05	1.3	Clear	
Fort Craig, New Mexico	25.38	644.6	29.45	748.0	61	16.1	50	W	12	5.4		0	0			0	0	Clear	
Fort Davis, Texas	25.07	636.8	30.03	762.8	70	21.1	13	N	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.35	745.5	29.88	758.9	62	16.7	77	E	12	5.4		0	0			0	0	Clear	
Fort Griffin, Texas	28.53	724.6	29.75	755.6	67	19.4	69	E	4	1.8		0	0			0	0	Clear	
Fort Keogh, Montana	27.37	695.2			45	7.2	67	NW	8	3.6		0	0			0	0	Clear	
Fort McKavett, Texas	27.54	699.5	29.38	746.2	65	18.3	58	E	6	2.7		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.21	741.9	29.24	742.7	32	0.0	100	E	56	25.0			10s		E	0	0	Cloudy	
Fort Sill, Indian Territory	28.64	727.4	29.71	754.6	66	18.9	69	E	4	1.8		10k	0	Calm		0	0	Cloudy	
Fort Stevenson, Dakota	27.99	710.9			51	10.6	72	W	9	4.0		4c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.09	713.5	29.58	751.3	70	21.1	53	S	1	0.4		0	0			0	0	Clear	
Galveston, Texas	29.83	757.7	29.87	758.7	74	23.3	63	N	8	3.6		0	0			0	0	Clear	
Graham, Texas	28.75	730.2	29.77	756.1	66	18.9	84	SE	3	1.3			10s		SW	0	0	Cloudy	
Grand Haven, Michigan	29.40	746.7	30.04	763.0	57	13.9	69	Calm	0	0		0	0			0	0	Cear	
Indianapolis, Indiana	29.13	739.9	29.90	759.4	55	12.8	81	NE	6	2.7			10s		NE	0	0	Cloudy	
Indianola, Texas	29.84	757.9	29.86	758.4	77	25.0	82	S	9	4.0		0	0			0	0	Clear	
Jacksboro, Texas	28.73	729.7	29.81	757.2	70	21.1	75	NW	12	5.4		2c	0	NW		0	0	Fair	
Jacksonville, Florida	29.87	758.7	29.90	759.4	74	23.3	81	SW	4	1.8		2k	0	SW		0.24	6.1	Fair	
Keokuk, Iowa	29.35	745.5	29.98	761.5	45	7.2	98	E	7	3.1			Fog		Calm	0	0	Dense fog	
Key West, Florida	29.92	760.0	29.96	761.0	80	26.7	70	SW	4	1.8		1k	0	SW		0	0	Clear	
Kittyhawk, North Carolina	29.89	759.2	29.92	760.0	63	17.2	94	E	4	1.8		5c	Fog	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	28.89	733.8	29.87	758.7	59.5	15.3	100	NE	4	1.8			10s		Calm	0.18	4.6	Cloudy	
La Crosse, Wisconsin	29.30	744.2	30.03	762.8	50	10.0	72	S	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	48	8.9	43	NE	2	0.9		0	0			0	0	Clear	
Laredo, Texas	29.34	745.2	29.67	753.6	80	26.7	48	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.11	739.4	29.94	760.5	55	12.8	87	SE	1	0.4		0	Fog					Foggy	
Los Angeles, California	29.61	752.1	29.96	761.0	46.5	8.1	73	Calm	0	0		0	0			0	0	Clear	
Louisville, Kentucky	29.34	745.2	29.88	758.9	60	15.6	77	N	11	4.9			10s		N	0 18	4.6	Cloudy	
Lynchburg, Virginia	29.22	742.2	29.88	758.9	67	19.4	84	Calm	0	0			10ks		Calm	0.08	2.0	Cloudy	
Madison, Wisconsin	29.04	737.6	30.03	762.8	49	9.4	71	NW	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.27	743.4	29.97	761.2	47	8.3	62	S	1	0.4		0	0			0	0	Clear	
Mason, Texas	28.19	716.0	29.88	758.9	66	18.9	69	NE	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	29.56	750.8	29.89	759.2	60	15.6	100	NW	7	3.1			10n		Calm	1.53	38.9	Light rain	
Milwaukee, Wisconsin	29.31	744.5	30.04	763.0	49	9.4	57	NW	2	0.9		0	Sm'e			0	0	Clear	
Mobile, Alabama	29.80	756.9	29.84	757.9	70	21.1	70	SW	1	0.4		0	5s		Calm	0	0	Fair	
Montgomery, Alabama	29.62	752.3	29.84	757.9	66	18.9	94	SE	2	0.9		2k	Fog	S	S	0.71	18.8	Foggy	
Morgantown, West Virginia	28.86	733.0	29.88	758.9	62	16.7	94	Calm	0	0			Fog		Calm	0.14	3.6	Foggy	
Mt. Washington, N. H.	23.86	606.0	30.22	767.6	48	8.9	100	S	60	26.8			Fog		S	0.17	4.3	Foggy	
Nashville, Tennessee	29.33	745.0	29.85	758.2	62	16.7	88	Calm	0	0			10s		Calm	0.52	13.2	Cloudy	
New Haven, Connecticut	29.81	757.2	29.92	760.0	65	18.3	94	E	1	0.4			10n;fog		Calm	0.20	5.1	Light rain	
New London, Connecticut	29.89	759.2	29.94	760.5	62	16.7	100	E	12	5.4			10n;fog		E	0.13	3.3	Light rain	
New Orleans, Louisiana	29.79	756.7	29.84	757.9	72	22.2	71	SW	1	0.4		0	8c		SW	0	0	Fair	
Newport, Rhode Island	29.91	759.7	29.96	761.0	59	15.0	94	E	10	4.5			10n;fg		Calm	0.02	0.5	Light rain	
New York, New York	29.76	755.9	29.94	760.5	64	17.8	94	E	3	1.3			10n,fg		Calm	0.54	13.7	Light rain	
Norfolk, Virginia	29.86	758.4	29.92	760.0	70	21.1	85	S	6	2.7		Haze	Haze	Calm	Calm	0	0	Hazy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.94	684.3	29.43	747.5	56	13.3	84	E	20	8.9			10s		E	0.08	2.0	Cloudy	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	36.0	2.2	99	SW	1	0.4		0	0			0.02	0.5	Clear.	
Omaha, Nebraska	28.81	731.8	29.87	758.7	61	16.1	71	SE	5	2.2		0	0			0	0	Clear	
Oswego, New York	29.61	752.1	29.93	760.2	50	10.0	93	W	9	4.0			10n		Calm	1.17	29.7	Light rain	
Pembina, Dakota	28.85	732.8	29.66	753.4	54	12.2	67	SE	16	7.2		5c	0	Calm		0	0	Fair	
Philadelphia, Pa	29.87	758.7	29.92	760.0	66	18.9	80	SE	6	2.7			10s;fg		Calm	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.67	728.2	30.43	772.9	62	16.7	27	E	2	0.9		0	Haze		Calm	0	0	Clear.	
Pike's Peak, Colorado	17.79	451.6	30.00	762.0	23	— 5.0	8	SW	24	10.7		0	0			0	0	Clear.	
Pioche, Nevada	24.01	609.8	29.78	756.4	41	5.0	14	NW	7	3.1		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.12	739.6	29.92	760.0	56	13.3	87	NW	4	1.8			10s		Calm	0.14	3.6	Cloudy	
Port Huron, Michigan	29.34	745.2	30.01	762.2	46	7.8	77	N	9	4.0		0	0			0.02	0.5	Clear.	
Portland, Maine	29.96	761.0	30.00	762.0	58	14.4	88	S	8	3.6			10s		Calm	Inap	Inap.	Cloudy	
Portland, Oregon	30.14	765.5	30.22	767.6	43.0	6.1	96	Calm	0	0			Fog		Calm	0.21	5.3	Foggy	
Prescott, Arizona	24.66	726.4	30.02	762.5	43	6.1	36	SW	3	1.3		0	0			0	0	Clear	
Pilot Point, Texas	28.99	736.3	29.77	756.1	71	21.7	66	E	9	4.0		Haze	Haze			0	0	Hazy	
Punta Rassa, Florida	29.92	760.0	29.94	760.5	79	26.1	70	SW	8	3.6		5k	0	SW		0	0	Fair	
Red Bluff, California	29.66	753.4	30.03	762.8	48	8.9	70	NW	4	1.8		0	0			0	0	Clear	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	71	21.7	80	SE			1	0	0			0	0	Clear	
Rochester, New York	29.32	744.7	29.93	760.2	53	11.7	86	W	12	5.4			10s		Calm	0.72	18.3	Cloudy	
Roseburg, Oregon	29.61	752.1	30.20	767.1	41	5.0	96	NW	2	0.9			Fog		Calm	0.02	0.5	Foggy	
Sacramento, California	29.94	760.5	30.03	762.8	46	7.8	84	SE	3	1.3		0	0			0	0	Clear	
St. Louis, Missouri	29.41	747.0	29.98	761.5	50	10.0	93	N	6	2.7			10s		Calm	0	0	Cloudy	
St. Marks, Florida	29.86	758.4	29.87	758.7	72	22.2	85	SW	2	0.9		1k	0	SW		0	0	Clear	
St. Paul, Minnesota	29.11	739.4	29.93	760.2	54	12.2	61	SE	4	1.8		0	0			0	0	Clear.	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	42	5.6	42	N	8	3.6		0	0			0	0	Clear	
San Antonio, Texas	29.12	739.6	29.68	753.9	69	20.6	80	NE	3	1.3		0	5ks		NE	0	0	Fair	
San Diego, California	29.89	759.2	29.96	761.0	56	13.3	87	E	2	0.9			10ks		Calm	0	0	Cloudy	
Sandusky, Ohio	29.34	745.2	30.00	762.0	52	11.1	73	NE	13	5.8			10ks		NE	0.04	1.0	Cloudy	
Sandy Hook, New Jersey	29.88	758.9	29.91	759.7	60	15.6	100	SE	2	0.9			Fog		Calm	0.88	22.4	Dense fog	
San Francisco, California	30.01	762.2	30.07	763.8	50	10.0	79	W	4	1.8		0	0			0	0	Clear	
Santa Fé, New Mexico	23.21	589.5	29.75	755.6	46	7.8	26	NE	2	0.9		1cs	Haze	Calm	Calm	0	0	Clear.	
Savannah, Georgia	29.82	757.4	29.91	759.7	69	20.6	85	N	4	1.8		2cs	0*	S		0.51	13.0	Fair	
Shreveport, Louisiana	29.66	753.4	29.88	758.9	66	18.9	70	NE	6	2.7		2c	0	NW		0	0	Fair	
Silver City, New Mexico	24.23	615.4	30.21	767.3	60	15.6	35	NW	14	6.3		0	0			0	0	Clear	
Smithville, North Carolina	29.90	759.4	29.93	760.2	69	20.6	90	W	7	3.1			10s		Calm	0	0	Threatening	
Springfield, Massachusetts	29.81	757.2	29.94	760.5	67	19.4	95	S	2	0.9			10n		S	0.14	3.6	Light rain	
Stockton, Texas	26.74	679.2	29.74	755.4	70	21.1	40	SW	9	4.0		0	0			0	0	Clear	
Thatcher's Island, Mass	29.95	760.7	30.00	762.0	53	11.7	100	E	4	1.8			Fog			0	0	Foggy	
Toledo, Ohio	29.32	744.7	30.00	762.0	53	11.7	73	NE	8	3.6		0	0			0	0	Clear	
Tucson, Arizona	27.46	697.5	30.01	762.2	57	13.9	30	SE	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.78	756.4	30.28	769.1	46.0	7.8	62	SW	12	5.4		0	0			0	0	Clear	
Unalaska, Aleutian Islands																			
Uvalde, Texas	29.02	737.1	29.82	757.4	68	20.0	56	NE	2	0.9		0	0			0	0	Clear	
Vicksburg, Mississippi	29.63	752.6	29.88	758.9	63	17.2	94	NE	1	0.4			10s		Calm	0	0	Cloudy	
Virginia City, Montana	24.22	615.2	29.70	754.4	30	— 1.1	47	Calm	0	0		0	0			0.06	1.5	Clear	
Visalia, California	29.64	752.8	30.02	762.5	48	8.9	78	NW	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.79	756.7	29.90	759.4	67	19.4	84	SE	3	1.3			10s		S	0	0	Threatening	
Wickenburg, Arizona					56	13.3	35	Calm			0	0	Haze		Calm	0	0	Hazy	
Wilmington, N. Carolina	29.82	757.4	29.89	759.2	68	20.0	89	NW	4	1.8		8k	0	SW		0.38	9.7	Fair	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	34	1.1	52	NE	9	4.0		0	0			0	0	Clear	
Wood's Holl, Mass	29.95	760.2	29.97	761.2	59	15.0	94	SE	12	5.4			10ks		SW	0.10	2.5	Cloudy	
Yankton, Dakota	28.60	726.4	29.86	758.4	56	13.3	69	E	8	3.6		5c	0	NW		0	0	Fair	
Yuma, Arizona	29.64	752.8	29.81	757.2	66	18.9	32	W	4	1.8		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.34	719.8	29.72	754.9	57	13.9	81											Fair	J. B. Gordon.
Havana, Cuba, W. I.	29.90	759.4	29.95	760.7	80	26.7	70	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.28	642.1			63.5	17.5	87	Calm			0		10n			0.48	12.2		Thomas Herran.
Navassa, W. I.	29.86	758.4	29.94	760.5	79	26.1		NE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	82	27.8	79	E			2	6k	8ks	E		0.100	2.54	½ Clouded	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.05	763.3	30.10	764.5	26.0	— 3.3	94	NE	14	6.3		4ck	3s	NE	NE	0	0	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. §Observation twenty-one minutes late.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.08‡	764.0‡			49	9.4	93	SW	11	4.9			0			0	0			Clear	
Navy Yard, Pensacola, Fla.	29.83‡	757.7‡			72	22.2	80	NW	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.93‡	760.2‡			65	18.3	92	Calm			0		10n		NE	0	0			Threatening	
Adams, S. 4° 24′, W. 82° 00′	29.92‡	760.0‡			71	21.7	90	S			3		5		S			Mod'ate	S;W	Fair	
Alaska, Sitka, Alaska	30.16‡	766.1‡			45	7.2	84	NW			2		10		NW	0	0			Overcast	
Alliance, Malaga, Spain	30.21‡	767.3‡			62	16.7	94	SSE			1		7							Threatening	
Colorado, New York, N. Y.	29.92‡	760.0‡			63	17.2	100	Calm	0	0			10			0.31	7.9			Foggy	
Constitution, N. 27° 31′, W. 66° 45′	30.07‡	763.8‡			76	24.4	91	E			2		1		E			Smooth	E	Clear	
Despatch, Gibraltar, Mediterranean.	30.19‡	766.8‡			69	20.6	90	S			1		2		Calm	0	0	Smooth		Pleasant	
Enterprise, Havre, France	30.12‡	765.0‡			49	9.4	78	N			4–5		10		N					Overcast	
Franklin, Norfolk, Va.	29.90‡	759.4‡			70	21.1	90	S	9.6	4.3			10		Calm	0	0			Misty	
Hartford, Montevideo, Uruguay.*	29.97‡	761.2‡			55	12.8	68	WNW			3		2			0	0			Clear	
Michigan, Erie, Pa.					50	10.0	100	W			2		10							Drizzling	
Monocacy, Shanghai, China	29.92‡	760.0‡			63	17.2	83	NE			0–1		0							Clear	
Monongahela, Yokohama, Japan	29.93‡	760.2‡			69	20.6	80	ESE			0–1		10			Light	Light			Overcast	
New Hampshire, Port Royal, S. C.	29.91‡	759.7‡			71	21.7	85	SSW	2	0.9			5		SSW	0.1	3.			Fair	
Onward, Callao, Peru †*	30.07‡	763.8‡			61	16.1	94	NE			1		10					Long	W	Misty	
Passaic, Washington, D. C.					69	20.6	90	SSE			2		10							Cloudy	
Pensacola, Callao, Peru	29.97‡	761.2‡			62	16.7	94	NNW	2	0.9			10			0	0	Smooth	W	Misty	
Portsmouth, N. 35° 37′, W. 75° 16′	29.96‡	761.0‡			70	21.1	90	S			3		8		S	0	0	Smooth		Cloudy	
Powhatan, N. 35° 01′, W. 75° 15′	29.94‡	760.5‡			72	22.2	90	ESE			2		8		Calm	0	0	Smooth		Threatening	
Quinnebaug, Alexandria, Egypt	30.13‡	765.3‡			68	20.0	60	WNW			5		0							Clear	
Ranger, Amoy, China	29.86‡	758.4‡			83	28.3	83	SW			1		2		Calm			Smooth		Clear	
Richmond, Hong-Kong, China	29.78‡	756.4‡			77	25.0	100	SW			1–2		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.82‡	757.4‡			75	23.9	95	S			1		0			0	0			Clear	
Santee, Annapolis, Md.	29.93‡	760.2‡			69	20.6	80	SSE			2		10		SE	0	0			Overcast	
Saratoga, N. 34° 50′, W. 23° 18′	30.46‡	773.7‡			66	18.9	64	ESE			4		5		E	Light	Light	Mod'ate	SE	D. clouds	
St. Louis, League Island, Pa.	29.96‡	761.0‡			67	19.4	89	SE	3	1.3			10		NE	0	0			Foggy	
Trenton, Villafranca, France	29.98‡	761.5‡			74	23.3	68	ESE			1		5		S;E	0.04	1.0	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.88‡	758.9‡			80	26.7	70	NNW			2		2		Calm	0	0	Smooth		Hazy	
Vandalia, Aspinwall, New Granada.	29.74‡	755.4‡			80	26.7	91	WNW			1		10		S	0	0	Smooth		Cloudy	
Wabash, Boston, Mass.	29.97‡	761.2‡			67	19.4	64	E			2		10			0	0			Overcast	
Wyoming, Villafranca, France	29.97‡	761.2‡			63	17.2	83	SE			1		2		SE			Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.83‡	757.7‡				NW			6		3k		W	0	Smooth		D. clouds	L. B. Walls.
S. S. Colima, N. 14° 48′, W. 94° 32′ †.		29.95‡	760.7‡	81	27.2		E			0–1		4		Calm	0.02 in. or 0.5 mm		SE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, Olympia, Washington Ter.†		30.19‡	766.8‡	42	5.6	83	E			1		1			0			Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.81‡	757.2‡				SSW			6				W				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kenn dy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 22° 28′, E. 115° 19′		29.82‡	757.4‡	82	27.8	83	Calm			0		c		Calm	0			D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 44° 32′, W. 41° 44′		30.24‡	768.1‡				WNW			4		2		WNW		2	WNW	Fair	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distincton between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.02‡	762.5‡	59	15.0	94	NE			2		5		NE	0			Fair	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 17.′ W. 79° 32′		30.01‡	762.2‡	80	26.7	78	Calm	0	0			0			0			Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 35° 38′, W. 72° 30′ †.		30.05‡	763.3‡	72	22.2		S					d						Blue sky	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.66‡	753.4‡				NE	3	1.3			0		NE	0			Clear	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours																			
Alriers			30.23	767.7	69.4	20.8	63	N			1		0			0.047	1.2	Clear	Kesxuche.
La Calle			30.05	763.3	63.3	17.4	61	ENE			1		0			0.146	3.7	Clear	Tourilliere.
Tunis			30.13	765.3	59.2	15.1	83	NNW			3		10			0.591	15.0	Covered	Foufredo.
Sfax																			Jacques.
Saida			30.04	763.0															Gau.
Tebessa			30.19	766.8	61.2	16.2	35	N			5		2			0.024	0.6	Fair	Herbin.
Geriville			30.09	764.2	46.8	8.2	81	N			3		10			0.929	23.6	Raining	Watrin.
Lag'ouat			30.13	765.3	63.1	17.3	24	N			6		5			0	0	Cloudy	Brugniaux.
Bisk			30.07	763.7	63.0	17.2	52	NNW			6		5			0	0	Cloudy	Bertrand.
			30.03	762.8	64.2	17.9	55	NW			2		10			0.291	7.4	Covered	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow I. R. Observatory	29.41	747.1	29.96	761.0	56.1	13.4	92	SE			1		10			0.819	20.8	Raining	Prof. Ivan Stozir.
Eperies	29.20	741.8	29.96	761.0	63.3	17.4	59	ENE			1		10			0.016	0.4		Dr. Wierzbiski.
Gratz	29.08	738.6	29.93	760.3	66.2	19.0	63	Calm			0		7ks		E	0	0		Julius Mikolik.
Hermannstadt	28.73	729.8	29.99	761.7	52.2	11.2	82	NW			3		10			0	0		Andreas Rospini.
Kremsmünster	28.56	725.5	29.95	760.6	70.9	21.6	44	E			1		3			0	0		Prof. A. Gottschling.
Lemberg	28.60	726.5	29.95	760.7	50.4	10.2	86	Calm			0		10			0	0		Prof. C. Wagner.
Pola	28.95	735.4	29.91	759.8	64.2	17.9	56	SE			1		2			0	0		Dr. T. Stanecki.
Szathmar	29.80	756.8	29.91	759.7	57.2	14.0	81	E			4		10			0.189	4.8		I.R.Hydrographic Office.
Szegedin	29.54	750.3	29.99	761.7	74.3	23.5	30	SE			1		2			0	0		Julius Csics, S. J.
Trieste	29.68	753.9	29.95	760.8	67.8	19.9	50	SE			2		10			0.061	1.55		Karl Stancel.
Vienna	29.84	758.0	29.95	760.6	56.3	13.5	81	Calm			0		10			1.201	30.5	Raining	P. Busin.
	29.24	742.6	29.95	760.6	60.3	15.7	65	NNE			1		10			0.181	4.6		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.89	759.2	29.98	761.5	47.8	8.8		SSE	10	4.5			4			0	0	Blue sky	W. Boswell.
Ardrossan	29.86	758.4	29.88	758.9	53	11.7		SSE			2		9					Raining	William McNeil.
Armagh, Observatory			29.80	756.9	50.0	10.0		SE	20	8.9			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			29.86	758.4	59.2	15.1		SSE	16	7.2			10					Overcast	John Hartnup.
Bolton (Sharples)			29.87	758.7	58.9	14.9		SSE	12	5.4			10					Threatening	Thomas Mackereth.
Bradford, Yorkshire	29.57	751.1	29.97	761.2	49.7	9.8		N			1		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	85	29.4		NE			1		3					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.86	758.9	29.98	761.5	57.6	13.9		SSE			1		10ks					Misty	H. Todd.
Cardington			29.94	760.5	58.0	14.4		S			1		9					Overcast	John McLaren.
Chatham, School M. E.	29.88	758.9	30.01	762.2	54.6	12.6		S			3		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.82	757.4	29.86	758.4	50	10.0		SSW			4		10					Overcast	J. Mac Gowan.
Dover	29.99	761.7	30.02	762.5	53	11.7		SW			2		5					Misty	J. Costello.
Falmouth, Observatory	29.55	750.6	29.78	756.4	52.7	11.5		SW			4		10					Foggy	The Staff.
Fort Napier (Natal)	27.75	705.4	30.04	763.0	67.2	19.6		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.69	754.1	29.92	760.0	86	30.0		W			1		3					D. clouds	
Galway, Queen's College			29.70	754.4	55	12.8		NNW			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.10	764.5	30.15	765.8	67.6	19.8		E			1		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.68	753.9	29.89	759.2	55.0	12.8		SSE			2		10					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.03	762.8	30.04	763.0	47	8.3		S			2		5					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.82	757.4	29.99	761.7	54.6	12.6		S			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.73	755.1	29.95	760.7	50.5	10.3		SE			3		10					Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.73	755.1	29.79	756.7	56	13.3		SSW			4		4k			0.30	7.6	Fair	M. P. Moyle.
Holyhead	29.80	756.9	29.83	757.7	55	12.8		SSE			2		10					Drizzling	John Tilston.
Jersey	29.72	754.9	30.02	762.5	50.9	10.5		S			3		10					Raining	J. Fisher.
Kew, Observatory	29.95	760.7	29.98	761.5	55.0	12.8		S	12	5.4			10					Threatening	The Meteorological Of.
Leicester, Museum	29.67	753.6	29.92	760.0	60.0	15.6		SW			1		5					D. clouds	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.76	755.9	29.84	757.9	65	18.3		NE			4	3c				0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.82	757.4	29.92	760.0	50	10.0		Calm			0		10					Covered	W. D. Penny.
Nassau (Bahamas)			30.03	762.8	83.0	28.3		SE			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.93	760.2	62.8	17.1		SSE			4		10ks;k		SSW	0.002	0.05	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.37	746.0	29.89	759.2	60.9	16.1		S			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.93	760.2	58	14.4		S			3		8					Overcast	H. E. Bellamy.
Plymouth	29.77	756.1	29.85	758.2	48.8	9.3		SE			4		10					Raining	John Merrifield.
Prince Town	28.41	721.6	29.90	759.4	44.4	6.9		S			5		10					Raining	W. H. Tooker.
*Roche's Point	29.64	752.8	29.74	755.4	54	12.2		SE			4		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.61	752.1	29.78	756.4	48	8.9		SE			5		10					Raining	John C. Walker.
Sandwick Manse (Orkneys)			29.99	761.7	46	7.8		E	15	6.7			10					Raining	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	30.04	763.0	30.10	764.5	65.6	18.7		SW			1		5					D. clouds	Serg't W. H.Lyne.
Sheffield	29.65	753.1	29.93	760.2	60.1	15.6		SE			1		7			0.11	2.8	Overcast	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	56.8	13.8	71	W			4		6			0.267	6.78	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.49	749.0	29.89	759.2	57.2	14.0		E			2		7					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.77	756.1	29.98	761.5	57.7	14.3		SE			2–3		8					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.76	755.9	29.81	757.2	56	13.3		SW			6		10					Raining	W. Newcombe.
Valencia, Observatory	29.79	756.7	29.81	757.2	53.2	11.8		NNW	20	8.9			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.25	768.3	30.29	769.4	66	18.9	70	NW	17	7.6		2	4			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.02	762.5	51.0	10.6	77	S			2		10kn			0.07	1.8	Rainy	Francis Abbott,F.R.A.S.
Leith, Restalrig Park	29.81	757.2	29.82	757.4	60.0	15.6		SE			2		10k			0.05	1.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.99	761.8	74.4	23.6	78	ESE	6.5	2.9		3	4	WSW	SSE	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	29.84	757.9	29.93	760.2	50.4	10.2	96	SSE	6	2.7			1			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.86	758.4	50	10.0		NE			6		10			0	0		J. Youngclause.
North Unst (Shetland Is.)			30.05	763.3	46	7.8		E			2		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 20° 21′, W. 54° 09′				
S. S. Amanda			Overcast	Capt. W. Scott.
Barque Belle-Isle				Capt. B. Boyes.
Ship British Commodore, N. 48° 10′, W. 16° 50′				Capt. A. J. Brown.
City of Agra	3	WSW	Misty	Capt. J. W. Thorne.
Barque Commewyne				Capt. Thos. Young.
Barque Fedalma				Capt. A. Buchan.
Barque Mertole, N. 45° 05′, W. 17° 35′				Capt. H. L. Fox.
S. S. Nizam, N. 5° 33′, E. 90° 11′			Drizzling	Capt. E. W. Turner.
S. S. Royal Alexandra, N. 42° 10′, W. 62° 15′			Raining	Capt. Barlow.
S. S. Strathleven	2	SSW	Misty	W. P. Hughes.
S. S. Wyberton				Capt. C. W. Pearson.
				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. ‡Correction

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	66.2	19.0	90	SW			1	6k;cs				Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.02	762.6	30.07	763.8	52.3	11.3	64	S			4		10						
Fanöe	30.02	762.6	30.04	763.1	50.2	10.1	79	WSW			4		8						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)																			
Vestervig	30.01	762.2	30.04	763.1	47.5	8.6	88	S			2		4						
	29.81	757.2	29.98	761.5	49.6	9.8	89	W			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.60	751.8	30.15	765.8	55.8	13.2	70	SSW			2		8		NE*	0.012	0.3	Very cloudy	Collignon, Director.
Amiens, Normal School	29.91	759.8	30.02	762.5	62.6	17	87	S			1		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.81	757.1	30.05	763.3	56.7	13.7	50	W			1				W	0.016	0.4		Klein, Commandant.
Avignon, Normal School	29.99	761.8	30.07	763.8	61.2	16.2	56	N			3		2		N	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.54	750.3	30.10	764.5	53.8	12.1	57	NW			1		8kn		NW	0.307	7.8	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.80	757.0	30.07	763.7	60.4	15.8	49	SSW			1		5			0.030	0.75	Cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.20	741.8	30.11	764.7	52.9	11.6	75	N			2		8		N	0.067	1.7	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.27	743.4	30.19	766.8	53.1	11.7	76	NW			3		8kn	NW	NW	0.04	1.	Very cloudy	Marlot, Director
Bourges, Normal School	29.57	751.0	30.11	764.9	67.3	19.6	73	NE			1		10	NW	NE	0.335	8.5	Covered	A. Waquet, Director
Brest, Naval Observatory	29.61	752.2	29.85	758.3	52.5	11.4	95	SW			4		10		SW	0.069	1.75	Raining	De Kermaree, Director.
Carcassonne, Normal School	29.78	756.5	30.20	767.0	57.6	14.2	72	WNW			2		5	WNW	WNW	0.610	15.5	Cloudy	September, Director.
Caen, Normal School	29.96	761.1	30.04	763.0	57.2	14.0	71	SSE			2		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.53	750.1	30.09	764.3	59.0	15	98	SW			1		5		N	0.04	1.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.06	763.4	58.6	14.8	50	SW			2		5	S	S	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.1	30.06	763.6	53.2	11.8	46	W			1		10		WNW	0.059	1.5		Alluard, Director.
Commercy, Normal School	29.18	741.1	30.04	763.1	51.6	10.9	65	WNW			1		8kn		WNW	0.04	1.	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.6	30.02	762.6	55.9	13.3	36	NW			4		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.35	745.5	30.13	765.3	48.6	9.2	71	NW			3		8n			0.091	2.30	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.95	760.6	30.16	766.1	53.6	12.0	78	SW			3		8		WSW	0	0	Light rain	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.06	763.4	55.8	13.2	66	S			2		8		S	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.11	739.3	30.02	762.5	54.5	12.5	61	NW			2		10n	NE	NE	0.228	5.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.94	760.4	30.04	763.0	51.4	10.8	95	S			6					0.004	0.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			29.99	761.8	59.7	15.4	39	NW			6–8		5			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.98	736.1	30.02	762.6	53.4	12.4	65	NNE			1		8kn		SSW	0	0	Very cloudy	Barbier, Director.
Nismes, Normal School	29.84	758.0	30.05	763.7	64.4	18	37	NW			2		2		NW	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.99	736.3	30.06	763.5	53.2	11.8	67	N			4		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.13	740.0			31.1	— 0.4	100	W			1		10		W	0.512	13.0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.99	761.8	30.02	762.6	56.5	13.6	73	W			1		10	W	W	0.71	18.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.99	761.7	30.07	763.7	56.5	13.6	54	NW			1		5		W	0.024	0.6	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.97	761.2	30.00	762.0	52.3	11.3	83	S			3		8	S	S			Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.92	760.0	30.09	764.2	59.2	15.1	57	S			2				WSW	0	0		E. Renou, Director.
Tarbes, Normal School	29.16	740.7	30.25	768.4	50.0	10	62	SW			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.50	749.2	30.23	767.7	55.0	12.8	74	NW			2		7			0.528	13.4	Rainy	Mercadier Julier.
Versailles, Observatory	29.59	751.5	30.08	764.0	55.4	13.0	53	W			1					0.003	0.07		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.42	747.2	30.13	765.4	55.4	13	79	NW			1		5		NW	0.055	1.4	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.1	29.87	758.8	81.3	27.4										0	0		L'Abbé Marchés.
Lyons Obs'y (Park Station)	29.49	749.1	30.12	765.0	50.7	10.4	62	N			1		9		NNW	0.035	0.9	Clearing	Mr. Jays.
Mont-Louis	24.89	632.3	30.21	767.3	46.4	8.0	46	W	18.6	8.3			4		NW	0	0		M. Cave.
Nice			29.93	760.1	60.1	15.6	66	S			2		8			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.80	756.9			59.9	15.5	59	S			2		4		SW	0.102	2.6		Marié Davy, Director.
Perpignan	30.05	763.2	30.15	765.9	58.8	14.9	46	NE	22.4	10.0			8		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.55	572.8			38.7	3.7		N			1		10			0.386	9.8	Snowy	Gen'l de Nansouty.
Tours	29.91	759.6	30.10	764.6	57.6	14.2	55	W			2		10		W	0.016	0.4		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.64	752.9	29.67	753.5	64.4	18.0	87	SE	26.6	11.9			10n					Rainy	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m. or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.2	29.98	761.6	54.3	12.4	68	W			4		9	W		0.04	1.	Rain & hail.	Prof. Dr. Hoh.
Berlin	29.87	758.6	30.04	763.0	50.9	10.5	79	NE			1		10			0.374	9.5		Prof. Arndt.
Breslau	29.45	748.1	29.98	761.6	59.7	15.4	75	NNE			1		10	SSW		0.063	1.60	Raining	Royal University Obs'y.
Carlsruhe	29.60	751.9	30.03	762.7	56.8	13.8	59	NE			2		9	S		0	0		Albert Senz.
Cassel	29.44	747.7	30.05	763.2	61.2	16.2	40	NE			2		5	NE		0	0		Dr. H. Möhl.
Crefeld	29.88	758.9	30.04	763.0	58.1	14.5	59	SW			4		7k			0.04	1.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.65	753.2	30.02	762.6	60.8	16.0		SW			2		3			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	30.00	761.9	30.04	762.9	49.8	9.9	83	NNE			3		10ks	NNE		0.406	10.3		Assmann., M. D.
Friedrichshafen	28.61	726.6	30.06	763.5	49.3	9.6	77	W			3		10	W		0.201	5.1	Raining	M. Wilhelm.
Hamburg	29.98	761.5	30.05	763.3	56.8	13.8	59	N			2		3k			0	0	Clear	Captain F. Hegeman.
Kiel	30.02	762.4	30.04	762.9	56.7	13.7	49	W			2		1			0.192	4.87		Prof. G. Karsten.
Königsberg (Prussia)	29.98	761.5	30.06	763.6	46.6	8.1	63	NW			5		2			0	0		Prof. E. Luther.
Köslin			30.01	762.3	48.4	9.1		NE			4		4			0.012	0.3		H. Müller.
Leipsic Observatory	29.60	751.8	30.02	762.4	56.7	13.7	66	ENE			1		9			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.98	761.6	30.03	762.8	43.7	6.5	80	NW			5		0						Skalweit.
Munich (München)	28.17	715.5	30.03	762.8	48.9	9.4	79	SW			1		10	NW		0.102	2.6		Dr. C. Lang.
Neufahrwasser	30.08	764.0	30.10	764.4	47.1	8.4	69	NE			2		0			0	0		A. Lothes.
Posen	29.75	755.6	30.04	762.9	59.2	15.1	73	W			2		10			0.098	2.5		Dr. Magener.
Strassburg (in Alsace)	29.52	749.9	30.08	763.9	55.6	13.1	56	NNE			1		10			0.279	7.08		Imp. University Observatory.
Stuttgart	29.07	738.3	30.01	762.2	53.6	12.0	65	N					8	W		0	0		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.4	29.99	761.8	51.8	11.0	71	E	4	2			10		NW	0.118	3.0	Dust, haze.	Dr. Van Bebber
Wustrow	30.02	762.6	30.05	763.2	50.9	10.5	66	SE			1		8s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.76	755.8	30.14	765.6	71.6	22.0		SW			2.0							Dust	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.58	751.3	29.63	752.5	87.4	30.8	62	W					2			0	0	D. clouds	
Deesa	29.14	740.2	29.59	751.6	103.8	39.9	21	W	13.3	5.9			0			0	0	Blue sky	
Bombay	29.66	753.4	29.70	754.4	83.3	28.5	84	NW	16.0	7.2			10		S	0	0	Overcast	
Poona	27.73	704.3	29.70	754.3	85.6	29.8	49	WNW					8			0.16	4.1	D. clouds	
Lahore	28.84	732.6	29.56	750.9	92.1	33.4	21	N	4.3	1.9			0			0.01	0.3	Blue sky	
Belgaum	27.21	691.2	29.71	754.6	81.9	27.7	82	W	18.0	8.0			4	NE	NE	0.10	2.5	Threatening	
Roorkee	28.65	727.7	29.52	749.8	91.0	32.8	19	W	4.6	2.1			3			0	0	D. clouds	
Agra	28.96	735.6	29.50	749.3	103.1	39.5	15	W					0			0	0	Blue sky	
Nagpur	28.54	725.0	29.54	750.2	99.7	37.6	24	NW	7.2	3.2			9		E	0	0	Gloomy	
Lucknow	29.16	740.7	29.52	749.7	107.2	41.8	22	N	2.7	1.2			0			0	0	Misty	
Allahabad	29.17	740.9	29.46	748.4	107.1	41.7	15	Calm.	5.0	2.2			6		W	0	0	D. clouds	
Patna	29.29	743.9	29.46	748.3	106.0	41.1	14	WNW	1.2	0.5			2	WNW	WNW	0	0		
Hazaribagh	27.56	700.0	29.45	748.1	105.3	40.7	10	WNW	6.9	3.1			3			0	0		
Cuttack	29.54	750.2	29.62	752.2	89.1	31.7		S	6.0	2.7			3			0.01	0.3	D. clouds	
Calcutta (Alipore)	29.58	751.4	29.60	751.9	87.1	30.6	65	SSW	14.0	6.3			0			0	0	Blue sky	
Goalpara	29.18	741.1	29.57	751.0	75.8	24.3	79	SE	5.1	2.3			10		WSW	5.3	134.4	Thunder-storm.	
Chittagong	29.62	752.3	29.71	754.6	86.4	30.2	78	SSW	8.2	3.7			3			0	0		
Sibsagar	29.36	745.8	29.70	754.5	72.3	22.4	93	ENE	3.5	1.6			10	E	E	2.45	62.2	D. clouds	
Jubbulpore	28.21	716.5	29.50	749.3	103.7	39.8	16	NW	4.2	1.9			4		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument and temperature. Inches.	Barometer. Corrected for instrument and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.3	29.95	760.7	52.9	11.6	83	E	3.1	1.4			10			0.949	24.1		Prof. Giovanni Clodig.
Milan	29.40	746.7	29.91	759.8	56.3	13.5	56	NW			4		6			0.138	3.5		Prof. Schiaparelli.
Padua	29.81	757.2	29.92	759.9	54.9	12.7	77	W	9.4	4.2			10	NE		0.150	3.8		Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.2	29.93	760.1	54.7	12.6	56	ESE	10.5	4.7			5	N		0	0		Prof. P. F. Denza.
Genoa	29.71	754.7	29.90	759.5	54.3	12.4	55	N	8.7	3.9			8	NE		0.390	9.9		Prof. G. M. Garibaldi.
Mondovi	28.00	711.3	29.91	759.7	53.2	11.8	56	NW			4		8			0.051	1.3		Prof. D. C. Bruno.
Pesaro	29.85	758.1	29.89	759.3	56.8	13.8	78	NE	5.6	2.5			10	S		0.039	1.0		Prof. Luigi Guidi.
Florence	29.64	752.9	29.90	759.4	48.2	9.0	93	SW			4		10			0.866	22.0		Cav. F. Meucci.
Leghorn	29.78	756.4	29.86	758.5	60.4	15.8	52	WSW			6		5	S		0.114	2.9		Prof. P. Monte.
Rome	29.81	757.2	29.99	761.7	59.9	15.5	82	SSW	15.0	6.7			10			0.268	6.8		Prof. P. S. Ferrari.
Lecce	29.84	757.8	30.09	764.3	65.7	18.7	52	W	12.5	5.6			10	SW		0.138	3.5		Prof. C. De Giorgi.
Cosenza	29.17	740.9	30.05	763.3	63.0	17.2	72	SE	2.5	1.1			10			0.075	1.9		Prof. D. Conti.
Cagliari	29.84	758.0	30.04	762.9	62.1	16.7	41	NW			4		9	W		0	0		Prof. A. Pacinotti.
Palermo	29.81	757.1	30.06	763.5	58.1	14.5	74	N	1.8	0.8			10			0.051	1.3		Prof. G. Cacciatore.
Syracuse	29.97	761.2	30.04	763.1	60.6	15.9	88	S	3.8	1.7			10	SE		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.7	30.03	762.8	53.2	11.8	95	N	0	0			10			0.276	7.0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.94	760.5	59.1	15.1	80	N	2.1	1.0			2s			0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.71	754.6	29.91	759.7	59.1	15.1	88	SSW	0.4	0.2			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.74	755.4	29.81	757.2	60.9	16.1	95	NE	4.4	2.0			10n			0.570	14.48	Light rain	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.08	637.0	30.10	764.6	56.8	13.8	55	NE			1	0	0			0	0	Very clear	Prof. L. Perez.
Leon	24.43	620.6	30.04	762.9	65.3	18.5	66	NW			2	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.04	762.9	56.5	13.6	69	S	0.7	0.3		2c	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					60.8	16.0	65	Calm			0	0	0			0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.85	758.1	29.86	758.4	75.2	24.0	83	SE			1	3	0	NW		0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.17	614.0	30.13	765.3	57.9	14.4	62	ESE			1	3	0	W		0.24	6.0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.55	572.7	30.03	762.7	65.5	18.6	42	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	51.1	10.6	10	N	0.4	0.2		0	1		W	0.004	0.1	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.37	720.7	30.01	762.2	77.0	25.0	63	NE			1	0	0			0	0	Very clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.08	764.0	30.08	764.0	56.8	13.8		S								0.047	1.2		
Groningen	30.01	762.3	30.07	763.7	54.3	12.4		NW			1					0.031	0.8		
Helder	30.06	763.5	30.06	763.5	47.1	8.4		WSW			1					0	0		
Hellevoetsluis	30.06	763.6	30.06	763.6	54.9	12.7	70	W			2					0	0		
Utrecht	30.02	762.6	30.07	763.8	57.2	14.0	65	ENE			2		5			0.122	3.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.99	761.7	30.04	763.1	55.0	12.8	43	WNW	7.8	3.5			1			0	0		
Brönø	29.97	761.2	30.01	762.2	54.7	12.6	59	NNW	18	8			0			0	0		
Christiania	29.84	757.8	29.98	761.4	68.2	20.1	25	SSW	4	2			3			0	0		
Tromsö	30.08	764.1	30.13	765.2	43.9	6.6	62	N	11	5			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.21	767.4	30.40	772.2	67.6	19.8	76	S	2.5	1.1			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.24	742.8	30.24	768.1	75.9	24.4	21	SW	8.1	3.6			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.24	768.0	30.32	770.2	68.0	20.0	49	SW	3.8	1.7			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.98	761.5	30.33	770.4	71.1	21.7	27	NNW	8.7	3.9			1			0	0		The Staff.
Ponta Delgada (Azores)	30.34	770.7	30.41	772.5	66.7	19.3	61	S	8.7	3.9			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from		
Bartholomew Dias, N. 38° 32′, W. 9° 42′			30.37	771.4	62.6	17.0		NE			5		0			3	N	Blue sky	A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			30.01	762.3	77.9	25.5		NE			4					4	NE	Blue sky	C C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.95	760.8	82.0	27.8		W			3		3		WNW	1	W	D clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.98	761.4	83.8	28.8		ESE			2		10		ESE	1	ESE	Raining	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.88	759.0	84.6	29.2		SE			2		0			1	SE	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.58	751.3	29.99	761.8	62.1	16.7	35	NE	7	3			0						Astronomical Obs.
Wilna	29.53	750.1	29.95	760.8	50.2	10.1	72	WNW	7	3			10					Heavy clouds	Astronomical Obs.
Dorpat	29.52	749.8	29.76	756.0	48.7	9.3	89	NW	9	4			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.56	750.7	29.57	751.1	48.4	9.1	92	WNW	18	8			10n						Central Physical Obs.
Kieff	29.22	742.2	29.85	758.2	55.2	12.9	56	NNW	18	8			2k;ks					Light clouds	Physical Cabinet.
Nikolaiev	29.93	760.2	30.00	762.0	71.1	21.7	36	W	4	2			4cs						Kurdakof.
Kertch	30.03	762.8	30.05	763.3	64.4	18.0	74	SSW	7	3			6						Lagorio.
Moscow	29.00	736.7	29.54	750.2	61.5	16.4	75	S	7	3			8ks						Meteorological Obs.
Lugan	29.58	751.2	29.78	756.3	66.2	19.0	46	W	31	14			3						Meteorological Obs.
Archangel	29.56	750.7	29.58	751.2	52.0	11.1	89	ENE	9	4			10						Capt. Sseliwerstow.
Tiflis	28.52	724.5	29.88	758.9	74.8	23.8	39	NW	22	10			2k						Physical Observatory.
Astrakhan	30.06	763.4	29.97	761.3	75.2	24.0	38	N	9	4			10ks						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.56	750.8	29.82	757.5	61.7	16.5	86	WSW	2	1			9						Physical Cabinet.
Ekaterinburg	29.18	741.1	30.11	764.8	71.2	21.8	49	SE	22	10			9c;ck					Light clouds	Meteorological Obs.
Nukuss	29.63	752.7	29.85	758.2	96.1	35.6	21	NE	9	4			1cs						
Tashkend	28.29	718.6	29.77	756.1	82.4	28.0	49	Calm	0	0			0						Teich, A. M.
Barnaul	29.44	747.9	29.95	760.6	45.1	7.3	69	NW	13	6			10					Light clouds	Meteorological Obs.
Yeniseisk	29.66	753.4	29.95	760.8	47.8	8.8	55	N	9	4			5						Marks.
Irkutsk																			
Peking (China)	29.63	752.6	29.77	756.2	66.9	19.4	65	SE	13	6			2k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.84	758.0	29.94	760.5	40.6	4.8	89	SE	4	2			6k						
Nikolaievsk, on the Amoor	29.71	754.6	29.80	756.8	34.0	1.1	94	E	16	7			10s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.02	762.4	30.12	765.1	62.1	16.7	52	SSE	4.5	2.00			2c;ck			0	0		Antonio Rave, Directo
Bilbao, Met. Obs'y	30.15	765.8	30.21	767.4	67.3	19.6	53	NW	2.4	1.07		3	2	NE		0	0	Cloudy	Prof. Manuel de Navera
Burgos, Met. Obs'y	27.23	691.6			60.4	15.8	32	W	6.2	2.78						0	0	Light clouds	Domingo Martin y Perez
Madrid, Royal Oservatory	27.96	710.1			69.6	20.9	32	W	7.4	3.33		2	1	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.01	762.3	30.16	766.0	73.4	23.0	42	SW	3.4	1.58		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.34	745.1	30.22	767.5	66.9	19.4	55	NW	9.4	4.2		0	2			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.4	30.00	762.0	76.8	24.9	79	Calm	0	0		1c	0			0.224	5.7	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.75	755.6	29.80	757.0	83.5	28.6	75	ESE	4.5	2.0		0	0			0.547	13.9	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.20	767.0	30.30	769.5	68.0	20.0	67	WNW	13.4	6.0		0	2		NW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.7	30.04	763.0	80.2	26.8	85	E	3.1	1.39		5ck	3k	E	E	0.256	6.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.93	760.1	29.96	761.1	39.9	4.4	....	N	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.97	761.3	30.02	762.6	52.5	11.4	43	N	.....	.....	6	.....	7	.....	.....	0	0	.....	
Hernosand	29.93	760.2	29.98	761.5	54.3	12.4	54	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.84	757.9	30.02	762.4	56.5	13.6	30	NNE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.93	760.3	29.99	761.8	46.8	8.2	65	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.94	760.4	30.01	762.3	56.1	13.4	35	NNE	10.7	4.8	.....	.....	1	.....	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.3	30.07	763.8	59.9	10.5	56	NE	.....	.....	1	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.43	722.0	30.09	764.3	46.4	8.0	85	W	.....	.....	2	.....	10	.....	.....	0.193	4.9	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.2 mm.; Thermometer,—6.2 Cent.; Relative Humidity, —1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.14	765.5	68.5	20.3	57	SSW	8	3.5	.....	.....	4	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.04	763.0	100.4	38.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.4	67.6	19.8	.....	SE	.....	.....	3	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	30.02	762.5	30.14	765.5	71.6	22.0	60	W	.....	.....	2	.....	1ks	.....	SW	0	0	D clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.76	755.9	30.06	763.5	58	14.4	.....	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.77	756.1	29.83	757.7	60	15.6	91	SW	12	5.4	.....	.....	10n	.....	SW	0.17	4.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.93	760.2	60	15.6	89	S	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.98	761.5	58.5	14.7	69	W	.....	.....	1	0	0	.....	.....	0.08	2.0	Clear	James Smith, M. A.
Dalhousie, N. B	29.60	751.8	29.76	755.9	58.5	14.7	95	W	.....	.....	2	0	5ks	.....	.....	0.56	14.2	Clearing	H. A. Johnson.
Esquimault, B. C	29.88	758.9	29.92	760.0	41.1	5.1	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.81	757.2	29.83	757.7	41	5.0	96	SW	15	6.7	.....	.....	Fog	.....	Calm	1.24	31.5	Heavy rain	J. McWilliams.
Fredericton, N. B	29.87	758.7	29.93	760.2	57.8	14.3	89	SW	6	2.7	.....	.....	10n	.....	.....	0.56	14.2	Light rain	Prof. Harrison.
*Fort Garry, Manitoba	29.34	745.2	30.19	766.8	37	2.8	85	NE	16	7.2	.....	5k	5n	N	N	0	0	Cloudy	James Stewart.
Granton, Ontario	29.00	736.6	30.09	764.3	56	13.3	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.91	759.7	30.04	763.0	54	12.2	98	SW	14	6.3	.....	.....	10n	.....	.....	0.121	3.08	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.11	764.8	56.7	13.7	72	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.74	755.4	30.08	764.0	50	10.0	80	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	63.8	17.7	81	SW	14	6.3	.....	6ck	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.82	757.4	30.02	762.5	56	13.3	74	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.39	746.5	30.08	764.0	52	11.1	66	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.31	745.2	30.08	764.0	59.7	15.4	65	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.2	30.12	765.0	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.06	763.5	30.11	764.8	61.5	16.4	.....	SW	5	2.2	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.11	764.8	51	10.6	88	E	4	1.8	.....	5c	0	NE	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.65	753.1	29.97	761.2	54	12.2	87	NW	.....	.....	5	.....	10n	.....	NW	0.75	19.1	Clearing	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.59	751.6	30.04	763.0	55	12.8	47	NW	6	2.7	.....	.....	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.89	759.2	29.94	760.5	54	12.2	96	W	.....	.....	2	.....	10n	.....	.....	0.13	3.3	Cloudy	Dr. Gove.
St. John, N. B	29.81	757.2	29.98	761.5	48	8.9	100	S	12	5.4	.....	Fog	.....	.....	.....	0.05	1.3	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.36	745.7	30.06	763.5	59	15.0	59	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.29	744.0	30.05	763.3	60	15.6	34	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.10	764.5	50.0	10.0	70	Calm	0	0	.....	1cs	0	.....	.....	0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B	30.04	763.0	30.07	763.8	62	16.7	89	SW	12	5.4	.....	.....	10n	.....	SW	Inap.	Inap	Light rain	T. C. Hill.
*Toronto, Ontario	29.73	755.1	30.11	764.8	56	13.3	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.90	759.4	29.99	761.7	63.0	17.2	89	S	14	6.3	.....	9k	0	.....	.....	0.65	1.3	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.98	761.5	30.22	767.6	65.0	18.3	73	SW	.....	.....	.....	4k	4s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.89	759.2	30.11	764.8	59	15.0	70	N	5	2.2		0	0			0.37	9.4	Clear	
Alpena, Michigan	29.40	746.7	30.03	762.8	58	14.4	42	SW	4	1.8		0	0			0	0	Clear	
Atlanta, Georgia	28.79	731.2	29.90	759.4	64	17.8	88	E	6	2.7			10s		E	0	0	Cloudy	
Atlantic City, New Jersey	30.05	763.3	30.06	763.5	62	16.7	94	SW	5	2.2		2ck	2s	W	W	0	0	Fair	
Augusta, Georgia	29.80	756.9	29.97	761.2	71	21.7	85	S	3	1.3		2k	5s	SW	SW	0.01	0.3	Fair	
Baltimore, Maryland	29.99	761.7	30.04	763.0	68	20.0	84	NW	1	0.4			10s		Calm	0.44	11.2	Threatening	
Barnegat, New Jersey	30.03	762.8	30.05	763.3	62	16.7	94	S	4	1.8			10n		W	Inap.	Inap.	Light rain	
Bismarck, Dakota	28.25	717.5	30.10	764.5	53	11.7	48	NE	3	1.3		2k	2s	SW	SW	0	0	Fair	
Boerne, Texas	28.40	721.3	29.66	753.4	70	21.1	90	SE	6	2.7			10ks		SE	0	0	Cloudy	
Boise City, Idaho	27.01	686.0	29.97	761.2	45	7.2	84	W	2	0.9			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.91	759.7	30.06	763.5	66	18.9	84	SW	2	0.9			10ks;s		SW	0.13	3.3	Cloudy	
Brackettville, Texas	28.71	729.2	29.70	754.4	70	21.1	66	E	10	4.5		5ck	0	SW		0	0	Fair	
Breckenridge, Minnesota	29.04	737.6	30.04	763.0	46	7.8	92	N	10	4.5		2cs	0	Calm		0.09	2.3	Fair	
Brownsville, Texas	29.87	758.7	29.92	760.0	75	23.9	90	E	6	2.7			10ks		SE	0	0	Cloudy	
Buffalo, New York	29.40	746.7	30.10	764.5	51	10.6	86	SE	2	0.9		2cs	Haze	Calm	Calm	Inap	Inap.	Hazy	
Burkes, Arizona					66	18.9	32	S			1	5cs	0	E		0	0	Fair	
Burlington, Vermont	29.78	756.4	30.06	763.5	61	16.1	71	S	6	2.7		0	0			0.07	1.8	Clear	
Cairo, Illinois	29.66	753.4	30.04	763.0	62	16.7	77	N	7	3.1			10s		N	0	0	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.22	640.6	30.02	762.5	58	14.4	42	E	4	1.8		2cs	0	Calm		0	0	Clear	
Camp Verde, Arizona	26.76	679.7	30.10	764.5	53	11.7	48	S			1	10cs	0	W		0	0	Cloudy	
Campo, California	27.44	697.0	30.00	762.0	34	1.1	79	E	4	1.8		10c	0	Calm		0	0	Cloudy	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	67	19.4	95	SW	1	0.4			10n		Calm	1.11	28.2	Light rain	
Cape Henry, Virginia	30.04	763.0	30.05	763.3	70	21.1	75	SW	7	3.1		2k	2s	SW	SW	0.06	1.5	Fair	
Cape Lookout, N. Carolina	30.04	763.0	30.06	763.5	67	19.4	89	SE	16	7.2		2ck	8ks	Calm	S	0.51	13.0	Cloudy	
Cape May, New Jersey	29.96	761.0	29.99	761.7	64	17.8	83	S	8	3.6		2k	0	S		0	0	Fair	
Castroville, Texas	29.04	737.6	29.71	754.6	75	23.9	72	SE	8	3.6		0	8s		SE	0	0	Cloudy	
Charleston, South Carolina	29.91	759.7	29.97	761.2	75	23.9	86	SW	5	2.2		2k	0	S		0.31	7.9	Fair	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	52	11.1	86	SW	6	2.7		0	2s		SW	Inap.	Inap.	Clear	
Chicago, Illinois	29.37	746.0	30.05	763.3	59	15.0	65	SE	1	0.4		0	Haze			0	0	Clear	
Cincinnati, Ohio	29.41	747.0	30.05	763.3	60	15.6	62	NE	4	1.8		7ck	0	S		0	0	Fair	
Cleveland, Ohio	29.38	746.2	30.10	764.5	55	12.8	68	NE	3	1.3		5cs	Fog	SW	Calm	0	0	Fair	
Coleman City, Texas	28.02	711.7	29.61	752.1	68	20.0	79	S	4	1.8		0	2s		Calm	0	0	Fair	
Columbus, Ohio	29.22	742.2	30.04	763.0	57	13.9	69	NE	4	1.8		5c	Haze	NE	Calm	0	0	Fair	
Concho, Texas	27.90	708.6	29.51	749.5	65	18.3	73	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.47	748.5	29.93	760.2	68	20.0	90	E	6	2.7			10ks		W	0	0	Cloudy	
Davenport, Iowa	29.41	747.0	30.05	763.3	56	13.3	63	E	3	1.3		0	0			0	0	Clear	
Deadwood, Dakota	25.38	644.6			43	6.1	75	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.76	730.5	29.89	759.2	68	20.0	79	E	16	7.2			10s		SE	0	0	Cloudy	
Denison, Texas	29.10	739.1	29.88	758.9	62	16.7	88	SE	13	5.8			10n		SE	0.10	2.5	Light rain	
Denver, Colorado	24.76	628.9	29.98	761.5	48	8.9	85	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.15	740.4	30.02	762.5	54	12.2	74	Calm	0	0		2c	Haze	NW	Calm	0	0	Clear	
Detroit, Michigan	29.43	747.5	30.10	764.5	56	13.3	63	NE	3	1.3		0	Haze		Calm	0	0	Clear	
Dodge City, Kansas	27.37	695.2	29.60	751.8	59	15.0	94	SE	8	3.6			10s		SE	0.51	13.0	Cloudy	
Dubuque, Iowa	29.38	746.2	30.08	764.0	51	10.6	59	SE	1	0.4		Haze	Haze	Calm	Calm	0	0	Hazy	
Duluth, Minnesota	29.33	745.0	29.99	761.7	61	16.1	82	NW	2	0.9			10s		NW	0.02	0.5	Cloudy	
Eagle Pass, Texa	29.04	737.6	29.72	754.9	75	23.9	60	NE	8	3.6		4cs	0	SW		0	0	Fair	
Eastport, Maine	29.90	759.4	29.96	761.0	51	10.6	100	SW	8	3.6			10n		SW	0.25	6.3	Light rain	
Edinburg, Texas																			
El Paso, Texas	26.17	664.7			59	15.0	12	NW	10	4.5		0	0			0	0	Clear	
Erie, Pennsylvania	29.40	746.7	30.11	764.8	55	12.8	81	NE	2	0.9		1c	0	W		Inap.	Inap.	Clear	
Escanaba, Michigan	29.37	746.0	30.01	762.2	58	14.4	64	S	4	1.8		2c	0	W		0	0	Fair	
Florence, Arizona	28.44	722.4	30.04	763.0	70	21.1	32	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	28.02	711.7			43	6.1	83	NE	11	4.9		2c	0	SW		0	0	Fair	
Fort Craig, New Mexico	25.48	647.2	29.55	750.6	51	10.6	21	N	2	0.9		5c	0	Calm		0	0	Fair	
Fort Davis, Texas	25.14	638.5	30.10	764.5	63	17.2	15	SW	5	2.2		5cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.43	747.5	29.95	760.7	66	18.9	64	E	7	3.1		0	0			0	0	Clear	
Fort Griffin, Texas	28.54	724.9	29.76	755.9	68	20.0	84	E	6	2.7		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.50	698.5			46	7.8	68	NW	2	0.9		0	0			0	0	Clear	
Fort McKavett, Texas	27.57	700.3	29.40	746.7	69	20.6	65	S	3	1.3		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.68	753.9	29.71	754.6	33	0.6	100	SE	9	4.0			10s		S	0	0	Cloudy	
Fort Sill, Indian Territory	28.67	728.2	29.72	754.9	68	20.0	74	E	13	5.8			10s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.23	717.0			47	8.3	62	NE	6	2.7		4ck	0	NE		0	0	Fair	
Fredericksburg, Texas	28.12	714.2	29.61	752.1	72	22.2	76	S	8	3.6		5cs	0	Calm		0	0	Fair	
Galveston, Texas	29.87	758.7	29.91	759.7	77	25.0	82	S	8	3.6		2cs	2ks	NW	S	0	0	Fair	
Graham, Texas	28.79	731.3	29.80	756.9	71	21.7	75	SE	4	1.8			10s		Calm	0	0	Cloudy	
Grand Haven, Michigan	29.43	747.5	30.06	763.5	62	16.7	56	E	5	2.2		0	0			0	0	Clear	
Indianapolis, Indiana	29.22	742.2	29.98	761.5	57.5	14.2	61	NE	1	0.4			8s		Calm	0	0	Cloudy	
Indianola, Texas	29.87	758.7	29.90	759.4	79	26.1	74	S	12	5.4		5cs	1s	W	S	0	0	Cloudy	
Jacksboro, Texas	28.74	730.0	29.83	757.7	60	15.6	69	W	24	10.7			10s		W	0	0	Cloudy	
Jacksonville, Florida	29.96	761.0	29.98	761.5	76	24.4	69	S	3	1.3		0	0			0.07	1.8	Clear	
Keokuk, Iowa	29.39	746.5	29.99	761.7	60	15.6	68	E	3	1.3		0	0			0	0	Clear	
Key West, Florida	29.97	761.2	30.00	762.0	82	27.8	67	SW	1	0.4		2k	0	Calm		0	0	Clear	
Kittyhawk, North Carolina	30.01	763.0	30.06	763.5	69	20.6	95	S	16	7.2		10cs	0	Calm		Inap.	Inap	Cloudy	
Knoxville, Tennessee	28.98	736.1	29.97	761.2	61.5	16.4	92	NE	2	0.9			10s		E	0.01	0.3	Threatening	
La Crosse, Wisconsin	29.30	744.2	30.02	762.5	57	13.9	69	S	6	2.7		2k	0	Calm		0	0	Clear	
La Mesilla, New Mexico	26.02	660.9	30.18	766.6	48	8.9	49	SW	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.40	746.7	29.72	754.9	81	27.2	55	S	7	3.1			10ks		Calm	0	0	Cloudy	
Leavenworth, Kansas	29.18	741.2	30.01	762.2	58	14.4	76	E	1	0.4		2c	0	NW		0	0	Clear	
Los Angeles, California	29.65	753.1	29.99	761.7	47.0	8.3	77	NE	2	0.9		0	5s		Calm	0	0	Fair	
Louisville, Kentucky	29.44	747.8	29.98	761.5	63	17.2	67	NE	7	3.1		2ck	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.34	745.2	30.00	762.0	67	19.4	79	Calm	0	0		0	8ks		Calm	0.29	7.4	Cloudy	
Madison, Wisconsin	29.08	738.6	30.05	763.3	55	12.8	62	SW	3	1.3		0	0			0	0	Clear	
Marquette, Michigan	29.25	742.9	29.92	760.0	62	16.7	46	SW	16	7.2		5k	0	SW		0	0	Fair	
Mason, Texas	28.20	716.3	29.87	758.7	72	22.2	71	SE	5	2.2		5k	0	W		0	0	Fair	
Memphis, Tennessee	29.67	753.6	30.01	762.2	65	18.3	79	NE	12	5.4			10s		N	Inap.	Inap.	Cloudy	
Milwaukee, Wisconsin	29.33	745.0	30.06	763.5	54	12.2	55	SW	5	2.2		1c	0	Calm		0	0	Clear	
Mobile, Alabama	29.92	760.0	29.96	761.0	64	17.8	79	N	6	2.7			10s;fg		Calm	0.21	5.3	Cloudy	
Montgomery, Alabama	29.74	755.4	29.97	761.2	64	17.8	89	NE	1	0.4		2k	8s	NE	NE	0.06	1.5	Cloudy	
Morgantown, West Virginia	28.97	735.8	30.00	762.0	59	15.0	76	SW	4	1.8			10s		Calm	0	0	Cloudy	
Mt. Washington, N. H	23.84	605.5	30.20	767.1	35	1.7	90	NW	38	17.0		0	5ks		NW	2.27	57.7	Clear	
Nashville, Tennessee	29.44	747.8	29.96	761.0	66	18.9	84	N	2	0.9			10ks		NE	0.01	0.3	Cloudy	
New Haven, Connecticut	29.96	761.0	30.07	763.8	63	17.2	72	N	8	3.6		0	8s		Calm	0.09	2.3	Cloudy	
New London, Connecticut	30.01	762.2	30.06	763.5	62	16.7	97	Calm	0	0			Fog		Calm	0.19	4.8	Dense fog	
New Orleans, Louisiana	29.89	759.2	29.95	760.7	75	23.9	68	NW	3	1.3		0	0			Inap.	Inap.	Clear	
Newport, Rhode Island	30.03	762.8	30.08	764.0	58	14.4	100	Calm	0	0			10n;fg		Calm	0.14	3.6	Light rain	
New York, New York	29.91	759.7	30.08	764.0	63	17.2	78	N	9	4.0			10s		Calm	0.01	0.3	Cloudy	
Norfolk, Virginia	29.99	761.7	30.05	763.3	74	23.3	76	S	4	1.8		2c	5ks	Calm	S	Inap.	Inap.	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.07	687.6	29.60	751.8	54	12.2	93	SE	6	2.7		10c	Haze	SW	Calm	0.10	2.5	Cloudy	
Olympia, Washington Ter.	29.88	758.9	29.92	760.0	38.0	3.3	91	N	2	0.9		2c	0	Calm		0	0	Fair	
Omaha, Nebraska	28.87	733.3	29.94	760.5	60	15.6	60	E	3	1.3		8k	2s	S	Calm	Inap.	Inap.	Cloudy	
Oswego, New York	29.81	757.2	30.13	765.3	55	12.8	74	SW	3	1.3		0	0			0.02	0.5	Clear	
Pembina, Dakota	29.29	744.0	30.13	765.3	39	3.9	91	N	12	5.4			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	30.00	762.0	30.05	763.3	64	17.8	94	NE	10	4.5			10s;fg		Calm	0.20	5.1	Cloudy	
Phœnix, Arizona	28.72	729.5	30.48	774.2	63	17.2	33	E	2	0.9		10cs	0	W		0	0	Cloudy	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	22	— 5.6	18	SW	4	1.8		0	0			0	0	Clear	
Ploche, Nevada	23.92	607.6	29.68	753.9	48.5	9.2	16	S	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.24	742.7	30.04	763.0	60	15.6	60	E	6	2.7		0	0			0	0	Clear	
Port Huron, Michigan	29.43	747.5	30.09	764.3	53	11.7	66	Calm	0	0		0	Sm'e			0	0	Clear	
Portland, Maine	29.97	761.2	30.02	762.5	60	15.6	88	Calm	0	0		0	Fog			0.21	5.3	Clear	
Portland, Oregon	29.82	757.4	29.90	759.4	50.0	10.0	72	NW	7	3.1		0	8s			0	0	Cloudy	
Prescott, Arizona	24.67	626.6	30.03	762.8	42	5.6	34	Calm	0	0		5ck	0	W		0	0	Fair	
Pilot Point, Texas																			
Punta Rassa, Florida	29.98	761.5	29.99	761.7	79	26.1	74	S	9	4.0		5k	0	S		0	0	Fair	
Red Bluff, California	29.52	749.8	29.88	758.9	55	12.8	56	S	16	7.2			10ks		S	0	0	Cloudy	
Rio Grande City, Texas	29.59	751.6	29.80	756.9	76	24.4	77	SE			4	5cs	0	Calm		0	0	Fair	
Rochester, New York	29.49	749.0	30.10	764.5	55	12.8	74	SW	4	1.8		0	0			0	0	Clear	
Roseburg, Oregon	29.34	745.2	29.90	759.4	49	9.4	93	S	2	0.9			10n		Calm	0.10	2.5	Light rain	
Sacramento, California	29.85	758.2	29.93	760.2	52	11.1	73	SW	6	2.7			10s		Calm	0	0	Cloudy	
St. Louis, Missouri	29.48	748.8	30.05	763.3	58	14.4	88	S	1	0.4			Fog			Inap.	Inap.	Foggy	
St. Marks, Florida	29.95	760.7	29.97	761.2	72	22.2	85	SE	1	0.4		0	8s;ks		SW	0.06	1.5	Fair	
St. Paul, Minnesota	29.17	740.9	29.98	761.5	57	13.9	90	S	1	0.4			10n		Calm	0.85	21.6	Light rain	
Salt Lake City, Utah	25.50	647.7	29.83	757.7	47	8.3	41	SE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.13	739.9	29.69	754.1	73	22.8	85	SE	3	1.3		2ck	5ks	Calm	SE	0	0	Cloudy	
San Diego, California	29.93	760.2	30.01	762.2	57	13.9	87	SW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.44	747.8	30.11	764.8	55	12.8	81	Calm	0	0		10c	Sm'e	NE	Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.02	762.5	30.06	763.5	58	14.4	100	E	5	2.2			Fog		Calm	0.05	1.3	Dense fog	
San Francisco, California	29.88	758.9	29.95	760.7	53	11.7	80	S	4	1.8			10s		Calm	0	0	Cloudy	
Santa Fé, New Mexico	28.29	691.6	29.83	757.7	49	9.4	37	E	4	1.8		1c	0	SW		0	0	Clear	
Savannah, Georgia	29.89	759.2	29.98	761.5	78	25.6	65	SW	5	2.2		1ck	0	S		0.01	0.3	Clear	
Shreveport, Louisiana	29.78	756.4	30.00	762.0	65	18.3	78	NE	4	1.8		0	8ks		W	0	0	Fair	
Silver City, New Mexico	24.30	617.5	30.50	774.7	45	7.2	38	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.00	762.0	30.04	763.0	73	22.8	95	S	2	0.9			10ks		Calm	0.03	0.8	Cloudy	
Springfield, Massachusetts	29.95	760.7	30.08	764.0	62	16.7	67	NW	5	2.2		0	8ks		NW	0.81	20.6	Cloudy	
Stockton, Texas	28.85	682.0	29.85	758.2	65	18.3	22	SE	8	3.6		5c	0			0	0	Fair	
Thatcher's Island, Mass	30.03	762.8	30.08	764.0	53	11.7	93	S	10	4.5			Fog			0.01	0.3	Foggy	
Toledo, Ohio	29.40	746.7	30.08	764.0	58	14.4	70	E	2	0.9		5c	0	Calm		0	0	Fair	
Tucson, Arizona	27.49	698.2	30.04	763.0	61	16.1	40	SE	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.60	751.8	30.09	764.3	46.5	8.1	77	NE	2	0.9		8cs	0	Calm		0	0	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.95	735.3	29.74	755.4	72	22.2	71	E	3	1.3		5k	0	W		Inap	Inap.	Fair	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	62	16.7	94	NE	2	0.9		0	Fog			0	0	Clear	
Virginia City, Montana	24.22	615.2	29.70	754.4	34	1.1	43	S	12	5.4		0	0			0	0	Clear	
Visalia, California	29.55	750.6	29.92	760.0	48.7	9.8	67	NW	1	0.4		1c	0	Calm		0	0	Clear	
Washington, D. C.	29.90	759.4	30.01	762.2	68	20.0	90	W	2	0.9			10s		W	0	0	Cloudy	
Wickenburg, Arizona					57	13.9	41	Calm			0	10k	0	W		0	0	Cloudy	
Wilmington, N. Carolina	29.94	760.5	30.01	762.2	73	22.8	85	Calm	0	0		5k	0	SW		0.09	2.3	Fair	
Winnemucca, Nevada	25.47	646.9	29.83	757.7	43	6.1	43	E	2	0.9			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	30.03	762.8	30.07	763.8	56	13.3	93	W	8	3.6			Fog		Calm	0.02	0.5	Dense fog	
Yankton, Dakota	28.74	730.0	29.99	761.7	61	16.1	71	S	1	0.4		10ck	0	SW		0	0	Cloudy	
Yuma, Arizona	29.67	753.6	29.83	757.7	64	17.8	30	SW	5	2.2		5cs	0	W		0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	28.44	722.4	29.82	757.4	59	15.0	76											Clear	J. B. Gordon.
Havana, Cuba, W. I	29.94	760.5	29.99	761.7	79	26.1	69	Calm	0	0		0	0			0.19	4.8	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.22	640.6			67.2	19.6	80	Calm			0	1k	2ks			0	0		Thomas Herran.
Navassa, W. I	29.89	759.2	29.97	761.2	78	25.6		E								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	82	27.8	83	NE			2	4k	5ks	NE		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A	30.27	768.8	30.32	770.1	20.0	— 6.7	93	N	9	4.0			9s		NW	0	0	Threatening	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,835.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.97‡	761.2‡			51	10.6	93	SW	13	5.8			10		SW	0	0			Overcast	
Navy Yard, Pensacola, Fla.	29.94‡	760.5‡			71	21.7	95	NE	1	0.4			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.75‡	755.6‡			60.5	15.8	94	E			4		10n;k		E	1.60	40.6			Light rain	
Adams, S. 6° 37′, W. 80° 10′	29.98‡	761.5‡			70	21.1	95	SSE			3		8		S;E			Smooth		Fair	
Alaska, Sitka, Alaska	30.04‡	763.0‡			45	7.2	76	Calm			0		10			0	0			Overcast	
Alliance, Malaga, Spain	30.18‡	766.6‡			67	19.4	74	SSW			1		1							Pleasant	
Colorado, New York, N. Y.	30.07‡	763.8‡			60	15.6	88	NNW	6	2.7			10		NW	0.01	0.3			Threatening	
Constitution, N. 29° 19′, W. 67° 15′	30.16‡	766.1‡			73	22.8	95	NE			2		2		E			Smooth	E	Clear	
Despatch, Gibraltar, Mediterranean.	30.26‡	768.6‡			69	20.6	75	SSW			1		1		Calm	0	0	Smooth		Pleasant	
Enterprise, Havre, France	30.12‡	765.0‡			58	14.4	70	Calm			0		10							Overcast	
Franklin, Norfolk, Va.	30.03‡	762.5‡			72	22.2	85	SW	4.8	2.1			5		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay.*	29.91‡	759.7‡			60	15.6	71	N			2		5		N	0	0			Fair	
Marion, N. 34° 50′, W. 75° 10′	30.10‡	764.5‡			71	21.7	95	Var.			1		10		S			Mod'ate	S	Raining	
Michigan, Erie, Pa.					54	12.2	67	E			2		0							Clear	
Monocacy, Shanghai, China	29.66‡	753.4‡			66	18.9	89	SSE			4–6		10		SSE					Rainy	
Monongahela, Yokohama, Japan	29.81‡	757.2‡			62	16.7	77	NE			2–3		n			Mod'ate	Mod'ate			Raining	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡			74	23.3	81	WSW	3	1.3			2		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.09‡	764.3‡			61	16.1	94	ESE			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.66‡	753.4‡			63	17.2	94	SSE			5		10							Cloudy	
Passaic, Washington, D. C.					68	20.0	95	W			1		10							Cloudy	
Pensacola, Callao, Peru	29.98‡	761.5‡			62	16.7	94	SE	5	2.2			10			0	0	Smooth	W	Foggy	
Portsmouth, N. 35° 24′, W. 74° 24′	30.11‡	764.8‡			68	20.0	90	NW			4		10		Calm			Mod'ate	NW	Cloudy	
Powhatan, N. 33° 15′, W. 77° 43′	30.00‡	762.0‡			75	23.9	81	SSW			2		8		Calm	2.	51.	Smooth		Cloudy	
Quinnebaug, Alexandria, Egypt	30.20‡	767.1‡			72	22.2	67	N			4		0							Clear	
Ranger, Amoy, China	29.82‡	757.4‡			80	26.7	91	SW			1–2		2		Calm			Smooth		D. clouds	
Richmond, Hong-Kong, China	29.74‡	755.4‡			79	26.1	95	S			2		5		S	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			76	24.4	91	SE			1		10		S					Cloudy	
Santee, Annapolis, Md.	30.04‡	763.0‡			68	20.0	90	SW			1		10			0.05	1.3			Sprinkling	
Saratoga, N. 32° 52′, W. 22° 56′	30.39‡	771.9‡			68	20.0	65	ESE			3		10		WNW	0	0	Long	E	D. clouds	
St. Louis, League Island, Pa	30.04‡	763.0‡			67	19.4	89	NE	6	2.7			10			0.24	6.1			Misty	
Trenton, Villafranca, France	29.92‡	760.0‡			61	16.1	71	S			1–2		5		SSW	0.01	0.3	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.87‡	758.7‡			78	25.6	82	W			2		2		Calm	0	0	Smooth		Fair	
Vandalia, Aspinwall, New Granada.	29.70‡	754.4‡			79	26.1	95	NW			1		10			Blank	Blank	Smooth		Cloudy	
Wabash, Boston, Mass.	30.01‡	762.2‡			70	21.1	61	SW			3		5			0.03	0.8			Fair	
Wyoming, Villafranca, France	29.88‡	758.9‡			56	13.3	67	SW			1		2		SW			Smooth	SW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, Hong-Kong, China		29.81‡	757.2‡				SW			3		2ck		S	0	Smooth		Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakotit, Capt. H. G. Morse, New Tacoma, Washington Ter.		29.96‡	761.0‡	49	9.4	71	SE			1		0			0			Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.83‡	757.7‡				WNW			3				WNW				Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.80‡	756.9‡	83	28.3	79	SE			1	4c				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 36° 26′, E. 143° 03′		29.56‡	750.8‡	66	18.9	94	SE			3–6		10n				5	confused	Thunder-storm	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 50′, W. 46° 42′		30.36‡	771.1‡				NNW			3		10		NW		2	NW	Rain & fog	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 8; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.03‡	762.8‡	65	18.3	69	NE			3		6		NE	Heavy			Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 01,' W. 79° 48'		30.04‡	763.0‡	82	27.8	75	SSE	4	1.8			2k		E	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 38° 15', W. 72° 30'....†		30.14‡	765.5‡	67	19.4		S			2	c							Squally	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.66‡	753.4‡				NE	*4	1.8			2		NE	0			Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

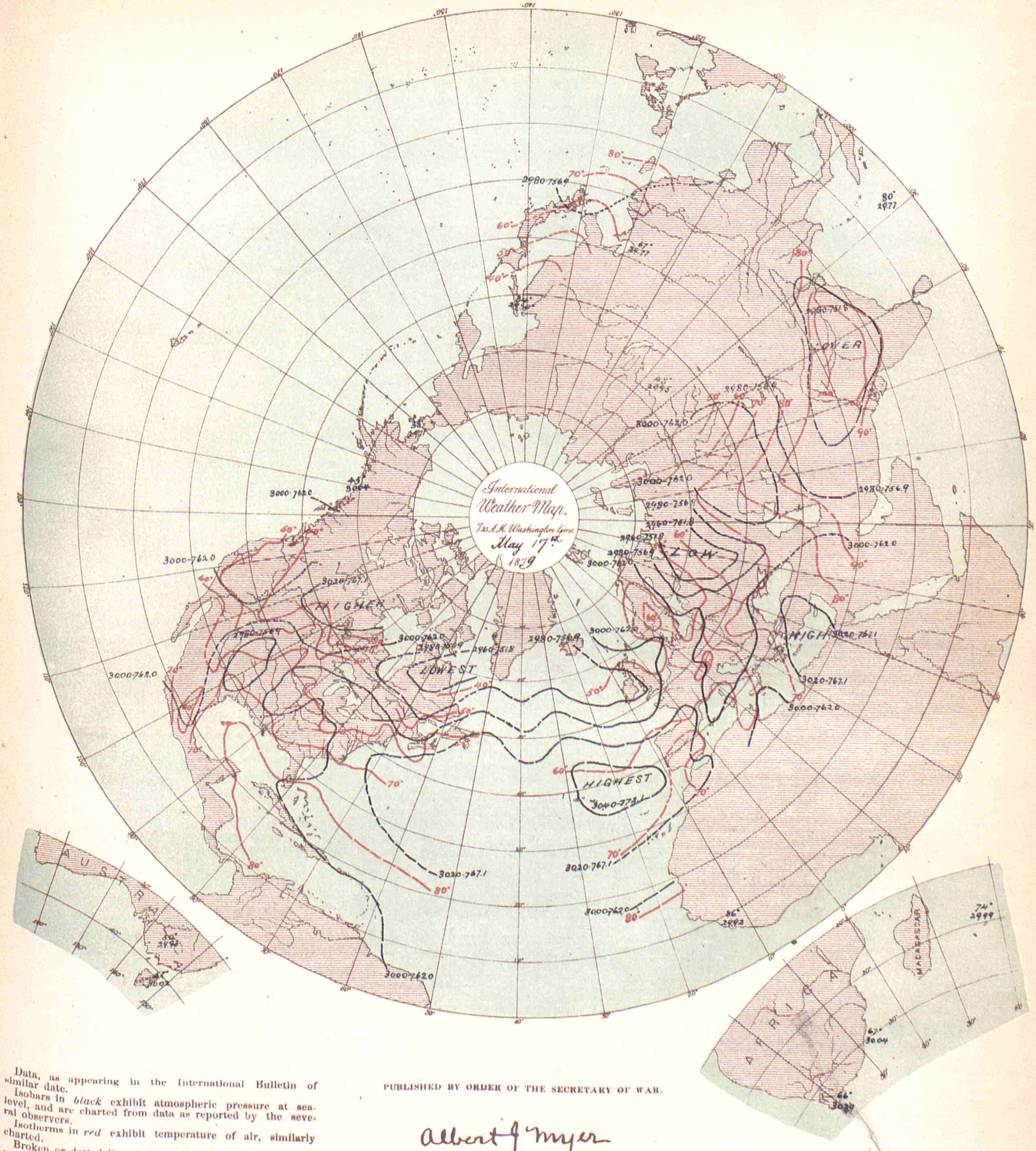
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 128 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 18, 1879.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

7:35 A. M. WASHINGTON Mean Time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours																			
Algiers			30.10	764.6	75.0	23.9	36	Calm			0		0			0	0	Clear	Kesxuche.
La Calle			29.96	761.0	77.0	25.0	35	WSW			3		0			0	0	Clear	Touriliere.
Tunis			30.00	762.1	65.7	18.7	67	NE			2		2			0.075	1.90	Fair	Foufrede.
Sfax																			Jacques.
Saida			30.06	763.5															Gau.
Tebessa			30.13	765.2	64.9	18.3	29	N			2		0			0	0	Clear	Herbin.
Geriville			30.08	764.0	59.9	15.5	62	W			4		2			0.020	0.5	Fair	Watrin.
Laghouat			30.13	765.3	66.6	19.2	20	NNW			1		0.			0	0	Clear.	Brugniaux.
Biskra			30.10	764.5	76.3	24.6	37	W			2		0			0	0	Clear	Bertrand.
			30.08	763.9	75.2	24.0	30	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.22	742.3	29.77	756.1	58.5	14.7	53	W			5		7			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.5	29.74	755.3	67.3	19.6	55	ESE			3		10			0.039	1.0		Dr. Wierzbiski.
Eperies	28.94	735.0	29.80	756.9	59.7	15.4	86	S			2		10ks			0.138	3.50		Julius Mikolik.
Gratz	28.48	723.4	29.71	754.7	56.8	13.8	70	W			2		7			0.642	16.3		Andreas Rospini.
Hermannstadt	28.44	722.3	29.80	756.9	73.8	23.2	38	SE			3		5			0.039	1.00		Prof. A. Gottschling.
Kremsmünster	28.39	721.1	29.74	755.3	46.2	7.9	83	WSW			2		10			0.157	4.0		Prof. C. Wagner.
Lemberg	28 82	732.1	29.77	756.2	68.2	20.1	52	SE			2		9			0	0		Dr. T. Stanecki.
Pola	29.72	755.0	29.84	757.8	57.7	14.3	73	SSW			1		8			0.606	15.4		I.R.Hydrographic Office.
Szathmar	29.40	746.7	29.84	758.0	73.0	22.8	41	S			2		8			0.213	5.4		Julius Csics, S. J.
Szegedin	29.51	749.5	29.78	756.5	61.3	16.3	90	Calm			0		10			0.146	3.70		Karl Stancel.
Trieste	29.74	755.3	29.84	757.9	56.5	13.6	75	SE			1		4			0.197	5.0	Raining	P. Busin.
Vienna	29.02	737.0	29.73	755.1	52.5	11.4	91	Calm			0		10			0.244	6.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.80	756.9	29.90	759.4	42.1	5.6		SE	8	3.6			9			0	0	Overcast	W. Boswell.
Ardrossan	29.84	757.9	29.85	758.2	51	10.6		SSW			1		7					Misty	William McNeil.
Armagh, Observatory			29.77	756.1	49.2	9.6		NE	6	2.7									S. Call.
Bidston (Liverpool Obs)			29.65	753.1	51.0	10.6		ENE	25	11.2			10					Overcast	John Hartnup.
Bolton (Sharples)			29.66	753.4	48.8	9.3		WSW	24	10.7			10					Raining	Thomas Mackereth.
Bradford, Yorkshire																0.01	0.3		J. McLandsborough.
Bridgetown (Barbadoes)	29.98	761.5	30.01	762.2	83.5	28.6		NE			1		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.55	750.6	29.64	752.8	53.0	11.7		ESE			2		10					Raining	H. Todd.
Cardington			29.60	751.8	53.0	11.7		SE			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.50	749.3	29.64	752.8	50.7	10.4		S			3		9					Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	29.72	754.9	29.77	756.1	49	9.4		ENE			3		10					Raining	J. Mac Gowan.
Dover	29.63	752.6	29.65	753.1	52	11.1		SE			2		9					Drizzling	J. Costello.
Falmouth, Observatory	29.47	748.5	29.70	754.4	51.0	10.6		NW			4		10					Drizzling	The Staff.
Fort Napier (Natal)	27.76	705.1	30.06	763.5	72.5	22.5		E			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0		N			1		3					D. clouds	
Galway, Queen's College			29.76	755.9	57	13.9		NNW			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.16	766.1	30.21	767.3	74.5	23.6		W			5		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.60	751.8	29.80	756.9	46.8	8.2		ENE			6		7					D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.71	754.6	29.72	754.9	49	9.4		ESE			4		5					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.44	747.8	29.61	752.1	54.5	12.5		SE			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.40	746.7	29.62	752.3	50	10.0		WNW			5		10					Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.68	753.9	29.80	756.9	51	10.6		NW			6		8k			0.23	5.8	Gloomy	M. P. Moyle.
Holyhead	29.65	753.1	29.68	753.9	54	12.2		ENE			4		10					Misty	John Tilston.
Jersey	29.36	745.7	29.66	753.4	50.2	10.1		W			6		10					Overcast	J. Fisher.
Kew, Observatory	29.56	750.8	29.60	751.8	53.5	11.9		ESE	10	4.5			9					Misty	The Meteorological Of.
Leicester, Museum	29.38	746.2	29.63	752.6	52.0	11.1		E			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	66	18.9		NE			2		4k			0	0	D. clouds	Sergt. H. J. Beckett, A. H. C.
Nairn	29.70	754.4	29.79	756.7	56	13.3		NE			1		0					Clear	W. D. Penny.
Nassau (Bahamas)			30.02	762.5	83.0	28.3		SE			1		4			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.47	748.5	29.66	753.4	52.1	11.2		SSE			3		10n		ESE	0.323	8.21	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.10	739.1	29.62	752.3	49.9	9.9		ENE			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.58	751.3	53	11.7		SE			1		10					Drizzling	H. E. Bellamy.
Plymouth	29.56	750.8	29.63	752.6	52.4	11.3		NW			4		10					Overcast	John Merrifield.
Prince Town	28.20	716.3	29.68	753.9	44.0	6.7		N			4		10					Raining	W. H. Tooker.
*Roche's Point	29.71	754.6	29.81	757.2	54	12.2		NNW			5		5					½ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.89	759.2	47.5	8.6		SE	22	9.8			3			0	0	D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.92	760.0	29.98	761.5	76.4	24.7		SW			1		5					D. clouds	Serg't W. H.Lyne.
Sheffield	29.42	747.2	29.70	754.4	49.9	9.9		SE			1		10			0.22	5.6	Overcast	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.76	755.9	46.4	8.0	72	E			8		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.31	744.5	29.71	754.6	49.9	9.9		NE			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.37	746.0	29.58	751.3	56.2	13.4		S			3		10					Showery	Rev. C.H.Griffith,F.M.S.
Truro, Royal Institution	29.66	753.4	29.70	754.4	55	12.8		NW			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.86	758.4	29.89	759.2	53.2	11.8		NNW	20	8.9			7			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.19	766.8	30.23	767.8	62	16.7	79	WNW	3	1.3		0	1			0.030	0.76	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.74	755.4	55.0	12.8	88	S			1		10kn			0.08	2.0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.84	757.9	29.85	758.2	46.2	7.9		E			3		10s			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.84	757.9	30.03	762.6	77.0	25.0	71	NNE	7.5	3.4		0	4		NE	0.08	2.03	Fine	C. Meldrum.
Melbourne, Observatory	29.68	753.9	29.78	756.4	49.0	9.4	93	N	3	1.3			0			0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.82	757.4	52	11.1		S			4	5	5	S		0.5	13.		J. Youngclause.
North Unst (Shetland Is.)			29.92	760.0	44	6.7		SE			2		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 22 21′, W. 54° 14′			D. clouds	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore, N. 49° 15′. W. 12° 50′			D. clouds	Capt. J. W. Thorne.
—— City of Agra				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma				Capt. H. L. Fox.
Barque Mertole, N. 47° 14′, W. 14° 42′			Overcast	Capt. E. W. Turner.
S. S. Nizam, N. 6° 39′, E. 87° 29′			Raining	Capt. Barlow.
S. S. Royal Alexandra, N. 42° 25′, W. 68° 15′	2	SSW	Misty	W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W. R. McIlontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.28	667.5	30.00	762.0	65.3	18.5	95	SE			1	6ck; cr				0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.87	758.6	29.91	759.8	54.0	12.2	50	ESE			4		9						
Fanöe	29.83	757.7	29.85	758.2	58.1	14.5	65	SE			4		1						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.83	757.7	29.87	758.6	54.1	12.3	79	SE			2		5						
Vestervig	29.76	755.8	29.93	760.1	51.1	10.6	70	NW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.17	740.8	29.72	754.8	56.5	13.6	73	WSW			2		8		SW	0.508	12.9	Very cloudy	Collignon, Director.
Amiens, Normal School	29.61	752.0	29.72	754.8	58.6	14.8	76	SE			2		10			0.504	12.8	Covered	Bonvallet, Director.
Arras, Engin'r School	29.47	748.4	29.72	755.0	60.0	10.0	74	S			3		10		S			Raining	Klein, Commandant.
Avignon, Normal School	29.80	756.9	29.88	758.9	61.9	16.6	61	S			1		2n	SE	NW	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.20	741.6	29.75	755.6	52.0	11.1	71	S			1		10					Light rain	C. Saillard, Director.
Beauvais, Normal School	29.42	747.2	29.69	754.0	51.8	11.0	85	SE			1		10		SE	0.08	2.	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	28.95	735.2	29.82	757.5	58.8	14.9	52	SW			3		10			0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.98	736.0	29.89	759.1	53.1	11.7	69	NW			1		5cn	NW	NW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.20	741.7	29.74	755.5	55.8	13.2	73	W			1		10	W	W	0.228	5.8	Covered	A. Waquet, Director
Brest, Naval Observatory	29.49	749.0	29.73	755.2	56.1	13.4	57	NNW			1		8		N	0.472	12.00		De Rermaree, Director.
Carcassonne, Normal School	29.52	749.7	29.93	760.1	62.2	16.8	73	W			3		10	W	W	0.24	6.	Covered	September, Director.
Caen, Normal School	29.56	750.9	29.64	752.8	54.0	12.2	78	WSW			2		10			0.220	5.6	Covered	Lair, Director.
Chartres, Normal School	29.04	737.5	29.60	751.7	53.6	12	98	NNW			1		10		SE	0.20	5.	Raining	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.44	747.7	29.76	755.9	50.2	10.1	66	SW			2		10			0	0	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.43	722.2	29.78	756.3	56.3	13.5	54	W			1		10		W	0.157	4.0		Alluard, Director.
Commercy, Normal School.	28.90	734.1	29.75	755.6	56.8	13.8	50	SSE			3		8ckn		SSE	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.78	731.0	29.92	760.0	60.3	15.7	56	W			2		8		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.09	738.8	29.85	758.2	55.4	13.0	61	NW			1		10n			0.039	0.10	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.61	752.2	29.83	757.7	54.7	12.6	70	WSW			3		8		W	0.598	15.2	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.41	747.1	29.72	754.9	55.8	13.2	68	W			3		8		W	0.356	9.8	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.88	733.5	29.87	758.6	54.1	12.3	66	S			4		10n	NE	NE	0	0	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.67	753.7	29.77	756.2	57.9	14.4	63	W			4				NW	0.827	21.0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			29.87	758.7	59.4	15.2	48	WSW			2		10			Inap.	Inap.		E. Stephan, Director.
Mirecourt, Normal School	28.74	729.9	29.76	755.9	59.4	15.2	72	NNE			1		5kn		SSW	0	0	Cloudy	Barbier, Director.
Nismes, Normal School	29.67	753.5	29.87	758.7	67.3	19.6	57	S			2		2		W	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.85	732.7	29.90	759.5	59.0	15	50	S			1		cn	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	28.84	732.4			33.4	0.8	100	SW			8		8		SW	0.106	2.7	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.84	757.8	29.87	758.6	58.1	14.5	73	WSW			2		10	W	WSW	0.83	21.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.58	751.2	29.66	753.4	52.7	11.5	85	SSE			1		8		S	0.433	11.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.65	753.2	29.69	754.0	50.5	10.3	95	WSW			6		8	WNW	WNW	0.392	9.96	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.52	749.9	29.69	754.1	50.9	10.5	96	SSE			2			WSW	SW	0.488	12.4		E. Renou, Director.
Tarbes, Normal School	28.89	733.7	29.98	761.4	48.2	9	61	SW			4		10			0.28	7.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.18	741.2	29.94	760.5	57.9	14.4	89	WSW			3		10			0.425	10.8	Rainy	Mercadier Julier.
Versailles, Observatory	29.18	741.2	29.68	753.8	53.2	11.8	78	W			2					0.354	9.01		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.11	739.4	29.81	757.2	62.1	16.7	88	S			3		5		S	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.81	757.1	29.84	757.8	81.3	27.4										0.51	13.		L'Abbé Marel 6a.
Lyons Obs'y (Park Station)	29.20	741.6	29.80	757.0	57.7	14.3	60	SSW			2		7		WSW	0	0	Almost cov.	Mr. Jays.
Mont-Louis	24.74	628.4	30.06	763.4	46.4	8.0	70	WNW	15.0	6.7			10			0	0		M. Cave.
Nice			29.85	758.2	63.0	17.2	59	W			2		5			0.508	12.9	½ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.40	746.8			52.0	11.1	100	SSE			2		10		S	0.295	7.5	Raining	Marié Davy, Director.
Perpignan	29.79	756.6	29.89	759.3	61.7	16.5	63	NE	15.0	6.7			10		NW			Raining	Dr. Fines.
Pic du Midi (Summit) H. P.	22.40	568.9			33.8	1.0		W			4		10			0.937	23.8	Snowy	M. Baylac.
Pic du Midi (Plantade) H. P.																			Gen'l de Nansouty.
Tours	29.54	750.4	29.74	755.4	59.0	15.0	48	W			4		8		W	0.307	7.8		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.86	758.4	29.89	759.1	59.4	15.2	91	NNW	3.4	1.5			8			0.031	0.8	Fair	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.94	735.1	29.78	756.4	58.5	14.7	37	N			2		3	NW		0.31	8.		Prof. Dr. Hoh.
Berlin	29.62	752.3	29.79	756.7	49.6	9.8	84	NE			1		10			0.079	2.0		Prof. Arndt.
Breslau	29.23	742.4	29.75	755.7	63.7	17.6	63	SE			2		10			0.125	3.18	Rainy	Royal University Obs'y.
Carlsruhe	29.31	744.5	29.73	755.1	61.0	16.1	54	NE			1		1	S		0.157	4.0	Raining	Albert Senz.
Cassel	29.15	740.3	29.75	755.6	62.6	17.0	42	NNE			4		7	N		0.046	1.17	Raining	Dr. H. Möhl.
Crefeld	29.58	751.2	29.74	755.3	67.1	19.5	41	S			3		6k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.40	746.7	29.76	756.0	62.6	17.0		NW			1		6			0.547	13.9		Physical Society.
Freienwalde on the Oder	29.75	755.6	29.79	756.6	48.4	9.1	89	NW			3		10ks	NW		0.071	1.8	Raining	Assmann., M. D.
Friedrichshafen	28.35	720.2	29.77	756.1	56.1	13.4	70	SW			2		4	WSW		0	0		M. Wilhelm.
Hamburg	29.75	755.7	29.82	757.5	58.6	14.8	57	NNE			1		3k			0	0	Clear.	Captain F. Hegeman.
Kiel	29.84	757.8	29.85	758.2	53.6	12.0	62	NE			3		2			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.85	758.3	29.94	760.4	54.5	12.5	62	E			4		4			0.004	0.1		Prof. E. Luther.
Köslin			29.77	756.1	46.0	7.8		E			2		5			0.827	21.0		H. Müller.
Leipsic Observatory	29.35	745.5	29.77	756.2	53.6	12.0	69	N			1		10			0	0		Prof. Bruhns, Privy Counselor.
Memel	29.95	760.6	29.99	761.8	54.5	12.5	52	ESE			4		10n						Skalweit.
Munich (München)	27.96	710.3	29.81	757.2	45.7	7.6	89	Calm			0		9			0.532	13.5	Rainy	Dr. C. Lang.
Neufahrwasser	29.85	758.2	29.87	758.6	51.8	11.0	73	ENE			3		8			0.067	1.7		A. Lothes.
Posen	29.53	750.1	29.82	757.3	59.9	15.5	75	E			6		10			0.091	2.3		Dr. Magener.
Strassburg (in Alsace)	29.22	742.2	29.76	755.8	61.9	16.6	48	SSE			2		5	SSW				Rain & hail	Imp. University Observatory.
Stuttgart	28.82	731.9	29.74	755.3	59.5	15.3	48	N					3	N		0.110	2.8		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.28	718.3	29.77	756.2	56.3	13.5	45	N	2	1			9ck		W	0	0		Dr. Van Bebber.
Wustrow	29.82	757.4	29.84	758.0	50.2	10.1	68	ENE			4		9s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.66	753.4	30.05	763.3	62.6	17.0		S			1.0							Sprinkling	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.7	29.56	750.9	89.4	31.9	62	SW					4			0	0	D. clouds	
Deesa	29.13	739.9	29.58	751.3	102.4	39.1	16	WSW	14.2	6.4			0			0	0	Blue sky	
Bombay	29.66	753.3	29.70	754.2	84.3	29.1	77	W	9.0	4.0			9		WNW	0	0	D. clouds	
Poona	27.70	703.5	29.65	753.0	90.0	32.2	30	NW					0			0	0	Blue sky	
Lahore	28.80	731.6	29.51	749.6	99.2	37.3	27	E	3.2	1.4			0			0	0	Blue sky	
Belgaum	27.21	691.2	29.71	754.6	81.7	27.6	73	W	9.0	4.0			9	W	NE	0	0	D. clouds	
Roorkee	28.72	729.6	29.60	751.8	88.2	31.2	18	Calm	5.0	2.2			10			0	0		
Agra	28.98	736.2	29.52	749.7	102.6	39.2	17	W					0			0	0	Blue sky	
Nagpur	28.47	723.1	29.45	748.1	106.2	41.2	18	NE	4.2	1.9			9		SE	0	0	Gloomy	
Lucknow	29.16	740.7	29.51	749.6	108.0	42.2	23	N	1.4	0.6			0			0	0	Blue sky	
Allahabad	29.16	740.6	29.45	748.0	106.3	41.3	16	N	1.6	0.7			0			0	0	Blue sky	
Patna	29.28	743.8	29.46	748.2	103.5	39.7	27	ENE	1.2	0.5			2	NE	NE	0	0		
Hazaribagh	27.54	699.6	29.49	749.1	90.3	32.4	34	E	7.9	3.5			6			0.43	10.9		
Cuttack	29.53	750.2	29.61	752.2	90.1	32.3		S	7.0	3.1			2			0	0	D. clouds	
Calcutta (Alipore)	29.59	751.5	29.61	752.1	87.5	30.8	66	S	10.0	4.5			2			0	0	D. clouds	
Goalpara	29.20	741.6	29.58	751.4	81.9	27.7	81	NE	5.0	2.2			6	WSW		0.63	16.0	D. clouds	
Chittagong	29.59	751.5	29.68	753.8	86.7	30.4	78	SSW	7.2	3.2			1			0	0	Misty	
Sibsagar	29.35	745.5	29.69	754.0	77.1	25.1	82	NE	2.2	1.0			10	SW	SW	0	0	D. clouds	
Jubbulpore	28.15	714.9	29.44	747.8	102.9	39.4	15	N	4.4	2.0			2		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for sum'ta error and temperature. Inches.	Barometer. Corrected for sum'ta error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.43	747.5	29.84	757.9	55.2	12.9	93	SW	2.5	1.1			9			0.717	18.2		Prof. Giovanni Clodig.
Milan	29.26	743.3	29.78	756.3	62.8	17.1	44	SW			2		2	W		0	0		Prof. Schiaparelli.
Padua	29.71	754.6	29.82	757.3	59.7	15.4	58	S	3.8	1.7			5	SW		0.831	21.1		Prof. Dott. Lorenzoni.
Moncalieri	28.85	732.7	29.74	755.5	62.1	16.7	47	ESE	4.9	2.2			6	N		0	0		Prof. P. F. Denza.
Genoa	29.65	753.0	29.84	757.9	61.7	16.5	57	SW	6.3	2.8			8	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	27.85	707.3	29.75	755.7	62.6	17.0	38	NW			4		6	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.79	756.7	29.84	757.9	57.4	14.1	70	NE	9.8	4.4			7	SW		0.079	2.0		Prof. Luigi Guidi.
Florence	29.61	752.1	29.86	758.6	62.6	17.0	51	SW			4		8	SW		0.173	4.4		Cav. F. Meucci.
Leghorn	29.77	756.2	29.86	758.4	61.3	16.3	54	SW			6		4			0	0		Prof. P. Monte.
Rome	29.71	754.6	29.89	759.1	64.6	18.1	58	S	3.1	1.4			7			0	0		Prof. P. S. Ferrari.
Lecce	29.61	752.2	29.87	758.7	58.3	14.6	77	SE	12.5	5.6			10	SE		1.063	27.0		Prof. C. De Giorgi.
Cosenza	28.93	734.9	29.82	757.4	58.3	14.6	72	NW	8.7	3.9			10			0.150	3.8		Prof. D. Conti.
Cagliari	29.89	759.2	29.93	760.1	68.4	20.2	30	NW			4		3			0	0		Prof. A. Pacinotti.
Palermo	29.70	754.3	29.95	760.8	60.1	15.6	41	W	17.4	7.8			6	W		0.472	12.0		Prof. G. Cacciatore.
Syracuse	29.68	753.9	30.15	765.8	65.5	18.6	50	SSE	22.4	10.0			9	NW		0.220	5.6		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.34	745.3	29.90	759.4	59.0	15.0	66	SW	2.5	1.1			3			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.79	756.6	29.81	757.2	63.4	17.4	97	SSW	1.6	0.7			10n			1.083	27.51	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.60	751.8	29.80	756.9	69.2	20.7	77	SW	5.5	2.5			10n			0.640	16.26	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.94	760.5	30.00	762.0	59.7	15.4	86	E	7.3	3.3			10s			0.015	0.38	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.10	637.4	30.16	766.0	54.0	12.2	50	SW			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.45	621.0	30.03	762.8	67.1	19.5	69	NNW			2	3c	0			Inap.	Inap.	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.11	587.0	30.10	764.4	56.4	13.4	67	Calm	0	0		1c;s	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					62.6	17.0	57	Calm			0	1cs	0			0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.91	759.6	29.92	759.9	77.9	25.5	85	SE			1	0	0			0	0	Hazy	M. M. Chàzaro.
San Luis Potosi	24.19	614.4	30.18	766.5	55.9	13.3	73	SE			1	2	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.3	30.04	763.1	67.5	19.7	30	Calm			0	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	49.6	9.8	67	N	0.4	0.2		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.6	30.04	763.0	78.1	25.6	73	E			2	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.73	755.1	29.73	755.1	61.3	16.3		SE								0	0		
Helder	29.73	755.1	29.78	756.5	59.7	15.4		E			1					0	0		
Hellevoetsluis	29.77	756.1	29.77	756.1	56.1	13.4		ENE			2					0	0		
Utrecht	29.73	755.2	29.73	755.2	64.4	18.0	53	ESE			1					0	0		
	29.71	754.6	29.76	755.8	63.1	17.3	49	S			2		5			0.126	3.2	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.87	758.6	29.92	760.0	54.7	12.6	52	W	12.8	5.7			0			0	0		
Brönö	29.93	760.2	29.97	761.2	44.6	7.0	69	N	9	4			9			0	0		
Christiania	29.76	755.8	29.90	759.4	58.5	14.7	51	SSE	7	3			3			0	0		
Tromsö	30.02	762.5	30.06	763.6	39.2	4.0	58	NE	34	15			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.16	766.0	30.35	770.8	64.8	18.2	67	SSE	6.9	3.1			6			0	0		Dr. J. A. Sampaio.
Campo Major	29.17	740.9	30.18	766.6	68.5	20.3	48	WNW	17.4	7.8			5	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.17	766.3	30.26	768.5	73.2	22.9	28	SE	11.2	5.0			1			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.94	760.4	30.30	769.5	62.1	16.7	67	NW	16.1	7.2			8			0	0		The Staff.
Ponta Delgada (Azores)	30.29	769.3	30.36	771.1	65.1	18.4	60	SSE	7.4	3.3			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols: the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			29.98	761.4	76.5	24.7		NE			4		0			4	NE	Blue sky	C. C. da Fonseca Ferreira, Com'd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.96	761.0	82.4	28.0		WNW			2		3		WNW	1	WNW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.94	760.5	83.8	28.8		Calm			0		9			1		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.86	758.5	86.2	30.1		SW			2		0			1	SW	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	747.1	29.83	757.6	62.2	16.8	59	SE	13	6			10n					Raining	Astronomical Obs.
Wilna	29.61	752.2	30.03	762.7	60.8	16.0	51	NE	2	1			8					Light clouds	Astronomical Obs.
Dorpat	29.81	757.1	30.05	763.2	57.4	14.1	52	WNW	7	3			0						Prof. Dr. Weihrauch.
St. Petersburg	29.95	760.7	29.96	761.1	49.3	9.6	66	WNW	16	7			0						Central Physical Obs.
Kieff	29.29	746.6	30.01	762.2	68.7	20.4	39	SSE	4	2			3ck					Light clouds	Physical Cabinet.
Nikolaiev	30.03	762.7	30.10	764.5	74.7	23.7	35	Calm	0	0			3cs						Kurdakof.
Kertch	29.92	759.9	29.94	760.4	64.9	18.3	68	SE	7	3			2						Lagorio.
Moscow	29.51	749.6	30.06	763.4	57.7	14.3	68	SE	9	4			7ks						Meteorological Obs.
Lugan	29.78	756.5	29.98	761.5	74.5	23.6	33	WNW	4	2			5						Meteorological Obs.
Archangel	29.37	746.0	29.39	746.5	49.5	9.7	91	W	13	6			10					Raining	Capt. Sseliwerstow.
Tiflis	28.55	725.2	29.96	760.9	59.5	15.3	61	NW	45	20			10						Physical Observatory.
Astrakhan	29.98	761.6	29.90	759.5	61.5	16.3	84	NNE	27	12			10n			Blank	Blank		Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.67	753.7	29.93	760.3	66.4	19.1	58	W	9	4			7						Physical Cabinet.
Ekaterinburg	28.93	734.7	29.84	757.8	79.3	26.5	35	WNW	31	14			10					Light clouds	Meteorological Obs.
Nukuss	29.58	751.4	29.80	756.9	96.1	35.6	12	ENE	9	4			0						
Tashkend	28.26	717.8	29.73	755.2	83.1	28.4	48	Calm	0	0			0						Teich, A. M.
Barnaul	29.59	751.6	30.09	764.2	54.3	12.4	24	NNW	13	6			7						Meteorological Obs.
Yeniseisk	29.76	755.8	30.04	763.1	53.6	12.0	45	NW	9	4			3						Marks.
Irkutsk																			
Peking (China)	29.54	750.4	29.69	754.0	73.6	23.1	57	SW	7	3			4k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.76	755.9	29.86	758.4	40.3	4.6	98	SE	2	1			8k					Foggy	
Nikolaievsk, on the Amoor	29.64	752.8	29.72	755.0	34.7	1.5	96	NE	4	2			10s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.79	756.6	29.89	759.3	62.6	17	61	SE	2.7	1.19			8			0	0	Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.94	760.4	30.00	762.1	62.2	16.8	79	NW	2.6	1.14		0	10			0.098	2.5	Raining	Prof. Manuel de Navera n
Burgos, Met. Obs'y	27.04	686.8			55.4	13.0	68	SW	10.7	4.80			8			0	0	Drizzling	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4			61.2	16.2	55	NW	12.0	5.34		0	10			0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.82	757.5	29.96	761.1	87.8	31.0	26	SW	6.0	2.69		2	6	E		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.07	763.8	61.7	16.5	73	WSW	13.0	5.8		0	8			0.492	12.5	Heavy clouds	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	761.0	30.02	762.6	80.7	27.1	76	Calm	0	0		0	1k;s			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.71	754.8	29.77	756.2	86.0	30.0	68	E	4.5	2.0		0	0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.13	765.2	30.22	767.7	63.9	17.7	62	WNW	17.1	7.6		0	7		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	79.9	26.6	82	E	0	0		4cs	5k			0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.87	758.8	29.91	759.8	36.0	2.2	....	N	.....	.....	4	.....	10	.....	.....			.....	
Umea	29.93	760.1	29.98	761.4	43.5	6.4	59	N	.....	.....	2	.....	10	.....	.....	0.157	4.0	.....	
Hernosand	29.90	759.5	29.95	760.8	49.6	9.8	90	SSW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.76	756.0	29.94	760.5	57.2	14.0	44	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Wisby	29.91	759.6	29.96	761.1	48.2	9.0	68	W	.....	.....	4	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.84	758.0	29.92	759.9	56.5	13.6	54	NE	4.7	2.1	.....	.....	9	WSW	SW	0.002	0.04	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.39	721.2	29.82	757.3	55.4	13.0	48	SW	.....	.....	4	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.16	715.3	29.79	756.6	57.6	14.2	58	E	.....	.....	2	.....	5	.....	.....	0.024	0.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.0 mm.; Thermometer,—3.9 Cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.5	76.8	24.9	60	SE	4	2.0	.....	.....	5	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	89.6	32.0	.....	NW	.....	.....	6	.....	5	.....	.....	.....	.....	.....	
Valona	.....	.....	29.89	759.1	57.4	14.1	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.97	761.2	30.08	764.1	71.8	22.1	65	NW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.76	755.9	30.06	763.5	63	17.2	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.01	762.2	30.07	763.8	64	17.8	73	W	1	0.4	.....	2c	0	SW	.....	0.01	0.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.04	763.0	30.08	764.0	57	13.9	93	SW	5	2.2	.....	.....	10s	.....	.....	0.075	1.91	Cloudy	H J. Cundall, C. E.
Cornwall, Ontario	29.81	757.2	30.00	762.0	59.0	15.0	71	W	.....	.....	2	cs	0	.....	.....	0	0	Fine	James Smith, M. A.
Dalhousie, N. B	29.94	760.5	30.10	764.5	56	13.3	88	W	.....	.....	2	0	5ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	29.77	756.1	29.81	757.2	52.3	11.3	86	N	1	0.4	.....	.....	10	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.15	765.8	30.17	766.3	40	4.4	77	NE	28	12.5	.....	5c	5s	NW	Calm	0.01	0.3	Cloudy	J. McWilliams.
Fredericton, N. B	30.02	762.5	30.08	764.0	57.1	13.9	86	NW	1	0.4	.....	c	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.32	744.7	30.16	766.1	45	7.2	81	E	7	3.1	.....	5k	5n	E	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.97	735.8	30.05	763.3	60	15.6	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.97	761.2	30.11	764.8	60	15.6	88	Calm	0	0	.....	.....	10ks	.....	W	0.089	2.26	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.73	755.1	30.09	764.3	57.7	14.3	72	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.74	755.4	30.07	763.8	55	12.8	87	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.08	764.0	65.4	18.6	83	SW	3	1.3	.....	8k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.84	757.9	30.04	763.0	61	16.1	71	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.41	747.0	30.10	764.5	53	11.7	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.35	745.5	30.08	764.0	65.7	18.7	63	Var.	.....	.....	2	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.38	746.2	30.06	763.5	59	15.0	70	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.04	763.0	60	15.6	70	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.77	756.1	30.09	764.3	50	10.0	72	NE	.....	.....	6	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.68	753.9	30.14	765.5	53	11.7	83	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.03	762.8	30.08	764.0	49	9.4	88	SE	.....	.....	2	Haze	Haze	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.93	761.0	30.13	765.3	48	8.9	96	S	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.08	764.0	57	13.9	68	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.78	731.0	30.04	763.0	57.3	14.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.05	763.3	30.08	764.0	68	20.0	79	W	3	1.3	.....	8c	2ks	W	N	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario	29.70	754.4	30.08	764.0	63	17.2	48	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.00	762.0	30.10	764.5	52.5	11.4	93	N	1	0.4	.....	9k	0	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.89	759.2	30.12	765.0	63.0	17.2	67	SW	.....	.....	.....	5ck	5k	.....	.....	0.60	15.2	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.08	764.0	64	17.8	78	Calm	0	0		2cs	8ks	SW	SW	0	0	Cloudy	
Alpena, Michigan	29.51	749.5	30.16	766.1	49	9.4	71	NW	12	5.4		0	0			0	0	Clear	
Atlanta, Georgia	28.84	732.5	29.95	760.7	63	17.2	83	E	4	1.8		8ck;k	0	Calm		1.34	34.0	Cloudy	
Atlantic City, New Jersey	30.07	763.8	30.09	764.3	64	17.8	94	S	4	1.8		2ck	2s	S	Calm	0	0	Fair	
Augusta, Georgia	29.83	757.7	30.00	762.0	65	18.3	89	SE	2	0.9			Fog		Calm	0.18	4.6	Dense fog	
Baltimore, Maryland	30.01	762.2	30.06	763.5	68	20.0	90	NE	4	1.8			10s		Calm	0.34	8.6	Cloudy	
Barnegat, New Jersey	30.05	763.3	30.08	764.0	63	17.2	100	S	4	1.8			Fog		Calm	0.03	0.8	Foggy	
Bismarck, Dakota	28.16	715.3	30.02	762.5	50	10.0	78	NE	11	4.9			10s		NE	0	0	Cloudy	
Boerne, Texas	28.47	723.1	29.74	755.4	70	21.1	90	SE	8	3.6			10s		S	0	0	Cloudy	
Boise City, Idaho	26.95	684.5	29.91	759.7	49	9.4	78	SE	3	1.3			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.96	761.0	30.11	764.8	65	18.3	92	SW	2	0.9			10s		W	0	0	Cloudy	
Brackettville, Texas	28.81	731.8	29.81	757.2	70	21.1	75	E	5	2.2			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.94	735.1	29.92	760.0	55	12.8	87	SE	16	7.2			10ks		W	1.35	34.3	Cloudy	
Brownsville, Texas	29.83	757.7	29.87	758.7	79	26.1	78	S	8	3.6			10s		S	0.05	1.3	Cloudy	
Buffalo, New York	29.35	745.5	30.03	762.8	63	17.2	57	NE	5	2.2		2cs	0	SW		0	0	Fair	
Burkes, Arizona					64	17.8	30	SW			1	2c	0	S		0	0	Clear	
Burlington, Vermont	29.76	755.9	30.04	763.0	64	17.8	63	S	5	2.2		0	Haze		Calm	0	0	Clear	
Cairo, Illinois	29.66	753.4	30.04	763.0	70	21.1	70	Calm	0	0		1ck	0	W		0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.26	641.6	30.06	763.5	61	16.1	26	N	4	1.8		5k	0	W		0	0	Fair	
Camp Verde, Arizona	26.74	679.2	30.07	763.8	54	12.2	32	W			1	0	0			0	0	Clear	
Campo, California	27.45	697.2	30.02	762.5	30	— 1.1	78	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	66	18.9	100	NW	3	1.3			10n		S	0.45	11.4	Light rain	
Cape Henry, Virginia	30.03	762.8	30.04	763.0	67	19.4	89	SE	8	3.6			Fog		E	0.11	2.8	Foggy	
Cape Lookout, N. Carolina	30.04	763.0	30.05	763.3	65	18.3	100	S	6	2.7			10n		Calm	2.21	56.1	Light rain	
Cape May, New Jersey	30.00	762.0	30.03	762.8	62	16.7	88	E	10	4.5			Fog		E	0	0	Foggy	
Castroville, Texas	29.14	740.1	29.81	757.2	77	25.0	82	S	4	1.8			10s		S	0	0	Cloudy	
Charleston, South Carolina	29.92	760.0	29.98	761.5	71	21.7	85	NE	5	2.2		2k	0	S		0.12	3.0	Fair	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	53	11.7	80	S	6	2.7		0	8ks		S	0	0	Cloudy	
Chicago, Illinois	29.40	746.7	30.09	764.3	48	8.9	85	N	7	3.1		2cs	0	N		0	0	Clear	
Cincinnati, Ohio	29.35	746.2	30.02	762.5	62	16.7	53	NE	3	1.3		0	0			0	0	Clear	
Cleveland, Ohio	29.32	744.7	30.03	762.8	55	12.8	81	NE	1	0.4		5c	Haze	SW	Calm	0	0	Fair	
Coleman City, Texas	28.11	714.0	29.71	754.6	70	21.1	80	Calm	0	0		5cs	0	Calm		0	0	Fair	
Columbus, Ohio	29.18	741.2	30.00	762.0	60	15.6	65	N	4	1.8		2c	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	27.99	710.9	29.59	751.6	73	22.8	72	SW	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.47	748.5	29.93	760.2	68	20.0	90	E	6	2.7			10ks		W	0.03	0.8	Cloudy	
Davenport, Iowa	29.41	747.0	30.04	763.0	61	16.1	66	E	3	1.3		5c	0	W		0	0	Fair	
Deadwood, Dakota	25.26	641.6			50	10.0	79	Calm	0	0		5cs	2s	Calm	Calm	0	0	Fair	
Decatur, Texas																			
Denison, Texas	29.14	740.1	29.90	759.4	68	20.0	90	SE	5	2.2		0	0			0.02	0.5	Clear	
Denver, Colorado	24.73	628.1	29.95	760.7	48	8.9	85	S	4	1.8		2ck	0	Calm		0	0	Fair	
Des Moines, Iowa	29.11	739.4	29.97	761.2	61	16.1	71	Calm	0	0		8cs	0	SW		0	0	Fair	
Detroit, Michigan	29.39	746.5	30.04	763.0	60	15.6	49	N	4	1.8		2c	Sm'e	Calm	Calm	0	0	Clear	
Dodge City, Kansas	27.36	694.9	29.57	751.1	61	16.1	94	S	4	1.8			Fog		Calm	0.32	8.1	Foggy	
Dubuque, Iowa	29.37	746.0	30.06	763.5	55	12.8	45	S	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Duluth, Minnesota	29.49	749.0	30.19	766.8	40	4.4	82	NE	18	8.0			10s		NE	0.03	0.8	Cloudy	
Eagle Pass, Texa	29.14	740.1	29.83	757.7	76	24.4	82	SE	4	1.8			10ks		E	0	0	Cloudy	
Eastport, Maine	30.03	762.8	30.10	764.5	47	8.3	85	S	2	0.9			Fog		S	0.01	0.3	Foggy	
Edinburg, Texas					72	22.2	90	S			4		8s		S	0	0	Cloudy	
El Paso, Texas	26.24	666.5			73	17.2	14	NW	6	2.7		2cs	5s	NW	NW	0	0	Fair	
Erie, Pennsylvania	29.32	744.7	30.02	762.5	62	16.7	77	Calm	0	0		1c	0	Calm		0	0	Clear	
Escanaba, Michigan	29.58	751.3	30.25	768.3	40	4.4	73	NE	14	6.3			10s		N	0	0	Cloudy	
Florence, Arizona	28.47	723.1	30.07	763.8	75	23.9	23	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	27.94	709.7			48	8.9	85	E	17	7.6		5c	2s	NW	E	0.01	0.3	Cloudy	
Fort Craig, New Mexico	25.53	648.4	29.59	751.6	57	13.9	25	Calm	0	0		5c	2s	SW	Calm	0	0	Cloudy	
Fort Davis, Texas	25.19	639.8	30.15	765.8	73	22.8	21	SW	8	3.6		8cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.40	746.7	29.92	760.0	70	21.1	70	E	12	5.4		0	0			0	0	Clear	
Fort Griffin, Texas	28.60	726.4	29.82	757.4	71	21.7	85	E	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.30	693.4			51	10.6	78	N	17	7.6			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.65	702.3	29.49	749.0	70	21.1	80	SW	8	3.6		2c	2s	SW	Calm	0	0	Fair	
Fort St. Michael, Alaska	30.04	763.0	30.08	764.0	30	— 1.1	100	S	49	21.9			10s		S	0	0	Cloudy	
Fort Sill, Indian Territory	28.67	728.2	29.73	755.1	72	22.2	76	SE	14	6.3		5k	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.15	715.0			47	8.3	77	NE	20	8.9		1c	4s	NE	NE	0.01	0.3	Cloudy	
Fredericksburg, Texas	28.19	716.0	29.69	754.1	71	21.7	80	S	13	5.8			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.95	760.7	29.99	761.7	77	25.0	82	S	8	3.6		0	8ks		S	0	0	Cloudy	
Graham, Texas	28.80	731.5	29.81	757.2	73	22.8	72	SE	4	1.8		0	0			0	0	Clear	
Grand Haven, Michigan	29.43	747.5	30.06	763.5	60	15.6	60	NE	9	4.0		0	0			0	0	Clear	
Indianapolis, Indiana	29.21	741.9	29.97	761.2	59	15.0	59	NE	2	0.9		0	0			0	0	Clear	
Indianola, Texas	29.94	760.5	29.97	761.2	77	25.0	86	S	9	4.0		1c	2s	Calm	S	0	0	Fair	
Jacksboro, Texas	28.76	730.5	29.84	757.9	74	23.3	68	S	16	7.2		0	2s			0	0	Clear	
Jacksonville, Florida	29.97	761.2	29.99	761.7	74	23.3	81	W	4	1.8		5k	0	W		1.32	33.5	Fair	
Keokuk, Iowa	29.37	746.0	29.97	761.2	61	16.1	71	SE	4	1.8		5c	0	W		0	0	Fair	
Key West, Florida	29.98	761.5	30.02	762.5	81	27.2	67	E	4	1.8		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.04	763.0	30.06	763.5	63	17.2	100	SW	20	8.9			10n		SW	0.72	18.3	Heavy rain	
Knoxville, Tennessee	29.03	737.3	30.02	762.5	59	15.0	100	E	1	0.4			Fog		Calm	0.40	10.2	Dense fog	
La Crosse, Wisconsin	29.33	745.0	30.05	763.3	60	15.6	60	SE	6	2.7		2k	0	S		0	0	Clear	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	57	13.9	36	Calm	0	0		10cs	0	W		0	0	Cloudy	
Laredo, Texas	29.49	749.0	29.82	757.4	80	26.7	62	SE	8	3.6		0	0			0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.94	760.5	65	18.3	78	SE	1	0.4		1c	0		NW	Inap.	Inap.	Clear	
Los Angeles, California	29.71	754.6	30.06	763.5	50.0	10.0	72	NE	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.45	748.0	30.00	762.0	62	16.7	61	N	5	2.2		0	0			0	0	Clear	
Lynchburg, Virginia	29.32	744.7	29.98	761.5	68	20.0	79	Calm	0	0		0	5ks		W	0.32	8.1	Fair	
Madison, Wisconsin	29.11	739.4	30.10	764.5	53	11.7	80	E	7	3.1		8cs	0	W		0	0	Cloudy	
Marquette, Michigan	29.50	749.3	30.22	767.6	39	3.9	82	NW	4	1.8			10s		Calm	0	0	Cloudy	
Mason, Texas	28.28	718.3	29.97	761.2	71	21.7	75	Calm	0	0		Haze	0	Calm		0	0	Hazy	
Memphis, Tennessee	29.69	754.1	30.02	762.5	66	18.9	84	NW	3	1.3		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.41	747.0	30.15	765.8	41	5.0	91	N	17	7.6			10s		NE	0	0	Cloudy	
Mobile, Alabama	29.98	761.5	30.02	762.5	70	21.1	75	N	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	29.78	756.4	30.01	762.2	66	18.9	90	W	3	1.3			Fog		Calm	0.01	0.3	Foggy	
Morgantown, West Virginia	29.03	737.3	30.09	763.5	65	18.3	73	SE	2	0.9		0	0			0.12	3.0	Clear	
Mt. Washington, N. H.	23.98	609.1	30.34	770.6	49	9.4	57	SE	4	1.8		8ck	0	SE		0	0	Fair	
Nashville, Tennessee	29.47	748.5	29.99	761.7	70	21.1	75	NE	1	0.4		0	Sm'e			0.11	2.8	Clear	
New Haven, Connecticut	29.98	761.5	30.10	764.5	65	18.3	87	S	1	0.4			10s		Calm	0	0	Cloudy	
New London, Connecticut	30.07	763.8	30.12	765.0	61	16.1	94	Calm	0	0			Fog		Calm	0	0	Dense fog	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	77	25.0	69	W	2	0.9		0	0			0	0	Clear	
Newport, Rhode Island	30.07	763.8	30.12	765.0	60	15.6	94	SW	4	1.8			Fog			0.02	0.5	Foggy	
New York, New York	29.93	760.2	30.10	764.5	63	17.2	94	SE	3	1.3		Haze	Fog	Calm	Calm	0.03	0.8	Foggy	
Norfolk, Virginia	29.98	761.5	30.04	763.0	70	21.1	90	S	4	1.8			10s		SE	0.11	2.8	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.01	686.0	29.52	749.8	56	13.3	94	E	12	5.4			10s		E	0	0	Cloudy	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	50.0	10.0	96	S	1	0.4			10n		Calm	0.10	2.5	Light rain	
Omaha, Nebraska	28.82	732.0	29.88	758.9	63	17.2	89	W	3	1.3			10n		Calm	0.01	0.3	Light rain	
Oswego, New York	29.76	755.9	30.08	764.0	60	15.6	71	S	4	1.8		0	0			0	0	Clear	
Pembina, Dakota	29.22	742.2	30.05	763.3	47	8.3	85	E	8	3.6			8ks		W	0	0	Cloudy	
Philadelphia, Pa	30.02	762.5	30.07	763.8	63	17.2	94	Calm	0	0			Fog		Calm	0.42	10.7	Dense fog	
Phœnix, Arizona	28.77	730.7	30.53	775.4	64	17.8	25	Calm	0	0		0	2s		Calm	0	0	Fair	
Pike's Peak, Colorado	17.81	452.4	30.02	762.5	22	— 5.6	18	SW	20	8.9		0	0			0	0	Clear	
Pioche, Nevada	28.91	607.3	29.68	758.9	45	7.2	31	S	11	4.9		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.21	741.9	29.99	761.7	64	17.8	73	E	4	1.8		1ck	0	Calm		0	0	Clear	
Port Huron, Michigan	29.40	746.7	30.06	763.5	52	11.1	66	N	11	4.9		0	0			0	0	Clear	
Portland, Maine	30.02	762.5	30.07	763.8	60	15.6	77	S	2	0.9		5k	0	Calm		0	0	Fair	
Portland, Oregon	29.79	756.7	29.86	758.4	49.0	9.4	93	SE	2	0.9			8s;fg		SE	0.03	0.8	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	62	11.1	41	S	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas																			
Punta Rassa, Florida	30.01	762.2	30.03	762.8	78	25.6	69	W	7	3.1		2k	0	W		0	0	Clear	
Red Bluff, California	29.57	751.1	29.93	760.2	49	9.4	93	S	3	1.3			10ks		S	0.14	3.6	Cloudy	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	78	25.6	78	SE	12	5.4		0	5ks		SE	0	0	Fair	
Rochester, New York	29.45	748.0	30.06	763.5	60	15.6	77	SW	3	1.3		1c	0	SW		0	0	Clear	
Rosseburg, Oregon	29.33	745.0	29.90	759.4	48	8.9	92	SW	4	1.8			10n		Calm	0.62	15.7	Light rain	
Sacramento, California	29.89	759.2	29.97	761.2	51	10.6	86	SW	4	1.8		0	5s		Calm	0.61	15.5	Fair	
St. Louis, Missouri	29.46	748.3	30.02	762.5	63	17.2	72	NE	4	1.8		0	0			0	0	Clear	
St. Marks, Florida	29.99	761.7	30.00	762.0	71	21.7	85	NW	8	3.6		0	0			0.04	1.0	Clear	
St. Paul, Minnesota	29.14	740.1	29.94	760.5	60	15.6	65	SE	15	6.7			10s		SE	0.08	2.0	Cloudy	
Salt Lake City, Utah	25.42	645.7	29.75	755.6	61	16.1	17	SE	18	8.0		3k	7ks	W	W	0	0	Cloudy	
San Antonio, Texas	29.24	742.7	29.80	756.9	75	23.9	86	SE	4	1.8			10s		SE	Inap.	Inap.	Cloudy	
San Diego, California	30.02	762.5	30.10	764.5	49	9.4	85	NE	1	0.4		0	0			0	0	Clear	
Sandusky, Ohio	29.38	746.2	30.04	763.0	61	16.1	61	NE	8	3.6		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.04	763.0	30.07	763.8	60	15.6	100	Calm	0	0			Fog		Calm	0.03	0.8	Dense fog	
San Francisco, California	29.89	759.2	29.96	761.0	52	11.1	79	N	6	2.7		2k	0	W		0.93	23.6	Clear	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	51	10.6	28	NE	2	0.9		8c	0	SW		0	0	Cloudy	
Savannah, Georgia	29.94	759.7	30.00	762.0	75	23.9	72	NW	1	0.4		2c	1ks	S	Calm	0.01	0.3	Fair	
Shreveport, Louisiana	29.80	756.9	30.02	762.5	69	20.6	85	SE	4	1.8		0	5s		Calm	0	0	Fair	
Silver City, New Mexico	24.35	618.5	30.56	776.2	45	7.2	45	Calm	0	0		5k	0	Calm		0	0	Fair	
Smithville, North Carolina	29.99	761.7	30.08	762.8	67	19.4	100	SW	2	0.9			10s		SW	1.28	32.5	Cloudy	
Springfield, Massachusetts	29.96	761.0	30.09	764.3	64	17.8	94	S	8	3.6			10s		SW	0.07	1.8	Threatening	
Stockton, Texas	26.92	683.8	29.92	760.0	64	17.8	30	SW	12	5.4		8cs	0	Calm		0	0	Fair	
Thatcher's Island, Mass	30.06	763.5	30.11	764.8	53	11.7	100	S	6	2.7			Fog			0	0	Foggy	
Toledo, Ohio	29.37	746.0	30.04	763.0	63	17.2	47	N	3	1.3		0	0			0	0	Clear	
Tucson, Arizona	27.53	699.2	30.08	764.0	65	18.3	48	S	1	0.4		5ck	0	SW		0	0	Fair	
Umatilla, Oregon	29.44	747.8	29.92	760.0	53.0	11.7	80	Calm	0	0			10ks		W	0.06	1.5	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas	29.02	737.1	29.81	757.2	75	23.9	97	SE	3	1.3			10s		S	0	0	Cloudy	
Vicksburg, Mississippi	29.82	757.4	30.08	764.0	67	19.4	84	Calm	0	0		2c	0	Calm		0	0	Clear	
Virginia City, Montana	24.05	610.9	29.53	750.0	46	7.8	47	SE	4	1.8			10s		Calm	0	0	Cloudy	
Visalia, California	29.63	752.6	30.00	762.0	55	12.8	87	E	2	0.9			10n		Calm	0.10	2.5	Light rain	
Washington, D. C.	29.93	760.2	30.04	763.0	67	19.4	89	NE	3	1.3			10s		NE	0.01	0.3	Cloudy	
Wickenburg, Arizona																			
Wilmington, N. Carolina	29.93	760.2	30.01	762.2	66	18.9	89	SE	2	0.9			10s		Calm	0.29	7.4	Cloudy	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	38	3.3	91	S	2	0.9		2k	0	S		0.14	3.6	Fair	
Wood's Holl, Mass	30.09	764.3	30.13	765.3	59	15.0	94	SW	6	2.7			Fog			0	0	Dense fog	
Yankton, Dakota	28.67	728.2	29.91	759.7	63	17.2	86	Calm	0	0		2c	0	Calm		0	0	Fair	
Yuma, Arizona	29.76	755.9	29.92	760.0	70	21.1	61	W	6	2.7		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.43	722.1	29.79	756.7	64	17.8	78												J. B. Gordon.
Havana, Cuba, W. I.	29.97	761.2	30.02	762.5	81	27.2	70	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.23	640.8			67.2	19.6	83	Calm			0	5cs	5ks			0	0		Thomas Herran.
Navassa, W. I.	29.92	760.0	30.03	762.0	79	26.1	74	E								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	80	26.7	87	E			2	5k	8ks	E		0.67	17.0	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.11	764.8	30.16	766.1	26.0	— 3.3	94	N	13	5.8		2c	1s	NE	NE	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9(?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,861 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.06‡	762.0‡			50	10.0	93	S	4	1.8			5		WSW	0.64	16.3			Cloudy	
Navy Yard, Pensacola, Fla.	30.06‡	762.0‡			72	22.2	80	NNW	1	0.4			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.92‡	760.0‡			60	15.6	87	E			3		10ks		E	0	0			Cloudy	
Adams, S 8° 28′, W. 79° 55′	29.99‡	761.7‡			69	20.6	95	SE			4		5		S;E			Mod'ate	S;W	Fair	
Alaska, Sitka, Alaska	29.99‡	761.7‡			45	7.2	76	NW			3		10		SE	0	0			Overcast	
Alliance, Malaga, Spain	30.19‡	766.8‡			81	27.2	17	NW			3		5					Light	NW	Pleasant	
Colorado, New York, N. Y	30.10‡	764.5‡			63	17.2	94	Calm	0	0			10			0.12	3.0			Foggy	
Constitution, N. 31° 14′, W. 68° 20′	30.16‡	766.6‡			73	22.8	90	ESE			4		3		SE			Smooth	SE	Clear	
Despatch, Gibraltar, Mediterranean.	30.16‡	766.1‡			71	21.7	85	WNW			1		3		Calm			Smooth		Hazy	
Enterprise, Havre, France	29.67‡	753.6‡			53	11.7	93	SW			2		10		S;W					Raining	
Franklin, Norfolk, Va	30.02‡	762.5‡			70	21.1	95	ENE	4.8	2.2			10			0.2	5.			Foggy	
Hartford, Montevideo, Uruguay.*	29.81‡	757.2‡			63	17.2	94	NW			4		10		NW	0.10	2.5			Cloudy	
Marion, N. 33° 50′, W. 77° 05′	30.09‡	764.3‡			70	21.1	??	SE			1-2		10		S;E			Smooth		Drizzling	
Michigan, Erie, Pa					59	15.0	88	N			2		0							Clear	
Monocacy, Shanghai, China	29.86‡	758.4‡			62	16.7	77	N			2		8		N					Cloudy	
Monongahela, Yokohama, Japan	29.96‡	761.0‡			62	16.7	83	E			2-3		8			Light	Light			Overcast	
New Hampshire, Port Royal, S. C	29.97‡	761.2‡			76	24.4	82	Calm	0	0			5		Calm	0	0			Fair	
Onward, Callao, Peru †*	30.09‡	764.3‡			63	17.2	94	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.85‡	758.2‡			60	15.6	88	N			2		2							Fair	
Passaic, Washington, D. C					71	21.7	80	NE			1		8		SSW					Cloudy	
Pensacola, Callao, Peru	30.00‡	762.0‡			64	17.8	89	SE	1	0.4			10			0	0	Smooth	W	Foggy	
Portsmouth, N. 35° 20′, W. 75° 07′	30.06‡	763.5‡			66	18.9	89	NW			4		10		Calm			Mod'ate	NNW	Cloudy	
Powhatan, Port Royal, S. C	29.96‡	761.0‡			72	22.2	90	SW			3		5		Calm	0.4	10.	Smooth		Fair	
Quinnebaug, N. 32° 02′. E. 32° 51′	30.09‡	764.3‡			72	22.2	71	NE			1		0					Smooth		Clear	
Ranger, Amoy, China	29.80‡	756.9‡			83	28.3	87	Calm			0		5		Calm			Smooth		D. clouds	
Richmond, Hong-Kong, China	29.70‡	754.4‡			85	29.4	76	SE			0-1		5		SE	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡			76	24.4	95	S			1		10		S					Cloudy	
Santee, Annapolis, Md	30.04‡	763.0‡			69	20.6	90	SE			2		8		S	0.15	3.8			Cloudy	
Saratoga, N. 33° 24′, W. 22° 38′	30.37‡	771.4‡			68	20.0	65	E			3		8		E	0	0	Mod'ate	E	D. clouds	
St. Louis, League Island, Pa	30.07‡	763.8‡			63	17.2	94	ESE	7	3.1			10			0.61	15.5			Foggy	
Trenton, Villafranca, France	29.83‡	757.7‡			68	20.0	51	SE			1-2		5		SW	0.01	0.3	Smooth		Hazy	
Tuscarora, N. 16° 03′, W. 98° 33′	29.94‡	760.5‡			82	27.8	58	WNW			1		2		Calm	0	0	Smooth		Hazy	
Vandalia, N. 9° 39′, W. 79° 40′	29.72‡	754.9‡			81	27.2	96	NW			3		10			0	0	Smooth		Cloudy	
Wabash, Boston, Mass	30.08‡	764.0‡			65	18.3	73	SW			1		10			0	0			Overcast	
Wyoming, Villafranca, France	29.81‡	757.2‡			63	17.2	83	E			2		5		E			Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Hong-Kong, China		29.91‡	759.7‡				NW			4		2k		NW	0	Smooth		Blue sky	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter.†		29.84‡	757.9‡	54	12.2	80	W			1		0			0			Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.81‡	757.2‡				S			3				SSW				Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.85‡	758.2‡	85	29.4	79	SE			1		3s			0			D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 38° 15′, E. 147° 21′		29.93‡	760.2‡	55	12.8	93	E			5.6		10n		E		7	E	Overcast	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeifer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 54′, W. 52° 00′		30.37‡	771.4‡				WSW			3		2		W		2	SW	Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 38° 54′. W. 69° 59′		30.09‡	764.3‡	67	19.4	95	S			2		5		S	0	Slight	SE	Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 12′. W. 80° 17′		30.04‡	763.0‡	82	27.8	75	Calm	0	0		2c		Calm		0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 39° 15′, W. 72° 30′ †.		30.09‡	764.3‡	63	17.2		S					8				Smooth		Blue sky	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.66‡	753.4‡				NE	3	1.3			2		E	0			Fair	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.03	762.7	69.4	20.8	69	WNW			1		8			0	0	Very cloudy	Kesxuche.
Algiers			29.93	760.2	68.0	20.0	68	WNW			5		8			Inap.	Inap.	Very cloudy	Tourillere.
La Calle			29.96	761.0	70.7	21.5	76	N			2		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			29.98	761.6															
Tebessa			30.07	763.8	68.0	20.0	19	NW			3		5			0	0	Cloudy	Herbin.
Geriville			30.02	763.6	72.5	22.5	22	W			7		5			0	0	Cloudy	Watrin.
Laghouat			30.05	763.3	71.2	21.8	24	S			3		5			0	0	Cloudy	Brugniaux.
Biskra			30.02	762.6	80.2	26.8	37	WSW			4		2			0	0	Fair	Bertrand.
			29.95	760.7	82.9	28.3	22	NW			1		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,083? m., or 3,569.8? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.24	742.6	29.77	756.1	68.4	20.2	44	SE			2		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.06	738.2	29.81	757.1	65.8	18.8	51	NW			1		10			0	0		Dr. Wierzbiski.
Eperies	28.94	735.0	29.80	756.8	62.2	16.8	73	S			1		10s			0.317	8.05		Julius Mikolik.
Gratz	28.58	726.0	29.80	756.8	64.6	18.1	44	ESE			3		3			0.276	7.0		Andreas Rospini.
Hermannstadt	28.42	721.8	29.80	756.8	67.8	19.9	53	S			3		6			0.093	2.35		Prof. A. Gottschling.
Kremsmünster	28.41	721.6	29.71	754.7	61.7	16.5	70	ENE			3		2			0.346	8.8		Prof. C. Wagner.
Lemberg	28.82	732.0	29.78	756.4	63.1	17.3	77	S			1		10			0.165	4.2		Dr. T. Stanecki.
Pola	29.74	755.3	29.65	758.1	64.6	18.1	50	SE			2		0			0	0		I.R.Hydrographic Office.
Szathmar	29.39	746.6	29.85	758.2	61.2	16.2	76	N			1		10			0.248	6.3	Rainy	Julius Csics, S. J.
Szegedin	29.55	750.5	29.82	757.4	64.9	18.3	61	SE			2		8			0	0		Karl Stancel.
Trieste	29.77	756.2	29.87	758.8	61.2	16.2	81	W			1		10			0	0		P. Busin.
Vienna	29.12	739.5	29.82	757.3	62.1	16.7	57	E			1		7			0.256	6.5		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cue.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E. Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.79	756.7	29.89	759.2	43.7	6.5		SSE	16	7.2			9			0	0	Overcast	W. Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.84	757.9	56.1	13.4		S	9	4.0			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.86	758.4	58.2	14.6		SE	3	1.3			10					Overcast	John Hartnup.
Bolton (Sharples)			29.86	758.4	56.8	13.8		NNE	24	10.7			5					Threatening	Thomas Mackereth.
Bradford, Yorkshire	29.49	749.0	29.89	759.2	52.1	11.2		NE			1		6			0.06	1.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	83	28.3		NE			2		6					Gloomy	Pvt. G. Surgener, A.
Cambridge, Observatory	29.76	755.9	29.86	758.4	56.0	13.3		NNW			1		10					Overcast	H. Todd.
Cardington			29.85	758.2	56.0	13.3		N			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.71	754.6	29.84	757.9	59.0	15.0		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.84	757.9	29.88	758.9	52	11.1		SSE			3		10					Overcast	J. Mac Gowan.
Dover	29.79	756.7	29.81	757.2	57	13.9		NE			3		4					Misty	J. Costello.
Falmouth, Observatory	29.70	754.4	29.93	760.2	53.9	12.2		NW			3		9					Foggy	The Staff.
Fort Napier (Natal)	27.62	701.5	29.92	760.0	65.4	18.6		E			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	82	27.8		N			1		3					D. clouds	
Galway, Queen's College			29.80	756.9	51	10.6		SSW			2		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.13	765.3	30.15	765.8	68.6	20.3		W			4		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.64	752.8	29.85	758.2	51.5	10.8		NNE			1							Misty	D. G. Maclean. [O.
Great Yarmouth	29.86	758.4	29.86	758.4	52	11.1		NNE			2		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.68	753.9	29.85	758.2	60.3	15.7		N			1		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.64	752.8	29.86	758.4	53.3	11.8		NNW			1		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.91	759.7	30.03	762.8	56	13.3		NW			2		6k			0.2	5.	Fair	M. P. Moyle.
Holyhead	29.84	757.9	29.87	758.7	52	11.1		NW			2		2					Blue sky	John Tilston.
Jersey	29.60	751.8	29.89	759.2	54.8	12.7		N			2		5					D. clouds	J. Fisher.
Kew, Observatory	29.82	757.4	29.86	758.4	55.0	12.8		N	12	5.4			5					D. clouds	The Meteorological Of.
Leicester, Museum	29.64	752.8	29.89	759.2	49.9	9.9		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.89	759.2	29.96	761.0	68	20.0		SW			3		2k			0.45	11.4	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.74	755.4	29.83	757.7	50	10.0		Calm			0		5					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	80.0	26.7		NW			1		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.72	754.9	29.91	759.7	49.8	9.9		NE			2		10k		NE	0.050	1.27	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.36	745.7	29.89	759.2	49.2	9.6		NE			3		10					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.88	758.9	53	11.7		E			1		9					Overcast	H. E. Bellamy.
Plymouth	29.79	756.7	29.86	758.4	57.4	14.1		S			1		10					Overcast	John Merrifield.
Prince Town	28.44	722.4	29.91	759.7	52.1	11.2		SW			1		9					Gloomy	W. H. Tooker.
*Roche's Point	29.87	758.7	29.96	761.0	53	11.7		SW			3		10					Covered	Wm. Kennedy.
Saint Ann's Head	29.73	755.1	29.89	759.2	51	10.6		NW			1		3					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.85	758.2	47	8.3		SSE	30	13.4			0			0	0	Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.73	755.1	29.79	756.7	78.0	25.6		SW			1		6			Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.61	752.1	29.90	759.4	50.0	10.0		NE			1		10			0.01	0.3	Overcast	W. F. Cooper.
Shiloth Rectory	29.83	757.7	29.86	758.4	59.3	15.2	53	W			2		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.48	748.8	29.88	758.9	57.0	13.9		N			0		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.64	752.8	29.86	758.4	57.1	13.9		NE			3		2					D. clouds	Rev. C.H.Griffith, F.M.S.
Truro, Royal Institution	29.88	758.9	29.91	759.7	56	13.3		NW			7		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.85	758.2	29.87	758.7	51.3	10.7		S	23	10.3			10			Blank	Blank	Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.18	766.6	30.22	767.6	59.8	15.4	74	SSE	8	3.6		6	6			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.62	752.3	56.0	13.3	94	E			1		10kn			0.15	3.8	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.87	758.7	29.90	759.4	47.0	8.3		E			2		0			0.01	0.3	Fine	Andrew Gibb.
Mauritius, Observatory	29.85	758.2	30.04	762.9	76.2	24.6	56	ESE	7.5	3.4		0	1			0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.62	752.3	29.71	754.6	56.8	13.8	60	NE	9	4.0			9		N	0.01	0.25	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.74	755.4	51	10.6		SSE			4		10			0	0		J. Youngclause.
North Unst (Shetland Is.)			29.88	758.9	43	6.1		SE			4	0	0						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."																		Capt. W. J. L. Wharton.
§Brig Alliance, N. 24° 58′, W. 54° 33′			30.17‡	766.3‡	75.1	23.9	ENE			4		4					D. clouds	Capt. W. Scott.
S. S. Amanda																		Capt. B. Boyes.
Barque Belle-Isle																		Capt. A. J. Brown.
Ship British Commodore, N. 51° 00′, W. 9° 55′			29.94	760.5	52	11.1	SW			4		10			4	WNW	Raining	Capt. J. W. Thorne.
—— City of Agra																		Capt. Thos. Young.
Barque Commewyne																		Capt. A. Buchan.
Barque Fedalma																		Capt. H. L. Fox.
Barque Mertole, N. 48° 49′, W. 12° 24′			30.03‡	762.8‡	56.2	13.4	SW			4		10					Overcast	Capt. E. W. Turner.
S. S. Nizam, N. 5° 16′, E. 85° 39′			29.78‡	756.4‡	81	27.2	W			6		10			High		Raining	Capt. Barlow.
S. S. Royal Alexandra, N. 42° 25′, W. 64° 20′			30.30	769.6	60	15.6	W			4		10			3	SW	Misty	W. P. Hughes.
S. S. Strathleven																		Capt. C. W. Pearson.
S. S. Wyberton																		Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2	29.96	761.0	68.4	20.2	93	SE			1	8s	1ks			Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.52	749.8	29.57	751.0	49.1	9.5	94	N			4		10					Raining	
Fanöe	29.72	754.8	29.74	755.3	58.5	14.7	66	NNW			6		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.73	755.1	29.76	756.0	48.6	9.2	79	SSE			4		10						
Vestervig	29.58	751.3	29.75	755.6	53.2	11.8	72	N			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.28	743.7	29.83	757.7	54.3	12.4	87	NE			2		8		SW	0.165	4.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.90	759.4	30.00	762.1	64.0	17.8	56	E			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.55	750.6	29.80	757.0	59.9	15.5	61	WSW			1				W	0.024	0.6		Klein, Commandant.
Avignon, Normal School	29.74	755.3	29.82	757.3	55.4	13	77	N			2		10					Rainy	Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.81	757.1	56.5	13.6	63	NW			1		8kn		NW	0.047	1.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.54	750.4	29.81	757.1	55.9	13.3	66	S			1		10		SE	0.193	4.90	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	28.94	735.0	29.82	757.3	56.1	13.4	71	SSW			2		8		SW	0.618	15.7	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.95	735.3	29.85	758.3	53.4	11.9	86	W			1		5n	W	W	0.79	20.	Cloudy	Marlot, Director
Bourges, Normal School	29.26	743.1	29.81	757.1	55.4	13	86	SW			1		10	W	W	0.071	1.8	Covered	A. Waquet, Director
Brest, Naval Observatory	29.64	752.9	29.89	759.1	54.0	12.2	71	NW			1		10		N	0	0		De Rermaree, Director.
Carcassonne, Normal School	29.52	749.7	29.93	760.2	56.3	13.5	73	W			4		5	NW	NW	0.217	5.5	½ covered	September, Director.
Caen, Normal School	29.76	756.0	29.84	757.9	55.1	13.4	75	NW			2		5		NNW	0.165	4.2	Cloudy	Lair, Director.
Chartres, Normal School	29.19	741.5	29.74	755.4	59.0	15	82	E			1		10		NE	0.47	12.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.50	749.3	29.82	757.3	57.6	14.2	58	SW			1		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-F'd., Puy de D. Ob	28.47	723.0	29.81	757.2	53.6	12.0	67	W			2		10		W	0.248	6.3		Allnard, Director.
Commercy, Normal School.	28.95	735.3	29.80	757.0	54.3	12.4	74	SSW			1		8kn		SSW	0.068	0.2	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.67	728.2	29.81	757.2	56.3	13.5	73	NW			2		8		NW	0.08	2.		L. Kina, Director.
Grenoble, Normal School	29.07	738.3	29.84	757.9	50.4	10.2	76	WNW			2		10n			0.189	4.80	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.67	753.7	29.89	759.1	56.5	13.6	82	WNW			4		2		WNW	0.532	13.5	Slightly cl'dy	Mouillot, Director
Le Mans, Normal School	29.51	749.5	29.82	757.3	55.4	13	79	N			2		8		N	0.071	1.8	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.87	733.3	29.86	758.4	56.7	13.7	75	SE			2		10n	N	N	0.543	13.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.83	757.6	29.93	760.1	59.0	15.0	64	NW			2			W	NW	0.008	0.2		L.T. Carré, Director.
Mâcon, Normal School																			Galvin, Director.
Marseilles, Observatory			29.76	755.8	60.4	15.8	59	NNW			2		9			0.004	0.10		E. Stephan, Director.
Mirecourt, Normal School	28.80	731.5	29.88	757.7	57.2	14	71	NNE			1		10kn		SW	0.04	1.	Covered	Barbier, Director.
Nîmes, Normal School	29.60	751.7	29.79	756.7	62.6	17	58	E			2		2		NW	0.059	1.50	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.79	731.3	29.85	758.1	57.2	14	57	N			1		en	N	N	0.16	4		Cantier, Director.
Puy de Dome (Summit) Obs	28.87	733.2			33.6	0.9	100	W			4					0.551	14.0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.87	758.7	29.90	759.5	55.4	13.0	86	WNW			2		10	WNW	WNW	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.73	755.1	29.82	757.3	57.2	14.0	65	E			2		10		E	0.217	5.5	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.9	29.87	758.6	57.6	14.2	79	NW			2		5	NNW	NNW	0.094	2.38	Misty	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.64	752.8	29.80	757.0	61.0	16.1	61	SW			1				SSE	0.012	0.3		E. Renou, Director.
Tarbes, Normal School	28.93	734.7	30.02	762.4	50.0	10	74	S			2		10			0.16	4.	Covered	T. Hugnet, Director.
Toulouse, Observatory	29.27	743.4	29.99	761.7	52.2	11.2	73	WNW			4		9			0.047	1.2		Mercadier Julier.
Versailles, Observatory	29.31	744.5	29.80	757.0	56.8	13.8	65	SW			1					0.026	0.67		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.09	738.9	29.81	757.2	53.6	12	65	N			1		10		NW	0.374	9.5	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	78.8	26										1.50	38.		L'Abbé Marci ès.
Lyons Obs'y (Park Station)	29.21	742.0	29.82	757.4	56.3	13.5	61	SW			1		10		WNW	0.217	5.5	Covered	Mr. Jays.
Mont-Louis	24.66	626.4	29.98	761.4	41.4	5.2	49	W	15.0	6.7			10			0.425	10.8	Rain & snow	M. Cave.
Nice			29.78	756.4	61.2	16.2	81	SW			1		10					Rain and fog	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.52	749.9			59.7	15.4	70	S			2		7		S	0.102	2.6		Marié Davy, Director.
Perpignan	29.76	756.0	29.87	758.7	59.0	15.0	43	NW	30.0	13.3			5		WNW	0.193	4.9	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Boylac.
Pic du Midi (Plantade) H. P.	22.35	567.6			33.8	1.0		SW			2		6			1.138	28.9	Snowy	Gen'l de Nansouty.
Tours	29.54	750.2	29.73	755.2	57.2	14.0	80	NNW			1		10		NNW	0.098	2.5		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.94	760.4	29.96	761.0	61.9	16.6	77	ENE	10.7	4.8			10			0	0	Covered	Marc Decheyrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.90	734.1	29.74	755.3	64.2	17.9	47	S			4		2	S		0	0		Prof. Dr. Hoh.
Berlin	29.63	752.5	29.80	756.9	53.2	11.8	67	SW			2		7			0.028	0.7		Prof. Arndt.
Breslau	29.30	744.3	29.83	757.7	58.8	14.9	60	NW			2		10			0.011	0.27		Royal University Obs'y.
Carlsruhe	29.34	745.3	29.76	755.9	61.7	16.5	57	SE			0		9	SW		0	0		Albert Senz.
Cassel	29.21	741.9	29.81	757.2	59.4	15.2	47	NW			4		4	N		0	0		Dr. H. Möhl.
Crefeld	29.60	751.9	29.76	756.0	65.1	18.4	49	S			3		8			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.40	746.8	29.77	756.1	63.1	17.3		SW			2		4			0.008	0.2		Physical Society.
Freienwalde on the Oder	29.72	755.0	29.76	756.0	51.3	10.7	83	W			3		10ks			0.374	9.5		Assmann., M. D.
Friedrichshafen	28.31	719.0	29.71	754.5	61.9	16.6	44	SE			4		3	SW		0.008	0.2	Light rain	M. Wilhelm.
Hamburg	29.68	753.9	29.75	755.7	57.0	13.9	59	NW			2		10kn			0	0	Fine	Captain F. Hegeman.
Kiel	29.71	754.6	29.72	755.0	56.8	13.8	56	NNW			4		8			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.69	754.2	29.77	756.2	66.2	19.0	47	S			5		4			0.012	0.3		Prof. E. Luther.
Köslin			29.67	753.5	49.1	9.5		S			6		4			0	0		H. Müller.
Leipsic Observatory	29.37	746.0	29.79	756.6	58.3	14.6	56	NW			1		3	WNW		0.028	0.7		Prof. Bruhns, Privy Counsellor.
Memel	29.72	754.9	29.77	756.1	63.1	17.3	55	S			4		2ks						Skalweit.
Munich (München)	27.95	710.0	29.80	756.9	59.4	15.2	94	NE			2		6	W	E	0.059	1.5		Dr. C. Lang.
Neufahrwasser	29.71	754.6	29.72	755.0	63.0	17.2	50	S			5		8			0.154	3.9		A. Lothes.
Posen	29.57	751.1	29.85	758.3	58.8	14.9	67	W			6		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.25	743.0	29.79	756.7	63.3	17.4	50	SSW			3		9	S		0.249	6.33		Imp. University Observatory.
Stuttgart	28.82	732.0	29.74	755.3	62.2	16.8	44	N					5	W		0	0		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.29	718.5	29.77	756.1	59.4	15.2	48	Calm	0	0			7ck		W	0	0		Dr. Van Bebber.
Wustrow	29.64	752.8	29.66	753.4	46.6	8.1	93	WSW			5		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.7	29.82	757.4	74.5	23.6		SW			2.5							½ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.8	29.57	751.0	90.7	32.6	62	WSW					5			0	0		D. clouds
Deesa	29.14	740.1	29.58	751.4	104.2	40.1	26	SW	11.9	5.3			0			0	0		Blue sky
Bombay	29.66	753.4	29.70	754.4	85.5	29.7	75	WNW	9.0	4.0			2		W	0	0		D. clouds
Poona	27.70	703.6	29.65	753.2	89.3	31.8	47	WNW					4			0	0		D. clouds
Lahore	28.89	733.7	29.60	751.9	96.2	35.7	20	N	3.1	1.4			0			0	0		Blue sky
Belgaum	27.19	690.5	29.69	754.1	80.9	27.2	76	W	12.0	5.4			10	SW	SW	0	0		D. clouds
Roorkee	28.71	729.2	29.58	751.4	90.4	32.4	26	Calm	2.1	0.9						0	0		
Agra	29.02	737.2	29.56	750.8	102.6	39.2	20	N					0			0	0		Blue sky
Nagpur	28.48	723.4	29.47	748.5	104.7	40.4	20	SE	5.4	2.4			4			0	0		D. clouds
Lucknow	29.16	740.7	29.52	749.8	103.7	39.8	42	E	2.3	1.0			0			0	0		Blue sky
Allahabad	29.21	742.0	29.51	749.5	105.3	40.7	20	N	2.0	0.9			0			0	0		Blue sky
Patna	29.33	745.0	29.51	749.4	101.7	38.7	26	Calm	1.6	0.7			2			0	0		
Hazaribagh	27.65	702.2	29.62	752.4	84.8	29.3	45	SE	6.0	2.7			5			0	0		
Cuttack	29.53	750.1	29.61	752.1	89.6	32.0		SE	4.0	1.8			6			0	0		D. clouds
Calcutta (Alipore)	29.60	752.0	29.63	752.5	82.6	28.1	80	S	7.0	3.1			10	SW		0	0		
Goalpara	29.22	742.2	29.60	752.0	82.6	28.1	72	E	4.8	2.2			8	SW	SW	2.90	73.7		D. clouds
Chittagong	29.60	751.8	29.69	754.1	86.9	30.5	80	SW	6.2	2.8			2			0	0		
Sibsagar	29.35	745.5	29.69	754.0	78.3	25.7	78	NE	2.4	1.1			10	W	W	0.51	13.0		Overcast
Jubbulpore	28.17	715.6	29.46	748.4	103.7	39.8	11	E	2.6	1.2						0	0		

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,352 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.45	747.9	29.85	758.3	63.5	17.5	63	SW	2.5	1.1			8			0.067	1.7		Prof. Giovanni Clodig.
Milan	29.31	744.5	29.82	757.5	55.6	13.1	79	S			2		10			0.486	12.2		Prof. Schiaparelli.
Padua	29.74	755.3	29.84	758.0	62.2	16.8	60	ESE	4.9	2.2			8	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.90	734.0	29.80	756.8	50.9	10.5	77	N	5.6	2.5			10	SSE		0.551	14.0		Prof. P. F. Denza.
Genoa	29.62	752.3	29.81	757.2	54.5	12.5	86	E	6.9	3.1			10	SE		1.193	30.3		Prof. G. M. Garibaldi.
Mondovi	27.88	708.2	29.79	756.6	46.4	8.1	79	NNW			2		10			0.055	1.5		Prof. D. C. Bruno.
Pesaro	29.77	756.2	29.82	757.5	62.6	17.0	68	E	15.4	6.9			7	SW		0	0		Prof. Luigi Guidi.
Florence	29.55	750.5	29.80	757.0	69.8	21.0	45	E			2		10			0.071	1.8		Cav. F. Meucci.
Leghorn	29.72	755.0	29.81	757.1	63.5	17.5	59	S			4		10	S		0.488	12.4		Prof. P. Monte.
Rome	29.72	754.9	29.90	759.4	66.7	19.3	55	S	9.8	4.4			9			0	0		Prof. P. S. Ferrari.
Lecce	29.65	753.0	29.90	759.4	62.6	17.0	65	SE	6.3	2.8			3			0	0		Prof. C. De Giorgi.
Cosenza	29.04	737.7	29.93	760.2	65.8	18.8	68	SE	0.7	0.3			2			0	0		Prof. D. Conti.
Cagliari	29.60	751.7	29.79	756.6	63.1	17.3	78	SE			2		10	W		0	0		Prof. A. Pacinotti.
Palermo	29.64	752.9	29.89	759.3	62.4	16.9	66	NE	9.4	4.2			1			0	0		Prof. G. Cacciatore.
Syracuse	29.84	757.9	29.91	759.8	69.8	21.0	60	NW	7.4	3.3			2	NW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.38	746.3	29.94	760.4	62.4	16.9	76	WSW	1.8	0.8			4			0.161	4.1		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	64.9	18.3	96	S	2.7	1.2			10s			1.030	26.16	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.98	761.5	61.4	18.0	96	N	1.9	0.8			10s			0.410	10.41	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.89	759.2	29.95	760.7	62.2	16.8	95	N	3.3	1.5			10s			0.170	4.32	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.09	637.2	30.06	763.6	61.2	16.2	57	W			1	5	0	N		0.004	0.1	½ clouded	Prof. L. Perez.
Leon	24.26	621.3	30.04	763.1	67.5	19.7	61	NW			1	8c	0			0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.2	30.10	764.4	56.7	13.7	56	Calm	0	0		1c	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					66.6	19.2	51	Calm			0	2cs	0			0	0	Hazy	M. V. de Leon, M. E.
Tlacotalpam	29.89	759.1	29.90	759.4	78.8	26.0	83	Calm			0	2	0			0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.25	616.0	30.21	767.4	59.0	15.0	51	SE			1	9	0	W		0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.3	30.04	762.9	66.7	19.3	42	Calm			0	0	1s		Calm	0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	51.6	10.9	68	SE	0.4	0.2		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.5	30.03	762.8	78.8	26.0	73	NE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.79	756.6	29.79	756.6	62.6	17.0		SSE								0.016	0.4		
Groningen	29.79	756.6	29.84	758.0	55.6	13.1		N			1					0.051	1.3		
Helder	29.82	757.5	29.82	757.5	52.2	11.2		NE			4					0	0		
Hellevoetsluis	29.76	755.8	29.76	755.8	63.5	17.5	59	ENE			2					0	0		
Utrecht	29.76	755.9	29.81	757.1	59.2	15.1	63	ENE			3		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.82	757.5	29.88	758.9	54.0	12.2	65	NNW	11.0	4.9			0			0	0		
Brönö	29.93	760.3	29.97	761.3	50.0	10.0	62	E	18	8			2			0	0		
Christiania	29.66	753.4	29.80	757.0	60.4	15.8	38	ENE	7	3			10			0	0		
Tromsö	30.08	764.0	30.12	765.1	43.7	6.5	53	SSW	20	9			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.05	763.3	30.24	768.1	64.0	17.8	71	SSE	6.9	3.1			6			0	0		Dr. J. A. Sampaio.
Campo Major	29.06	738.2	30.08	764.0	65.8	18.8	36	NW	10.5	4.7			3			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.07	763.7	30.15	765.9	70.9	21.6	53	E	11.2	5.0			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.82	757.4	30.18	766.5	61.2	16.2	45	NNW	15.0	6.7			2			0	0		The Staff.
Ponta Delgada (Azores)	30.18	766.5	30.25	768.3	68.4	20.2	68	ESE	7.4	3.3			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M. de Sande, Com'd't.
Duque da Terceira, Santiago, Cape Verd Ids			29.98	761.4	76.8	24.9		NE			4		0			4	NE	Blue sky	C. C. da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.8	79.5	26.4		WNW			2		2		WNW	1	WNW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro																			J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.97	761.3	81.3	27.4		NNE			1		9			1		Showery	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.81	757.2	86.2	30.1		SW			3		0			2	SW	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.41	747.0	29.62	757.4	64.2	17.9	57	S	13	6			10ks						Astronomical Obs.
Wilna	29.51	749.5	29.91	759.8	68.4	20.2	42	SE	16	7			9						Astronomical Obs.
Dorpat	29.80	756.9	30.04	763.0	63.0	17.2	58	ESE	16	7			10ck						Prof. Dr. Weihrauch.
St. Petersburg	30.16	766.1	30.18	766.5	62.2	16.8	53	E	11	5			5cs						Central Physical Obs.
Kieff	29.36	745.7	29.97	761.3	67.6	19.7	47	SE	13	6			1ck					Light clouds	Physical Cabinet.
Nikolaiev	29.91	759.8	29.98	761.6	76.1	24.5	38	Calm	0	0			4k						Kurdakof.
Kertch	29.95	760.8	29.97	761.3	68.4	20.2	74	NE	4	2			3						Lagorio.
Moscow	29.70	754.3	30.24	768.1	62.4	16.9	54	SSE	4	2			0						Meteorological Obs.
Lugan	29.76	755.9	29.96	761.0	69.1	20.6	44	ENE	18	8			9						Meteorological Obs.
Archangel	30.11	764.9	30.13	765.4	39.0	3.9	82	NNW	9	4			10						Capt. Sseliwerstow.
Tiflis	28.50	724.0	29.89	759.2	65.5	18.6	52	NW	9	4			4ks						Physical Observatory.
Astrakhan	29.78	756.3	29.69	754.2	82.6	28.1	34	E	2	1			4s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.80	756.9	30.06	763.5	71.8	22.1	38	NW	2	1			1						Physical Cabinet.
Ekaterinburg	28.86	733.1	29.78	756.5	71.8	22.1	35	W	31	14			3c;cs;s					Light clouds	Meteorological Obs.
Nukuss	29.62	752.3	29.84	758.0	76.8	24.9	54	NNW	4	2			8k;n						
Tashkend	28.21	716.5	29.67	753.6	86.7	30.4	53	Calm	0	0			0						Teich, A. M.
Barnaul	29.44	747.8	29.95	760.6	44.4	6.9	86	SSW	4	2			10						Meteorological Obs.
Yeniseisk	29.71	754.6	30.00	761.9	52.2	11.2	49	ESE	4	2			3						Marks.
Irkutsk																			
Peking (China)	29.74	755.3	29.88	758.9	72.3	22.4	54	SE	13	6			8n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.85	758.3	29.95	760.8	42.3	5.7	100	Calm	0	0			10n					Foggy	
Nikolaievsk, on the Amoor	29.66	753.4	29.75	755.6	32.4	0.2	96	NE	4	2			10s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.78	756.4	29.80	759.1	60.8	16	52	SE	5.1	2.28			5k			0	0	½ Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.0	30.12	765.0	57.2	14.0	81	NW	6.5	2.92		0	10			0.622	15.8	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.9			56.5	13.6	50	NE	8.4	3.73			6			0.059	1.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.80	706.2			65.8	18.8	39	N	12.7	5.67		4	6	NW		Inap.	Inap.	Light clouds	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.8	70.7	21.5	42	WNW	5.7	2.53		5	4	SE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.6	30.09	764.2	60.8	16.0	65	NW	6.3	2.8		0	10			0.008	0.2	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	761.0	30.02	762.6	78.3	25.7	69	N	4.5	2.0		2c	1k	WSW		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.74	755.5	29.79	756.7	87.1	30.6	65	ENE	0.7	0.3		0	0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.03	762.9	30.13	765.4	65.7	18.7	53	WNW	15.9	7.1		0	1		NW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.92	759.9	30.01	762.2	79.9	26.6	76	SE	0	0		2c	2k			0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.29	769.3	30.33	770.3	40.6	4.8	....	E	.....	.....	2	.....	10	.....	.....	0.472	12.0	.....	
Umea	30.20	767.0	30.25	768.3	41.7	5.4	69	E	.....	.....	6	.....	6	.....	.....	0	0	.....	
Hernosand	30.08	763.9	30.13	765.2	37.4	3.0	83	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	29.62	752.4	29.80	756.9	42.8	6.0	100	NNE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	29.64	752.8	29.70	754.3	58.3	14.6	81	S	.....	.....	7	.....	7	.....	.....	0.071	1.8	.....	
Sub-Series.																			
Upsala	29.74	755.3	29.81	757.2	43.5	6.4	99	NE	19.2	8.6	.....	.....	10	.....	E	0.322	8.20	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.37	720.6	29.79	756.6	56.8	13.8	63	SSW	.....	.....	2	.....	10	.....	.....	0.228	5.8	Raining	The Observatory.
Zurich	28.13	714.5	29.74	755.4	62.2	16.8	47	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —4.6 mm.; Thermometer,—3.2 Cent.; Relative Humidity, +6 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.4	74.1	23.4	83	ESE	7	3.0	.....	.....	6	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.12	765.0	86.0	30.0	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	29.96	761.1	66.2	19.2	.....	W	.....	.....	2	.....	5	.....	.....	0.43	11.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.80	756.9	29.91	759.8	73.4	23.1	64	NNE	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.70	754.4	29.99	761.7	64	17.8	.....	S	1	0.4	.....	2c	0	SW	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.11	764.8	30.17	766.3	43	6.1	87	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.07	763.8	30.11	764.8	49	9.4	91	SW	1	0.4	.....	.....	10n	.....	.....	.....	.....	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.97	761.2	54.0	12.2	78	E	.....	.....	1	1cs	0	.....	.....	0	0	Fine	James Smith, M. A.
Dalhousie, N. B	29.99	761.7	30.15	765.8	44	6.7	92	SE	.....	.....	1	.....	10s	.....	.....	0.07	1.8	Overcast	H. A. Johnson.
Esquimault, B. C	29.75	755.6	29.80	756.9	52.3	11.3	86	W	3	1.3	.....	7cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.12	765.0	30.14	765.5	40	4.4	86	NE	8	3.6	.....	8k	Fog	E	Calm	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.15	765.8	44.1	6.7	92	NE	6	2.7	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba	29.08	738.6	29.91	759.7	45	7.2	96	E	8	3.6	.....	5k	5n	E	E	0.130	3.30	Light rain	James Stewart.
Granton, Ontario	28.90	734.0	29.97	761.2	64	17.8	.....	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.95	760.7	30.09	764.3	59	15.0	92	Calm	0	0	.....	.....	8ks	.....	W	Inap.	Inap.	Fair	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.03	762.8	58.5	14.7	76	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.67	753.6	29.99	761.7	66	18.9	70	S	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.07	763.8	30.11	764.8	45.3	7.4	.....	SE	2	0.9	.....	4ck	4s	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.88	757.7	30.03	762.8	52	11.1	73	NE	13	5.8	.....	2c	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.35	745.5	30.03	762.8	55	12.8	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.26	743.2	29.99	761.7	63.9	17.7	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	29.99	761.7	60	15.6	71	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.03	762.8	30.08	764.0	49.6	9.8	.....	W	3	1.3	.....	.....	.....	.....	.....	0.60	15.2	Raining	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.97	761.2	64	17.8	62	E	10	4.5	.....	2ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.78	756.4	30.11	764.8	44	6.7	79	NE	.....	.....	5	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.05	763.3	56	13.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.02	762.5	30.07	763.8	50	10.0	93	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.93	760.2	30.10	764.5	49	9.4	100	NE	2	0.9	.....	.....	Fog	.....	.....	0.86	21.8	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.01	762.2	58	14.4	63	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.23	742.4	29.99	761.7	58	14.4	64	Calm	0	0	.....	2c	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.72	729.5	29.97	761.2	59.7	15.4	58	E	3	1.3	.....	1cs	0	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.09	764.3	30.13	765.3	49	9.4	96	N	2	0.9	.....	.....	10n	.....	.....	0.03	0.8	Cloudy	T. C. Hill.
*Toronto, Ontario	29.64	752.8	30.02	762.5	61	16.1	63	N	8	3.6	.....	2c	0	NW	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.00	762.0	30.10	764.5	57.5	14.2	94	N	3	1.3	.....	.....	10n;k	.....	.....	0.03	0.8	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.02	762.5	30.28	769.1	41.0	5.0	96	NE	.....	.....	.....	Fog	Fog	.....	.....	0.06	1.5	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.78	756.4	30.01	762.2	67	19.4	92	Calm	0	0			10n		Calm	0.04	1.0	Light rain	
Alpena, Michigan	29.42	747.2	30.06	763.5	51	10.6	65	SE	2	0.9		0	0			0	0	Clear	
Atlanta, Georgia	28.81	731.8	29.92	760.0	66	18.9	78	N	6	2.7		0	Haze		Calm	0.24	6.1	Clear	
Atlantic City, New Jersey	29.96	761.0	29.97	761.2	60	15.6	100	S	8	3.6			Fog		S	0.55	14.0	Foggy	
Augusta, Georgia	29.89	756.9	29.97	761.2	68	20.0	84	Calm	0	0			Fog		Calm	0	0	Foggy	
Baltimore, Maryland	29.91	759.7	29.96	761.0	67	19.4	89	E	3	1.3		5k	5ks	SE	SE	1.38	35.1	Cloudy	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	60	15.6	100	S	9	4.0			Fog		Calm	1.71	43.4	Foggy	
Bismarck, Dakota	28.02	711.7	29.87	758.7	49	9.4	93	NW	8	3.6			10s		NW	1.60	40.6	Cloudy	
Boerne, Texas	28.44	722.4	29.70	754.4	72	22.2	80	S	6	2.7			10s		S	0	0	Cloudy	
Boise City, Idaho	27.00	685.8	29.96	761.0	49	9.4	71	SE	8	3.6			10s		Calm	0.04	1.0	Cloudy	
Boston, Massachusetts	29.90	759.4	30.05	763.3	58	14.4	100	SE	4	1.8			Fog		Calm	0	0	Foggy	
Brackettville, Texas	28.78	731.0	29.76	755.9	76	24.4	73	NE	8	3.6		5cs	0	E		0	0	Fair	
Breckenridge, Minnesota	28.70	729.0	29.66	753.4	55	12.8	97	SE	6	2.7		0	5ks		SE	0.27	6.9	Fair	
Brownsville, Texas	29.82	757.4	29.87	758.7	79	26.1	82	S	12	5.4		10k	0	S		0	0	Clear	
Buffalo, New York	29.28	743.7	29.95	760.7	66	18.9	30	NE	5	2.2		2ks	Haze	Calm	Calm	0	0	Fair	
Burkes, Arizona					63	17.2	11	S			1	2c	0	Calm		0	0	Clear	
Burlington, Vermont	29.73	755.1	30.01	762.2	56	13.3	81	N	3	1.3			10s		Calm	0	0	Cloudy	
Cairo, Illinois	29.58	751.3	29.96	761.0	67	19.4	79	NE	1	0.4		8c	Haze	Calm		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.27	641.8	30.07	763.8	63	17.2	28	N	6	2.7		8k	0	NW		0	0	Cloudy	
Camp Verde, Arizona	26.77	680.0	30.11	764.8	58	14.4	27	SE			1	0	0			0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	50	10.0	93	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	29.98	761.5	29.98	761.5	68	20.0	90	SE	1	0.4			10n		SE	0.42	10.7	Light rain	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	68	20.0	84	SE	6	2.7		0	8ks		SE	0.80	20.3	Cloudy	
Cape Lookout, N. Carolina	29.95	760.7	29.96	761.0	70	21.1	90	SW	1	0.4		5ck	5s	Calm	Calm	0.27	6.9	Cloudy	
Cape May, New Jersey	29.90	759.4	29.92	760.0	63	17.2	89	S	6	2.7			Fog		S	0.12	3.0	Foggy	
Castroville, Texas	29.10	739.1	29.78	756.4	76	24.4	82	S	2	0.9			10s		S	0	0	Cloudy	
Charleston, South Carolina	29.87	758.7	29.93	760.2	71	21.7	85	NE	3	1.3		2k	0	Calm		0.61	15.5	Fair	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	48	8.9	56	NW	6	2.7		0	0			0	0	Clear	
Chicago, Illinois	29.28	743.7	29.96	761.0	54	12.2	67	NE	2	0.9		0	0			0	0	Clear	
Cincinnati, Ohio	29.33	745.0	29.96	761.0	66	18.9	54	NE	2	0.9		1k	0	NE		0	0	Clear	
Cleveland, Ohio	29.24	742.7	29.96	761.0	58	14.4	70	N	4	1.8		2c	0	W		0	0	Clear	
Coleman City, Texas	28.06	712.7	29.64	752.8	75	23.9	68	W	12	5.4		8c	0	Calm		0	0	Fair	
Columbus, Ohio	29.12	739.6	29.94	760.5	62	16.7	46	N	5	2.2		0	0			0	0	Clear	
Concho, Texas	27.95	709.9	29.55	750.6	72	22.2	80	SW	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.39	746.5	29.84	757.9	73	22.8	90	S	7	3.1			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.29	744.0	29.92	760.0	59	15.0	59	E	7	3.1		0	0			0	0	Clear	
Deadwood, Dakota	25.30	642.6			47	8.3	85	Calm	0	0		0	0			0.44	11.2	Clear	
Decatur, Texas	28.61	726.7	29.72	754.9	73	22.8	72	S	16	7.2		2cs	0	S		0	0	Fair	
Denison, Texas	29.02	737.1	29.77	756.1	72	22.2	90	SE	12	5.4		10k	0	SE		0	0	Cloudy	
Denver, Colorado	24.69	627.1	29.91	759.7	53	11.7	48	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	28.94	735.1	29.78	756.4	68	20.0	65	Calm	0	0		0	0			0.01	0.3	Clear	
Detroit, Michigan	29.35	745.0	29.99	761.7	55	12.8	68	NE	5	2.2		2cs	0	Calm		0	0	Clear	
Dodge City, Kansas	27.18	690.4	29.34	745.2	66	18.9	95	S	8	3.6			10ks		S	0	0	Cloudy	
Dubuque, Iowa	29.24	742.7	29.92	760.0	61	16.1	50	SE	5	2.2		5cs	5ks	Calm	S	0	0	Cloudy	
Duluth, Minnesota	29.27	743.4	29.95	760.7	41	5.0	91	NE	8	3.6			10s		NE	0.28	7.1	Cloudy	
Eagle Pass, Texa	29.10	739.1	29.88	758.9	77	25.0	77	E	6	2.7		0	0			0	0	Clear	
Eastport, Maine	30.02	762.5	30.09	764.3	45	7.2	100	N	2	0.9			10n;fog		Calm	0.01	0.3	Light rain	
Edinburg, Texas					79	26.1	82	S			4		10s		S	0	0	Cloudy	
El Paso, Texas	26.22	666.0			65	18.3	26	NW	8	3.6		8cs	0	NW		0	0	Fair	
Erie, Pennsylvania	29.25	742.9	29.95	760.7	58	14.4	76	NE	4	1.8		2ck	0	NE		0	0	Fair	
Escanaba, Michigan	29.36	745.7	30.02	762.5	48	8.9	70	N	4	1.8		0	0			0	0	Clear	
Florence, Arizona	28.46	722.9	30.06	763.5	65	18.3	26	NW	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.86	707.6			49	9.4	93	N	5	2.2			10s		Calm	0.28	7.1	Cloudy	
Fort Craig, New Mexico	25.52	648.2	29.58	751.3	57	13.9	30	SW	2	0.9			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.23	640.8	30.19	766.8	64	17.8	30	N	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.30	744.2	29.81	757.2	74	23.3	68	SE	12	5.4		2c	0	W		0	0	Fair	
Fort Griffin, Texas	28.50	723.9	29.69	754.1	78	25.6	65	S	14	6.3		0	0			0	0	Clear	
Fort Keogh, Montana	27.34	694.4			53	11.7	79	N	3	1.3		5k	0	Calm		0.10	2.5	Fair	
Fort McKavett, Texas	27.63	701.8	29.45	748.0	73	22.8	81	SW	8	3.6		5c	2s	SW	Calm	0	0	Fair	
Fort St. Michael, Alaska	30.12	765.0	30.15	765.8	32	0.0	100	Calm	0	0			10s		Calm	0.05	1.3	Cloudy	
Fort Sill, Indian Territory	28.51	724.1	29.55	750.6	73	22.8	76	SE	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.02	711.7			49	9.4	100	N	12	5.4			10n		Calm	1.89	48.0	Light rain	
Fredericksburg, Texas	28.15	715.0	29.62	752.3	78	25.6	65	SW	7	3.1		8cs	0	Calm		0	0	Fair	
Galveston, Texas	29.89	759.2	29.93	760.2	79	26.1	82	S	12	5.4		Haze	1ks		Calm	0	0	Clear	
Graham, Texas	28.70	729.0	29.69	754.1	75	23.9	77	S	2	0.9		0	0			0	0	Clear	
Grand Haven, Michigan	29.34	745.2	29.98	761.5	62	16.7	67	E	8	3.6		0	0			0	0	Clear	
Indianapolis, Indiana	29.14	740.1	29.89	759.2	63	17.2	55	NE	3	1.3		0	0			0	0	Clear	
Indianola, Texas	29.91	759.7	29.94	760.5	78	25.6	86	S	15	6.7			10ks		S	0	0	Cloudy	
Jacksboro, Texas	28.63	727.2	29.69	754.1	74	23.3	81	SW	16	7.2		0	0			0	0	Clear	
Jacksonville, Florida	29.93	760.2	29.96	761.0	74	23.3	76	S	3	1.3		0	0			0.70	17.8	Clear	
Keokuk, Iowa	29.26	743.2	29.85	758.2	64	17.8	56	E	6	2.7		1c	0	W		0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	78	25.6	61	NW	8	3.6		2k	0	NE		0	0	Fair	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	62	16.7	100	S	10	4.5			10n		W	1.18	30.0	Heavy rain	
Knoxville, Tennessee	29.00	736.6	29.99	761.7	59	15.0	97	N	1	0.4			Fog			0.01	0.3	Dense fog	
La Crosse, Wisconsin	29.16	740.7	29.87	758.7	64	17.8	53	S	9	4.0		10k	0	S		0	0	Cloudy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	55	12.8	39	Calm	0	0		10c	0	NW		0	0	Cloudy	
Laredo, Texas	29.42	747.2	29.74	755.4	80	26.7	51	SE	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	28.97	735.8	29.77	756.1	66	18.9	79	SE	5	2.2		1ck	0			0	0	Clear	
Los Angeles, California	29.70	754.4	30.04	763.0	55.5	13.1	90	Calm	0	0		0	1s		Calm	0.20	5.1	Clear	
Louisville, Kentucky	29.49	748.7	29.94	760.5	64	17.8	63	N	2	0.9		0	0			0	0	Clear	
Lynchburg, Virginia	29.27	743.4	29.93	760.2	65	18.3	83	NE	1	0.4		0	8ks		NE	0.12	3.0	Cloudy	
Madison, Wisconsin	28.98	736.1	29.95	760.7	56	13.3	69	S	3	1.3		5cs	0		S	0	0	Fair	
Marquette, Michigan	29.30	744.2	30.02	762.5	43	6.1	83	Calm	0	0		5k	0	NE		0.04	1.0	Fair	
Mason, Texas	28.25	717.5	29.92	760.0	74	23.3	81	SW	5	2.2		8cs	0	NW		0	0	Fair	
Memphis, Tennessee	29.62	752.3	29.95	760.7	68	20.0	79	E	2	0.9			10s		NW	0	0	Cloudy	
Milwaukee, Wisconsin	29.23	742.4	29.95	760.7	51	10.6	65	N	3	1.3		1ck	Sm'e	Calm		0	0	Clear	
Mobile, Alabama	29.94	760.5	29.98	761.5	72.5	22.5	83	NW	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	29.76	755.9	29.99	761.7	71	21.7	80	Calm	0	0		0	0			0	0	Clear	
Morgantown, West Virginia	28.88	733.5	29.89	759.2	69	20.6	70	Calm	0	0		2k	0	N		0.06	1.5	Fair	
Mt. Washington, N. H.	23.95	608.3	30.41	769.9	50	10.0	100	SE	10	4.5			10n		SE	0.10	2.5	Light rain	
Nashville, Tennessee	29.45	748.0	29.97	761.2	70	21.1	70	W	1	0.4		0	0			0	0	Clear	
New Haven, Connecticut	29.87	758.7	29.99	761.7	65	18.3	94	E	5	2.2			10n;fg		Calm	1.61	40.9	Light rain	
New London, Connecticut	29.95	761.5	30.03	762.8	63	17.2	97	SE	4	1.8			10n		Calm	0.56	14.2	Light rain	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	75	23.9	81	SW	1	0.4		1ck	0	W		0.07	1.8	Clear	
Newport, Rhode Island	29.98	761.5	30.03	762.8	62	16.7	100	E	4	1.8			10n		Calm	0.41	10.4	Light rain	
New York, New York	29.80	756.9	29.98	761.5	62	16.7	100	E	11	4.9			10n		Calm	1.11	28.2	Light rain	
Norfolk, Virginia	29.90	759.4	29.96	761.0	69	20.6	85	Calm	0	0		2k	8s	Calm	Calm	1.25	31.7	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.90	683.2	29.33	745.0	66	18.9	95	SE	3	1.3			10s		Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.80	756.9	29.84	757.9	50.0	10.0	93	SW	2	0.9			10s		W	0.19	4.8	Cloudy	
Omaha, Nebraska	28.64	727.4	29.67	753.6	70	21.1	75	SE	4	1.8		0	0			0.17	4.3	Clear.	
Oswego, New York	29.69	754.1	30.00	762.0	59	15.0	76	Calm	0	0		5c	2s	Calm	Calm	0	0	Fair	
Pembina, Dakota	28.97	735.8	29.80	756.9	44	6.7	100	NE	12	5.4			10n		NE	0.04	1.0	Heavy rain.	
Philadelphia, Pa	29.90	759.4	29.95	760.7	65	18.3	94	E	1	0.4			10n;fg		E;Calm	0.32	8.1	Light rain	
Phœnix, Arizona	28.76	730.5	30.53	775.4	65	18.3	22	E	1	0.4		2c	0	W		0	0	Fair	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	23	— 5.0	34	SW	22	9.8		2k	2s	SW	Calm	0	0	Fair	
Pioche, Nevada	23.90	607.0	29.67	753.6	45	7.2	53	S	14	6.3		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.94	760.5	63	17.2	83	NE	2	0.9		7ck	Fog	NE	Calm	0.20	5.1	Fair	
Port Huron, Michigan	29.34	745.2	30.00	762.0	49	9.4	78	N	10	4.5		0	0			0	0	Clear	
Portland, Maine	30.01	762.2	30.06	763.5	62	16.7	94	S	4	1.8			Fog			0.02	0.5	Foggy	
Portland, Oregon	29.87	758.7	29.94	760.5	49.5	9.7	93	S	5	2.2			10n		S	0.56	14.2	Light rain	
Prescott, Arizona	24.70	627.4	30.06	763.5	56	13.3	24	W	8	3.6		8ck	0	W		0	0	Fair	
Pilot Point, Texas	29.12	739.6	29.92	760.0	69	20.6	69	SE	5	2.2		Haze	Haze			0	0	Hazy	
Punta Rassa, Florida	29.98	761.5	30.00	762.0	77	25.0	69	NW	10	4.5		5k	0	NW		0	0	Fair	
Red Bluff, California	29.60	751.8	29.96	761.0	51	10.6	83	NW	4	1.8			10s		S	0.02	0.5	Threatening	
Rio Grande City, Texas	29.66	753.4	29.87	758.7	77	25.0	82	SE	8	3.6		0	0			0	0	Clear	
Rochester, New York	29.38	746.2	29.97	761.2	66	18.9	45	SE	1	0.4		5k	0	SE		0	0	Fair	
Roseburg, Oregon	29.44	747.8	30.01	762.2	47	8.3	92	NW	4	1.8			10s		Calm	0.66	16.8	Cloudy	
Sacramento, California	29.91	759.7	29.99	761.7	51	10.6	86	S	4	1.8			10s		Calm	0.35	8.9	Cloudy	
St. Louis, Missouri	29.36	745.7	29.92	760.0	65	18.3	58	SE	6	2.7		3ckcs	0	Calm		0	0	Fair	
St. Marks, Florida	29.96	761.0	29.98	761.5	72	22.2	80	NW	4	1.8		0	0			0	0	Clear	
St. Paul, Minnesota	28.94	735.1	29.73	755.1	61	16.1	66	SE	16	7.2			10ks		S	0.05	1.3	Cloudy	
Salt Lake City, Utah	25.47	646.9	29.80	756.9	56	13.3	35	SE	8	3.6		1k	0	Calm		0	0	Clear	
San Antonio, Texas	29.21	741.9	29.76	755.9	76	24.4	82	SE	2	0.9			10s		SE	0	0	Cloudy	
San Diego, California	30.00	762.0	30.07	763.8	60	15.6	94	Calm	0	0			10ks		Calm	0	0	Cloudy	
Sandusky, Ohio	29.32	744.7	29.98	761.5	60	15.6	60	NE	11	4.9		5c	0	SW		0	0	Fair	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	60	15.6	100	SE	14	6.3			Fog		Calm	2.01	51.1	Dense fog	
San Francisco, California	29.92	760.0	29.98	761.5	53.5	11.9	83	S	3	1.3		0	8ks		SW	0.26	6.6	Fair	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	46	7.8	33	NE	1	0.4		8cs	0	SW		0	0	Cloudy	
Savannah, Georgia	29.87	758.7	29.96	761.0	71	21.7	85	N	4	1.8		1ck	0	N		0.07	1.8	Clear	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	73	22.8	81	S	1	0.4		2ck	0	Calm		0	0	Fair	
Silver City, New Mexico	24.34	618.2	30.49	774.4	50	10.0	44	Calm	0	0		8c	0	NW		0	0	Fair	
Smithville, North Carolina	29.94	760.5	29.97	761.2	70	21.1	95	S	6	2.7		5ck	2s	S	S	0.04	1.0	Cloudy	
Springfield, Massachusetts	29.90	759.4	30.03	762.8	66	18.9	100	S	1	0.4			10n		Calm	0.61	15.5	Heavy rain	
Stockton, Texas	26.89	683.0	29.89	759.2	71	21.7	33	SW	4	1.8		2c	0	SW		0	0	Fair	
Thatcher's Island, Mass	30.01	762.2	30.06	763.5	55	12.8	100	S	1	0.4			Fog			0.08	2.0	Foggy	
Toledo, Ohio,	29.30	744.2	29.97	761.2	60	15.6	71	N	5	2.2		0	0			0	0	Clear	
Tucson, Arizona	27.53	699.2	30.08	764.0	63	17.2	46	SE	2	0.9		8cs	0	Calm		0	0	Fair	
Umatilla, Oregon	29.50	749.3	30.00	762.0	47.0	8.3	85	SE	4	1.8		0	5ks		SE	0.03	0.8	Fair	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.90	736.3	29.77	756.1	76	24.4	73	E	1	0.4			10s		E	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	71	21.7	85	S	1	0.4		5c	0	SW		0	0	Fair	
Virginia City, Montana	24.13	612.9	29.61	752.1	36	2.2	71	Calm	0	0		0	0			0.09	2.3	Clear	
Visalia, California	29.66	753.4	30.04	763.0	52.6	11.4	80	SE	6	2.7		0	5ks		SW	0.37	9.4	Fair	
Washington, D. C.	29.85	757.7	29.94	760.5	67	19.4	89	SE	4	1.8			10ks		SE	0.47	11.9	Cloudy	
Wickenburg, Arizona																			
Wilmington, N. Carolina	29.88	758.9	29.95	760.7	69	20.6	85	W	1	0.4		8k	0	Calm		0.37	9.4	Fair	
Winnemucca, Nevada	25.52	648.2	29.88	758.9	41	5.0	74	SW	1	0.4			10n		Calm	0.04	1.0	Light rain	
Wood's Holl, Mass	30.00	762.0	30.04	763.0	58	14.4	100	SE	6	2.7			10n		SE	0.60	15.2	Heavy rain.	
Yankton, Dakota	28.48	723.4	29.70	754.4	66	18.9	84	SW	4	1.8		10ck	0	Calm		0	0	Cloudy	
Yuma, Arizona	29.78	756.4	29.94	760.5	65	18.3	49	W	8	3.6		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.31	719.1	29.66	753.4	66	18.9	68									Blank	Blank	Fair	J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	79	26.1	65	NW	3.6	1.6		4c	0	NW		0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.23	640.8			67.2	19.2	78	Calm			0	4cs	0			Inap	Inap.		Thomas Herran.
Navassa, W. I	29.90	759.4	29.98	761.5	78	25.6	86	E								0.60	15.2	Rainy	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.02	762.5	30.02	762.5	80	26.7	91	E			2	3c	5k	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A	29.70	754.4	29.75	755.6	28.0	— 2.2	100	NE	27	12.1		5k	4s	NE	NE	0.01	0.3	Squally	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.02‡	762.5‡			51	10.6	93	SSE	2	0.9			10n		SW	0.92	23.4				
Navy Yard, Pensacola, Fla.	30.01‡	762.2‡			74	23.3	95	SW	1	0.4			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.87‡	758.7‡			63	17.2	94	Calm			0		10n		NE	0.20	5.1			Raining	
Adams, S. 10° 40′, W. 78° 28′	30.01‡	762.2‡			67	19.4	100	SE			3		8					Mod'ate	S;W	Fair	
Alaska, Sitka, Alaska	30.02‡	762.5‡			45	7.2	84	NNW			2		10		SE	0	0			Misty	
Alliance. N. 36° 09′, W. 6° 12′	30.08‡	764.0‡			67	19.4	60	W			3–5		3					Light	W	Pleasant	
Colorado, New York, N. Y.	29.98‡	761.5‡			62	16.7	100	Calm	0	0			10			1.48	37.6			Rainy	
Constitution, N. 33° 30′, W. 69° 43′	30.08‡	764.0‡			72	22.2	95	S			4		10		SSE			Smooth	SSE	Cloudy	
Despatch, Gibraltar, Mediterranean.	30.07‡	763.8‡			69	20.6	61	NNW			2		3		Calm	0	0	Smooth		Hazy	
Enterprise, Havre, France	29.80‡	756.9‡			55	12.8	69	NNE			1		8		N					D. clouds	
Franklin. Norfolk, Va.	29.93‡	760.2‡			69	20.6	90	S	8.4	3.8			10		SSE	0.95	24.1			Cloudy	
Hartford, Montevideo, Uruguay.*	29.90‡	759.4‡			61	16.1	94	SSE			1		10		SE	0.10	2.5			Cloudy	
Marion, N. 32° 05′, W. 79° 40′	29.96‡	761.0‡			74	23.3	100	SW			0–1		2		S;W			Smooth		Clear	
Michigan, Erie, Pa.					56	13.3	87	NE			4		5		NE					Fair	
Monocacy. Shanghai, China	29.97‡	760.7‡			64	17.8	83	NE			2		10		NE					Cloudy	
Monongahela, Yokohama, Japan	29.92‡	760.0‡			65	18.3	84	NNE			1–2		n			Mod'ate	Mod'ate			Raining	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡			72	22.2	90	N	3	1.3			2		Calm	0.09	2.3			Clear	
Onward, Callao, Peru †*	30.10‡	764.5‡			64	17.8	89	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.94‡	760.5‡			62	16.7	94	ENE			3		10							Misty	
Passaic, Washington, D. C.					70	21.1	90	S			1		10							Cloudy	
Pensacola, Callao, Peru	30.00‡	762.0‡			63	17.2	??	Calm	0	0			10			0	0	Smooth	W	Foggy	
Portsmouth, N. 34° 51′, W. 75° 49′	29.94‡	760.5‡			69	20.6	80	SSW			2		5		Calm			Smooth		Fair	
Powhatan, Port Royal, S. C.	29.94‡	760.5‡			72	22.2	85	Calm			0		2		Calm	0.1	3.	Smooth		Clear	
Quinnebaug, Jaffa, Syria	29.87‡	758.7‡			73	22.8	72	N			2		8		N					Cloudy	
Ranger, Amoy, China	29.87‡	758.7‡			81	27.2	96	SE			1		2		Calm			Smooth		D. clouds	
Richmond, N. 22° 39′. E. 115° 10′	29.78‡	756.4‡			84	28.9	79	E			2		1		E	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.87‡	758.7‡			78	25.6	95	SE			1		8		S					Fair	
Santee, Annapolis, Md.	30.06‡	763.5‡			67	19.4	89	SE			1		10		SE	0.55	13.7			Overcast	
Saratoga, N. 34° 46′, W. 22° 07′	30.24‡	768.1‡			66	18.9	68	SE			4		5		SE	0	0	Mod'ate	SE	D. clouds	
St. Louis, League Island, Pa.	29.99‡	761.7‡			66	18.9	94	SW	3	1.3			10		SW	0.93	23.6			Light fog	
Trenton, Marseilles, France	29.79‡	756.7‡			67	19.4	55	N			2–3		8		SW	0	0	Smooth		Cloudy	
Tuscarora, Mora Hermosa, Mexico.	29.92‡	760.0‡			77	25.0	77	WNW			1		5		Calm	0	0	Smooth		Hazy	
Vandalia, N. 12° 13′, W. 79° 41′	29.69‡	754.1‡			82	27.8	91	NNE			4		8		NE	0	0	Mod'ate	NE	Cloudy	
Wabash, Boston, Mass.	30.10‡	764.5‡			66	18.9	74	SE			2		10			0	0			Foggy	
Wyoming, Villafranca, France	29.75‡	755.6‡			60	15.6	100	SSE			1–2		10					Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

†Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Tokio																			
§S. S. City of Tokio Capt. Maury N. 22° 49′, E. 115° 12′		29.91‡	759.7‡	84	28.9		ESE			2		0			0	Smooth		Blue sky	L. B. Walls.
S. S. Colima																			
N. 11° 56′, W. 87° 53′ †.		29.94‡	760.5‡	80	26.7		SE			2		8		N	0.02 in. or 0.5 mm	Small	N	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelur.
S. S. Dakota, Capt. H. G. Morse, Esquimault, Vancouver I.†		29.85‡	758.2‡	53	11.7	73	NW			2		1		SE	0			Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.83‡	757.7‡				NE			2				ENE				Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.87‡	758.7‡	84	28.9	83	Var.			2		6ck			0			D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 39° 43′, E. 150° 37′		29.94‡	760.5‡	46	7.8	?/	SE			6		n				4	ESE	Squally	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 09′, W. 67° 25′		30.29‡	769.4‡				SW			3		5		WSW		3	W	Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES.—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 53′, W. 63° 34′		30.24‡	768.1‡	70	21.1	100	SSW			5		4		S	0	Smooth		Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 00′, W. 80° 43′		30.04‡	763.0‡	79	26.1	62	NNW	8	3.6			0			0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax", N. 40° 40′, W. 72° 05′ †.		30.01‡	762.2‡	62	16.7		E					Fog				Smooth		Dense fog	Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.61‡	752.1‡				E	5	2.2			2		E	1.75 in. or 44.5mm			Misty	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

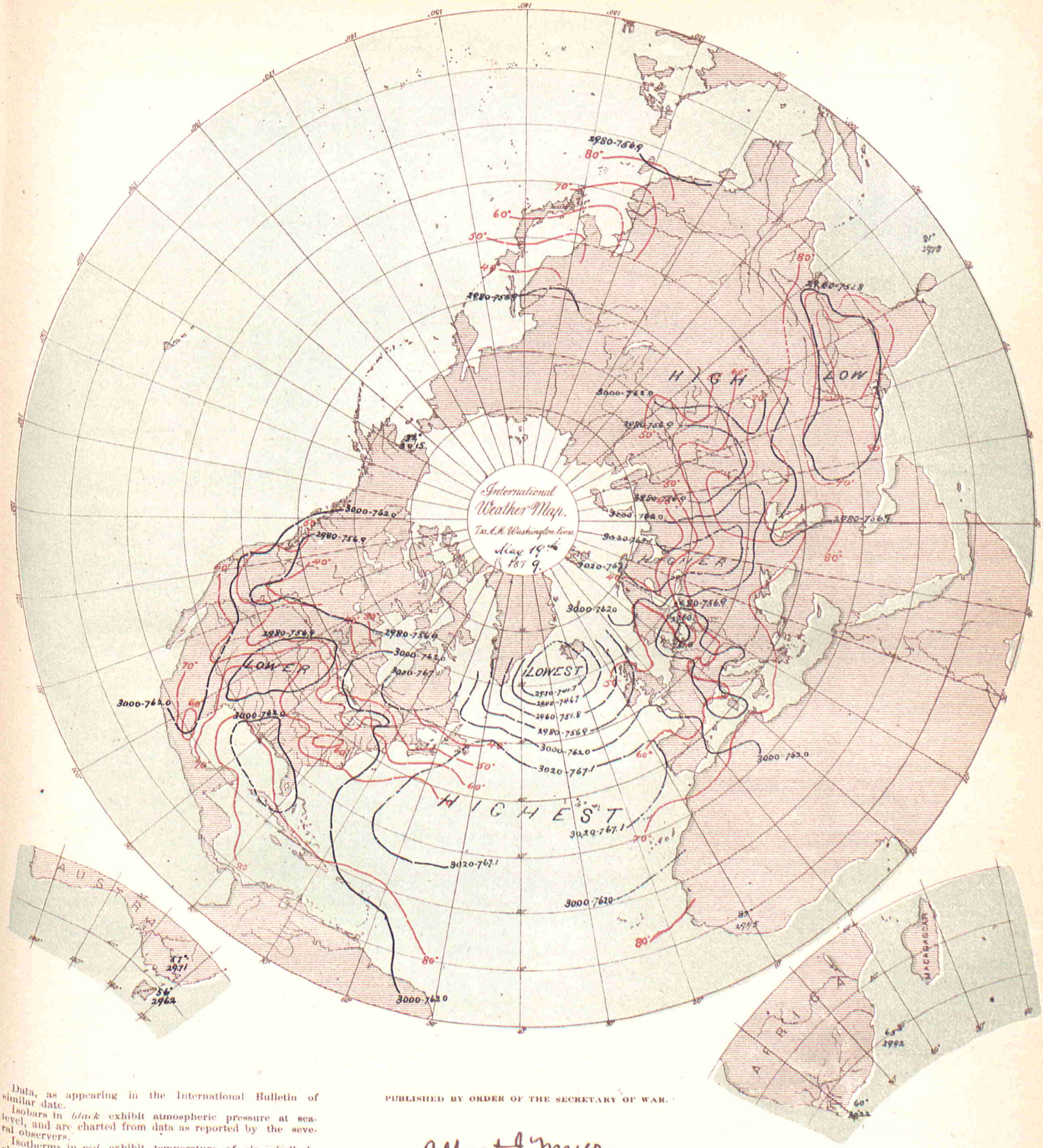
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.04	762.9	70.2	21.2	70	NNW			2		5			0	0	Cloudy	Kesxuche.
Algiers			30.03	762.7	68.0	20.0	68	NNE			1		0			0	0	Clear	Touriliere.
La Calle			30.09	764.2	69.3	20.7	81	N			1		2			0.311	7.90	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.04	763.1															Gau.
Saida			30.08	763.9	68.5	20.3	13	W			2		2			0	0	Fair	Herbin.
Tebessa			30.08	763.9	56.6	13.7	52	N			1		8			0.161	4.1	Very cloudy	Watrin.
Geriville			30.04	763.0	72.0	22.2	28	NW			1		2			0	0	Fair	Brugniaux.
Laghouat			30.04	763.1	73.8	23.2	45	E			2		0			0	0	Clear	Bertrand.
Biskra			30.01	762.2	81.0	27.2	20	NW			3		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,92[illegible].0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Agram	29.35	745.4	29.87	758.8	72.3	22.4	47	NE			3		8			Inap.	Inap.		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.5	29.98	761.5	65.8	18.8	54	ENE			2		9			0.016	0.4		Dr. Wierzbiski.
Eperies	29.05	737.8	29.91	759.8	59.7	15.4	85	N			1		10ks			0	0		Julius Mikolik.
Gratz	28.71	729.3	29.94	760.4	65.1	18.4	52	S			2		7			0	0		Andreas Rospini.
Hermannstadt	28.48	723.5	29.87	758.7	66.2	19.0	7[illegible]	SW			3		10			0.187	4.75		Prof. A. Gottschling.
Kremsmünster	28.56	725.3	29.8[illegible]	758.4	64.4	18.0	64	ENE			3		7			0	0		Prof. C. Wagner.
Lemberg	28.91	734.4	29.87	758.6	67.3	19.6	58	S			1		5			0.138	3.5		Dr. T. Stanecki.
Pola	29.81	757.2	29.9[illegible]	760.0	63.5	17.5	68	SE			2		5			0	0		I.R.Hydrographic Office.
Szathmar	29.47	748.6	29.92	760.0	68.2	20.1	63	S			1		6			0.004	0.1		Julius Csics, S. J.
Szegedin	29.64	752.9	29.91	759.8	66.0	18.9	55	SE			1		6			0	0		Karl Stancel.
Trieste	29.85	758.3	29.96	760.9	63.3	17.4	8	W			1		8			0	0	Almost cl'dy	P. Busin.
Vienna	29.25	742.9	29.95	760.6	68.7	20.4	50	E			1		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.82	757.4	29.92	760.0	51.7	10.9		S	13	5.8			9					Drizzling	W. Boswell.
Ardrossan	29.89	759.2	29.90	759.4	50	10.0		WSW			3		8			0.220	5.59	Overcast	William McNeil.
Armagh, Observatory			29.96	761.0	51.6	10.6		NNE	6	2.7			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.95	760.7	57.7	14.3		SE	12	5.4			10					Overcast	John Hartnup.
Bolton (Sharples)			29.94	760.5	56.4	13.6		S	24	10.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.57	751.1	29.97	761.2	59.0	15.0		W			1		7			0.03	0.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	85	29.4		NE			1		6					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.90	759.4	29.99	761.7	64.0	17.8		S			1		10					Overcast	H. Todd.
Cardington			29.97	761.2	62.0	16.7		S			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.90	759.4	30.02	762.5	62.0	16.7		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.90	759.4	29.94	760.5	50	10.0		WSW			4		10					Raining	J. Mac Gowan.
Dover	30.02	762.5	30.04	763.0	51	10.6		WSW			1		10					Foggy	J. Costello.
Falmouth, Observatory	29.79	756.7	30.02	762.5	55.0	12.8		S			2		10					Foggy	The Staff.
Fort Napier (Natal)	27.69	703.3	29.98	761.5	63.2	17.3		E			2		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4		N			1		4					D. clouds	
Galway, Queen's College			29.95	760.7	52	11.1		NNW			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.94	760.5	29.98	761.5	68.2	20.1		W			1		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.70	754.4	29.91	759.7	52.1	11.2		SSW			2							Raining	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.03	762.8	52	11.1		SE			1		0					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.84	757.9	30.01	762.2	66.8	19.3		SW			1		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.82	757.4	30.04	763.0	58	14.4		SSE			1		3					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	29.95	760.7	30.07	763.8	60	15.6		SW			2		4k			0.12	3.0	Fair	M. P. Moyle.
Holyhead	29.91	759.7	29.95	760.7	53	11.7		SSW			3		10					Misty	John Tilston.
Jersey	29.81	757.2	30.10	764.5	55.9	13.3		W			1		1					D. clouds	J. Fisher.
Kew, Observatory	29.97	761.2	30.01	762.2	63.0	17.2		S	5	2.2			9					Threatening	The Meteorological Of.
Leicester, Museum.	29.73	755.1	29.98	761.5	59.9	15.5		SW			1		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	70.4	21.3		SE			2		3k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.80	756.9	29.89	759.2	48	8.9		NW			2		10					Raining	W. D. Penny.
Nassau (Bahamas)			29.93	760.2	80.5	26.9		NE			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.81	757.2	30.00	762.0	61.2	16.2		SW			1		10k;ks		SSW	0.056	1.42	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.46	748.3	29.98	761.5	57.0	13.9		S			1		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.00	762.0	59	15.0		SE			1		10					Overcast	H. E. Bellamy.
Plymouth	29.95	760.7	30.02	762.5	54.5	12.5		SW			1		10					Overcast	John Merrifield.
Prince Town	28.56	725.4	30.05	763.3	47.8	8.8		S			2		10					Foggy	W. H. Tooker.
*Roche's Point	29.89	759.2	29.99	761.7	59	15.0		NW			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.80	756.9	29.96	761.0	50	10.0		S			4		10					Foggy	John C. Walker.
Sandwick Manse (Orkneys)			29.85	758.2	49.5	9.7		WSW	17	7.6			5			0	0	D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.90	759.4	76.0	24.4		N			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.71	754.6	29.98	761.5	62.0	16.7		SSW			1		10			0.02	0.5	Overcast	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	53.7	12.1	84	W			2		10			0.120	3.20	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.57	751.1	29.97	761.2	56.6	13.7		S			1		10			Blank	Blank	Misty	Rev. S. J. Perry.
Straitfield, Turgiss	29.79	756.7	30.00	762.0	63.8	17.7		SW			2		10					D. clouds	Re .C.H.Griffith, F.M.S.
Truro, Royal Institution	29.96	761.0	29.99	761.7	57	13.9		S			4		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.98	761.5	30.01	762.2	54.6	12.6		NNW	14	6.3			10					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.08	764.0	30.12	765.0	66.8	19.3	50	S	16	7.2		4	4			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.68	753.9	55.0	12.8	83	SE			1		10kn			0.01	0.3	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.93	760.2	29.95	760.7	56.2	13.4		SW			2		10ks			0.17	4.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.85	758.2	30.04	763.1	73.5	23.1	71	ESE	7.5	3.4		1	1			0.06	1.5	Fine	C. Meldrum.
Melbourne, Observatory	29.47	748.5	29.56	750.8	59.3	15.2	78	NE	10	4.5			10			0.03	0.76	Showery	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.91	759.7	53	11.7		NW			2	0	0			0.2	5.	Hazy	J. Youngclause.
North Unst (Shetland Is.)			29.84	757.9	47	8.3		S			7		10					Hazy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Force.	Clouds. Amount.	Clouds. Direction.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."																Capt. W. J. L. Wharton.
§Brig Alliance, N. 27° 02′, W. 54° 41′			30.17‡	766.3‡	75	23.9		ENE		4	7				D. clouds	Capt. W. Scott.
S. S. Amanda.																Capt. B. Boyes.
Barque Belle-Isle																Capt. A. J. Brown.
Ship British Commodore, N. 51° 40′, W. 7° 40′			29.95	760.7	55	12.8		WSW		3	7		3	SW	Misty	Capt. J. W. Thorne.
—— City of Agra																Capt. Thos. Young.
Barque Commewyne																Capt. A. Buchan.
Barque Fedalma																Capt. H. L. Fox.
Barque Mertole, N. 49° 37′, W. 10° 08′			30.01‡	762.2‡	53.9	12.2		NNW		2	7				D. clouds	Capt. E. W. Turner.
S. S. Nizam, N 4° 50′, E. 84° 34′			29.71‡	754.6‡	78	25.6		SW		6	10		High		Overcast	Capt. Barlow.
S. S. Royal Alexandra, N. 42° 25′, W. 50° 30′			30.22	767.6	50	10.0		WSW		5	10		2	SW	Foggy	W. P. Hughes.
S. S. Strathleven																Capt. C. W. Pearson.
S. S. Wyberton																Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.22	666.0	29.94	760.5	68.9	20.5	80	SE			1	8ks				Inap	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.05	763.3	30.10	764.5	60.3	15.7	57	SSW			2		5						
Fanöe	30.09	764.2	30.11	764.7	52.7	11.5	71	WSW			2		2						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)	29.71	754.7	29.75	755.6	50.4	10.2	72	SW			2		7						
Vestervig	29.90	759.5	30.07	763.8	48.9	9.4	89	SW			2		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.3	30.09	764.3	59.0	15	63	SW			1		5		SSW	0.020	0.5	Cloudy	Collignon, Director.
Amiens, Normal School	29.92	759.9	30.02	762.6	66.6	19.2	63	NW			1		0			0	0	Clear	Bonvallet, Director.
Arras, Engin'r School	29.77	756.2	30.03	762.7	61.2	16.2	62								W	0.130	3.3		Klein, Commandant.
Avignon, Normal School	29.84	757.8	29.91	759.8	68.5	20.3	55	N			3		0			0.047	1.2	Very clear	Giraud, Director.
Bar-sur-Seine	29.45	748.1	30.02	762.5	64.6	18.1	43	ENE			1		5kn		N	Inap	Inap.	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.76	756.0	30.03	762.7	63.3	17.4	52	N			1		8	S	N	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.10	739.2	29.97	761.3	63.3	17.4	59	SW			2		2		SW	0.008	0.2	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.14	740.1	30.05	763.3	60.3	15.7	64	N			1		5k	N	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.46	748.2	30.00	762.0	62.2	16.8	77	NW			1		10	NW	NW	0.20	5.	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.76	755.8	30.00	762.0	56.1	13.4	86	SW			2		10		SW	0.039	1.00	Foggy	De Rermaree, Director.
Carcassonne, Normal School	29.68	753.8	30.10	764.4	58.1	14.5	60	WNW			4		5	WNW	WNW	0.20	5.	Cloudy	September, Director.
Caen, Normal School	29.97	761.2	30.04	763.0	60.4	15.8	69	NNE			1		5		S	0.004	0.1	Cloudy	Lair, Director.
Chartres, Normal School	29.47	748.4	30.02	762.5	68.0	20	75	NNW			1		3		W	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.71	754.5	30.02	762.4	68.0	20.0	32	SW			2		5			0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.67	728.2	30.01	762.3	59.4	15.2	22	N			1		8		N	0.106	2.7		Alluard, Director.
Commercy, Normal School	29.15	740.5	30.00	762.0	60.4	15.8	71	NNW			1		8kn		NNW	0.12	3.	Very cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.81	731.7	29.95	760.7	66.4	19.1	46	SW			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.20	741.8	29.96	761.0	61.5	16.4	62	WNW			2		5k		NW	0.220	5.60	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.91	759.6	30.12	765.1	57.2	14.0	71	NW			1		8		W	0.012	0.3	Very cloudy	Mouillot, Director
Le Mans, Normal School	29.75	755.7	30.06	763.6	59.9	15.5	62	NNW			2		2		S	0.069	1.75	Slightly cl'dy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.04	737.5	29.95	760.8	62.8	17.1	53	NE			2		2ck	NE	NE	0.004	0.10	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	61.2	16.2	75	SE			2				WSW	0.004	0.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			29.84	757.8	67.8	19.9	54	SW			1-2		9			0.028	0.70		E. Stephan, Director.
Mirecourt, Normal School	29.04	737.5	30.06	763.5	63.3	17.4	61	NNE			1		2ck		SW	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.73	755.1	29.93	760.1	69.1	20.6	37	W			1		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.91	734.2	29.95	760.8	62.2	16.8	53	N			1		cn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.10	739.1			40.6	4.8	74	NW			2		9		NW	0.677	17.2	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	30.08	764.1	30.11	764.9	63.9	17.7	48	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.96	760.9	30.04	763.1	61.0	17.8	66	NNW			1		2		W	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.03	762.8	30.06	763.6	59.9	15.5	58	NNW			2		1		NNW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.87	758.6	30.03	762.8	64.9	18.3	55	WSW			1				SSW	0	0		E. Renou, Director.
Tarbes, Normal School	29.04	737.5	30.12	765.0	55.4	13	48	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.42	747.3	30.15	765.7	56.5	13.6	79	WNW			2		9			0	0		Mercadier Julier.
Versailles, Observatory	29.54	750.4	30.04	762.9	62.2	16.8	53	N			1					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S.	29.39	745.7	30.05	763.3	68.0	20	91	N			3		5		N	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.2	29.80	756.9	80.6	27										0	0		L'Abbé Marchêse.
Lyons Obs'y (Park Station)	29.37	746.0	29.97	761.2	64.8	18.2	52	N			2		4		NNE	0.044	1.11	Cloudy	Mr. Jays.
Mont-Louis	24.82	630.3	30.13	765.3	46.4	8.0	54	N	24.2	10.8			0			0	0		M. Cave.
Nice			29.93	760.2	60.8	16.0	79	E			1		8			0.382	9.7	Lightly cov.	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	755.8			66.0	18.9	55	NW			2		5			Inap.	Inap.		Marié Davy, Director.
Perpignan	29.93	760.1	30.03	762.8	62.6	17.0	38	NW	24.2	10.8			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.51	571.7			30.6	—0.8		N			1		1			0.220	5.6	Clear	Gen'l de Nansouty.
Tours	29.85	758.2	30.05	763.2	63.9	17.7	56	NNW			2		5		N	0.008	0.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.89	756.9	29.83	757.6	64.8	18.2	100	ESE	17.7	7.9			10n			0.024	0.6	Misty	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Grèasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:06 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Grèasque, 322 m, or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit 2,877 m., or 9,439.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observed.
Bamberg	29.07	738.4	29.91	759.7	65.1	18.4	48	SE			6		9	E					
Berlin	29.90	759.5	30.07	763.8	64.4	18.0	47	SE			1		5			0.098	2.5	Raining	Prof. Dr. Hoh.
Breslau	29.52	749.8	30.05	763.3	69.8	21.0	37	ESE			3		4			0	0		Prof. Arndt.
Carlsruhe	29.52	749.7	29.93	760.3	68.0	20.0	45	NE			0		9c;k	S;N		0	0		Royal University Obs'y.
Cassel	29.39	746.6	30.00	762.0	69.4	20.8	40	E			3		5	SE		0	0		Albert Senz.
Crefeld	29.82	757.3	29.98	761.4	65.8	18.8	49	SE			3		5k			0	0		Dr. H. Möhl.
Emden																0.12	3.		Director Lose.
Frankfort on the Main	29.60	751.8	29.97	761.1	69.4	20.8		N			1		6						Prof. Prestel.
Freienwalde on the Oder	30.04	762.9	30.08	763.9	66.7	19.3	52	NE			2		8c;k	S		0	0		Physical Society.
Friedrichshafen	28.50	723.8	29.90	759.5	62.6	17.0	59	SW			2		6	NE		0	0		Assmann., M. D.
Hamburg	30.00	761.9	30.07	763.7	61.5	16.4	66	ENE			1		10cs			0.177	4.5	Light rain	M. Wilhelm.
Kiel	30.07	763.8	30.09	764.3	59.9	15.5	47	NE			2		8			0	0	Cloudy	Captain F. Hegeman.
Königsberg (Prussia)	30.05	763.3	30.13	765.4	59.9	15.5	59	N			3		6			0	0		Prof. G. Karsten.
Köslin			30.09	764.3	55.2	12.9		SW			4		0			0	0		Prof. E. Luther.
Leipsic Observatory	29.57	751.0	29.98	761.4	69.4	20.8	50	ESE			3		6	ESE		0	0		H. Müller.
Memel	30.09	764.2	30.13	765.4	55.2	12.9	72	NW			2		7cs			0.020	0.5		Prof. Bruhns, Privy Counselor.
Munich (München)	28.10	713.7	29.96	760.9	65.3	18.5	37	NE			4		5						Skalweit.
Neufahrwasser	30.14	765.6	30.16	766.0	52.4	11.4	73	NNE			3		5			0.012	0.3		Dr. C. Lang.
Posen	29.84	757.8	30.12	765.0	64.0	17.8	44	E			6		1			0	0		A. Lothes.
Strassburg (in Alsace)	29.42	747.2	29.95	760.8	68.2	20.1	40	NNE			2		4	E		0	0		Dr. Magener.
Stuttgart	28.98	736.0	29.59	759.2	66.6	19.2	43	N					6	W		0.003	0.07	Thunder	Imp. University Observatory.
Treves (Trier)																0	0		Prof. Schoder.
Weissenburg (Bavaria)	28.43	722.1	29.89	759.2	67.1	19.5	39	NE	4	2			7ck		E	0	0		Prof. Flesch.
Wustrow	30.08	764.1	30.11	764.7	55.6	13.1	65	N			3		5s			0	0		Dr. Van Bebber
German Naval Series.																			E. Schütz, Dir.

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.8	29.98	761.5	73.9	23.3		S			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.57	751.0	29.62	752.3	90.5	32.5	60	W					3			0	0	D. clouds	
Deesa	29.17	740.9	29.63	752.6	94.3	34.6	32	E	8.2	3.7			8		E	0	0	D. clouds	
Bombay	29.67	753.5	29.69	754.2	85.4	29.7	76	NW	15.0	6.7			10		WNW	0	0	Overcast	
Poona	27.66	702.6	29.65	753.2	77.6	25.3	60	NNW					7		NNW	0.06	1.52	D. clouds	
Lahore	28.88	733.4	29.58	751.4	101.2	38.4	19	NW	4.8	2.2			0			0	0	Blue sky	
Belgaum	27.16	689.9	29.67	753.5	79.6	26.4	86	W	10.0	4.5			10		W	0	0	Threatening	
Roorkee	28.64	727.4	29.49	749.1	100.1	37.8	15	SW	2.2	1.0			0			0	0	Blue sky	
Agra	29.00	736.7	29.54	750.2	105.6	40.9	16	N					0			0	0	Blue sky	
Nagpur	28.49	723.6	29.48	748.9	99.7	37.6	22	E	3.2	1.4			9		SE	0	0	Gloomy	
Lucknow	29.18	741.3	29.54	750.4	104.0	40.0	37	N	1.3	0.6			0			0	0	Blue sky	
Allahabad	29.26	743.1	29.55	750.6	103.1	39.5	21	Calm	2.2	1.0			1			0	0	D. clouds	
Patna	29.37	746.1	29.55	750.5	102.1	38.9	24	NE	0.9	0.4			2	NE	NE	0	0		
Hazaribagh	27.62	701.6	29.59	751.5	87.3	30.7	45	ESE	10.0	4.5			8			0	0		
Cuttack	29.59	751.6	29.67	753.7	89.1	31.7		SE	4.0	1.8			7			0	0	D. clouds	
Calcutta (Alipore)	29.65	753.1	29.67	753.6	89.6	32.0	60	S	8.0	3.6			0			0	0	Blue sky	
Goalpara	29.29	744.0	29.68	753.7	81.8	27.7	75	Calm	3.4	1.5			0			1.89	48.0	Blue sky	
Chittagong	29.64	752.7	29.72	755.0	87.7	30.9	71	SSW	5.4	2.4			2			0	0	Misty	
Sibsagar	29.42	747.3	29.76	755.8	79.6	26.4	77	NE	1.8	0.8			4			0.41	10.4	Blue sky	
Jubbulpore	28.22	716.7	29.51	749.6	102.7	39.3	14	NE	4.7	2.1			4		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.9	29.97	761.3	56.7	13.7	80	SW	1.8	0.8			10			0.252	6.4		Prof. Giovanni Clodig.
Milan	29.42	747.3	29.94	760.4	64.2	17.9	57	S			2		7			0.547	13.9		Prof. Schiaparelli.
Padua	29.83	757.7	29.94	760.4	60.6	15.9	62	E	9.4	4.2			10	E		0.008	0.2		Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.2	29.92	760.0	59.7	15.4	55	WNW	2.5	1.1			8	ESE		1.024	26.0		Prof. P. F. Denza.
Genoa	29.72	754.8	29.91	759.6	60.1	15.6	85	SW	3.8	1.7			10	SW		1.134	28.8		Prof. G. M. Garibaldi.
Mondovi	28.07	713.0	29.98	761.5	45.5	7.5	91	W			4		10			2.468	62.7		Prof. D. C. Bruno.
Pesaro	29.84	758.0	29.89	759.2	58.1	14.5	75	NE	9.8	4.4			10	NE		0.079	2.0		Prof. Luigi Guidi.
Florence	29.59	751.6	29.85	758.1	66.2	19.0	53	N			4		9	E		0.23.	5.9		Cav. F. Meucci.
Leghorn	29.76	756.0	29.85	758.1	63.5	17.5	66	NE			4		6			1.095	27.8		Prof. P. Monte.
Rome	29.71	754.7	29.89	759.2	64.9	18.3	56	W	11.9	5.3			2			1.126	28.6		Prof. P. S. Ferrari.
Lecce	29.72	755.0	29.98	761.4	66.9	19.4	68	WSW	13.7	6.1			9	W		0	0		Prof. C. De Giorgi.
Cosenza	29.04	737.6	29.93	760.1	68.0	20.0	71	SE	5.6	2.5			10			0.087	2.2		Prof. D. Conti.
Cagliari	29.67	753.5	29.86	758.4	62.6	17.0	52	NW			4		8	NW		0	0		Prof. A. Pacinotti.
Palermo	29.70	754.3	29.95	760.8	61.9	16.6	67	ENE	9.8	4.4			7	NE		0.024	0.6		Prof. G. Cacciatore.
Syracuse	29.84	757.8	29.91	759.6	67.5	19.7	56	SSW	6.3	2.8			9	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.0	29.97	761.1	55.6	13.1	88	NW	0	0			10			0.252	6.4		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.03	762.7	30.04	763.0	67.3	19.6	93	NNE	2.0	0.9			8s			0	0	Foggy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.82	757.4	30.02	762.5	68.6	20.3	90	WNW	0.3	0.1			10s			0.010	0.25	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.01	762.2	30.08	764.0	63.9	17.7	91	SE	1.8	0.8			5s			0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.4	30.05	763.2	59.4	15.2	55	Calm			0	5	0	Calm		0	0	½ clouded	Prof. L. Perez.
Leon	24.44	620.8	30.01	762.3	67.8	19.9	63	Calm			0	0	0			0	0	Fine	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.6	30.09	764.2	55.2	12.9	48	Calm	0	0		0	1s			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					64.4	18.0	44	SSW			1	0	0			0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.83	757.6	29.84	757.9	79.0	26.1	86	SW			1	0	0			0	0	Foggy	M. M. Chàzaro.
San Luis Potosi	24.22	615.2	30.12	765.1	63.0	17.2	46	SE			1	1	0	W		0	0	Fine	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.3	30.05	763.2	66.7	19.3	35	NE			1	0	0			0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.44	595.4	30.21	767.2	48.2	9.0	63	N	1.3	0.6		0	1		Calm	0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.2	29.98	761.6	77.7	25.4	63	E			1	0	10		N	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.05	763.2	30.05	763.2	61.2	16.2		NW								0.213	5.4		
Groningen	30.00	762.1	30.06	763.5	59.2	15.1		ENE			1					0	0		
Helder	30.04	763.0	30.04	763.0	55.8	13.2		ENE			2					0	0		
Hellevoetsluis	30.01	762.3	30.01	762.3	57.0	13.9	82	ENE			1					0.244	6.2		
Utrecht	29.99	761.8	30.04	763.0	62.1	16.7	53	E			3		2			0.004	0.1	Light clouds	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.95	760.6	30.00	762.0	55.4	13.0	66	S	11.4	5.1			3			0	0		
Brönö	29.85	758.3	29.89	759.3	45.3	7.4	66	ENE	9	4			10			0	0		
Christiania	29.71	754.7	29.85	758.3	61.2	16.2	90	SSW	7	3			9			0.094	2.4		
Tromsö	29.98	761.6	30.03	762.7	45.1	7.3	57	NE	7	3			3			0.079	2.0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.06	763.5	30.25	768.3	63.9	17.7	76	SSW	3.1	1.4			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.02	737.1	30.02	762.5	73.4	23.0	32	SSW	2.5	1.1			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.98	761.4	30.06	763.6	68.7	20.4	62	SE	6.9	3.1			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.09	764.3	69.8	21.0	43	ENE	4.9	2.2			7	W		0	0		The Staff.
Ponta Delgada (Azores)	30.17	766.4	30.24	768.2	64.8	18.2	72	ESE	3.1	1.4			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell Height scale 0-9	Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 13° 40′, W. 21° 59′			29.91	759.6	77.9	25.5		ENE			3		7		NE	2	NE	Overcast	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.84	757.8	79.5	26.4		WNW			2		2		WNW	1	WNW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia			29.89	759.3	88.2	31.2		Calm			0		5			0		D. clouds	A. Ferreira, 2d Lt. F. Teixeira da Silva, Com'd't.
Sá da Bandeira								E											L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Macao, China			29.89	759.1	83.3	28.5					2		2		E	1	SE	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.62	752.4	30.03	762.8	64.8	18.2	58	NNE	9	4			9ks						Astronomical Obs.
Wilna	29.66	753.3	30.06	763.6	73.2	22.9	41	SE	7	3			10						Astronomical Obs.
Dorpat	29.90	759.5	30.13	765.4	74.5	23.6	39	SSE	9	4			4ck						Prof. Dr. Weihrauch.
St. Petersburg	30.18	766.6	30.20	767.0	72.5	22.5	38	S	16	7			2cs;k					Light clouds	Central Physical Obs.
Kieff	29.32	744.8	29.94	760.4	66.2	19.0	52	NNE	11	5			6k;ks						Physical Cabinet.
Nikolaiev	29.87	758.6	29.94	760.4	76.5	24.7	42	NNE	4	2			4k;n						Kurdakof.
Kertch	29.97	761.2	29.99	761.7	68.9	20.5	74	Calm	0	0			0						Lagorio.
Moscow	29.73	755.1	30.26	768.7	68.9	20.5	40	SE	7	3			5ks						Meteorological Obs.
Lugan	29.49	749.1	29.69	754.1	73.9	23.3	51	SE	4	2			10			Blank	Blank		Meteorological Obs.
Archangel	30.39	772.0	30.41	772.5	53.4	11.9	64	SE	4	2			8ks						Capt. Sseliwerstow.
Tiflis	28.42	721.8	29.77	756.1	74.8	23.8	24	NW	13	6			6s						Physical Observatory.
Astrakhan	29.80	756.8	29.71	754.7	86.5	30.3	27	E	7	3			4s					Light clouds	Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.93	760.3	30.20	767.0	66.7	19.3	38	NNE	9	4			0						Physical Cabinet.
Ekaterinburg	29.12	739.5	30.05	763.2	61.5	16.4	36	N	7	3			0						Meteorological Obs.
Nukuss	29.55	750.5	29.77	756.1	83.8	28.8	57	NNW	7	3			0						
Tashkend	28.08	713.2	29.52	749.9	88.7	31.5	56	Calm	0	0			0						Teich, A. M.
Barnaul	28.95	735.4	29.43	747.5	64.4	18.0	58	NW	4	2			9					Light clouds	Meteorological Obs.
Yeniseisk	29.33	744.9	29.61	752.0	58.3	14.6	32	SE	7	3			0						Marks.
Irkutsk																			
Peking (China)	29.69	754.0	29.83	757.6	64.6	18.1	77	Calm	0	0			10n					Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.99	761.8	30.09	764.3	56.5	13.6	39	NW	2	1			0						
Nikolaievsk, on the Amoor	30.02	762.4	30.10	764.6	34.0	1.1	92	Calm	0	0			10n						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.7	30.02	762.4	63.7	17.6	49	S	2.9	1.28			0			0.093	0.08	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.6	30.17	766.3	62.1	16.7	76	NW	2.3	1.02		2	6	N		0.480	12.2	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.4			59.0	15.0	53	NE	5.8	2.59			3			0	0	Light cloud-	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.83	706.9			69.1	20.6	39	SW	3.7	1.67		0	1			0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.86	758.4	30.04	763.1	77.0	25.0	38	S	3.1	1.39		4	2	SE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.17	740.9	30.05	763.2	66.4	19.1	65	W	6.3	2.8		0	10			0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.3	29.96	761.0	78.7	25.9	67	N	5.2	2.3		0	1k		NE	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.79	756.8	29.84	758.1	86.0	30.0	68	ENE	5.2	2.3		0	0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.8	30.05	763.3	67.8	19.9	71	SW	4.2	1.9		0	9		S	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	81.3	27.4	79	E	0	0		2s	0			0.957	24.20	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.08	764.0	30.12	765.0	42.4	5.8	.....	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.00	761.9	30.05	763.2	43.9	6.6	91	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.91	759.6	29.96	760.9	40.3	4.6	94	S	.....	.....	2	.....	10	.....	.....	0.457	11.6	.....	
Stockholm	29.82	757.5	30.00	762.0	54.0	12.2	72	SW	.....	.....	4	.....	9	.....	.....	0.235	6.0	.....	
Wisby	29.95	760.6	30.00	762.1	54.0	12.2	70	WSW	.....	.....	7	.....	7	.....	.....	0.134	3.4	.....	
Sub-Series.																			
Upsala	29.59	759.2	29.96	761.1	49.5	9.7	91	S	11.0	4.9	.....	.....	10	.....	SW	0.004	0.10	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.8	29.94	760.5	61.3	16.3	53	NNE	.....	.....	2	.....	2	.....	.....	0.055	1.4	Clear	The Observatory.
Zurich	28.31	719.2	29.92	759.9	64.8	18.2	54	E	.....	.....	2	.....	5	.....	.....	0.055	1.4	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.5 mm.; Thermometer,—0.9 Cent.; Relative Humidity, —4 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.3	70.0	21.1	57	N	8	3.5	.....	.....	2	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.12	765.0	87.8	31.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.4	72.0	22.2	.....	E	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.83	757.7	29.95	760.8	75 0	23.9	58	NNE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.59	751.6	29.88	758.9	75	23.9	.....	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.96	761.0	30.03	762.8	48	8.9	85	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	48	8.9	93	N	6	2.7	.....	.....	10n	.....	.....	0.240	6.10	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.82	757.4	57.7	14.3	80	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.86	758.4	30.02	762.5	50.5	10.3	86	E	.....	.....	2	0	4ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	29 90	759.4	29.95	760.7	49.3	9.6	100	Calm	0	0	.....	.....	10	.....	.....	0.25	6.3	Overcast	W. H. Bevis.
*Father Point, Quebec	29.95	761.5	30.00	762.0	39	3 9	97	NE	7	3.1	.....	.....	Fog	.....	Calm	0	0	Dense fog	J. McWilliams.
Fredericton, N. B	29.96	761.0	30.02	762.5	49.2	9.6	88	NE	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.24	742.7	30.07	763.8	45	7.2	88	NW	2	0.9	.....	0	0	.....	.....	0.830	21.08	Clear	James Stewart.
Granton, Ontario	28.75	730.2	29.81	757.2	67	19.4	.....	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.77	756.1	29.90	759.4	56	13.3	95	NW	4	1.8	.....	.....	10n	.....	NW	1.450	36.83	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.56	750.8	29.92	760.0	60.7	15.9	77	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Henry's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.55	750.6	29.88	758.9	62	16.7	71	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.92	760.0	29.96	761.0	49.3	9.6	90	SE	4	1.8	.....	7cs	0	W	.....	0.35	8.9	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	26.69	754.1	29.89	759.2	55	12.8	78	NE	6	2.7	.....	Haze	10s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.13	739.9	29.80	756.9	64	17.8	60	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.13	739.9	29.85	758.2	68.5	20.3	60	S	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741.2	29.85	758.2	60	15.6	82	Calm	0	0	.....	10c	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.91	759.7	29.96	761.0	49.6	9.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0.40	10.2	Raining	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.85	758.2	62	16.7	79	E	3	1.3	.....	5ck	0	W	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.64	752.8	29.96	761.0	50	10.0	72	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.37	746.0	29.82	757.4	54	12.2	71	Calm	0	0	.....	2c	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.90	759.4	29.95	760.7	54	12.2	93	Calm	.....	.....	0	.....	Fog	.....	.....	0.62	15.7	Foggy	Dr. Gove.
St. John, N. B	29.83	757.7	30.00	762.0	51	10.6	100	N	2	0.9	.....	.....	10ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.79	756.7	69	20.6	59	S	6	2.7	.....	2cs	Haze	.....	.....	0	0	Hazy	K. Stewart.
Stayner, Ontario	29.03	737.3	29.78	756.4	62	16.7	86	SE	5	2.2	.....	2c	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.60	726.4	29.84	757.9	62.7	17.1	72	SE	5	2.2	.....	1cs	0	.....	.....	0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B	29.95	760.7	29.99	761.7	49	9.4	94	NE	4	1.8	.....	.....	10s	.....	NE	0.33	8.4	Clearing	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.86	758.4	61	16.1	63	E	5	2.2	.....	0	2s	.....	Calm	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.86	758.4	29.96	761.0	54.5	12.5	97	NW	5	2.2	.....	.....	10n	.....	.....	2.82	71.6	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.86	758.4	30.10	764.5	44.0	6.7	92	NE	.....	.....	.....	.....	10n	.....	.....	0.06	1.5	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.91	759.7	69	20.6	80	S	2	0.9		0	8s		S	0.05	1.3	Fair	
Alpena, Michigan	29.10	739.1	29.72	754.9	63	17.2	67	S	1	0.4		5c	0	Calm		0	0	Fair	
Atlanta, Georgia	28.76	730.5	29.86	758.4	69	20.6	65	NW	4	1.8		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	29.92	760.0	29.93	760.2	64	17.8	100	S	3	1.3			Fog		Calm	0	0	Foggy	
Augusta, Georgia	29.74	755.4	29.92	760.0	72	22.2	80	NW	4	1.8		0	0			0	0	Clear	
Baltimore, Maryland	29.87	758.7	29.91	759.7	68	20.0	90	S	2	0.9			10s;fg		Calm	0.50	12.7	Foggy	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	62	16.7	100	S	5	2.2			Fog		S	0	0	Foggy	
Bismarck, Dakota	28.22	716.8	30.08	764.0	46	7.8	92	E	6	2.7			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.39	721.1	29.64	752.8	71	21.7	90	Calm	0	0		4k	0	Calm		0	0	Fair	
Boise City, Idaho	27.17	690.1	30.13	765.3	40	4.4	82	E	1	0.4		5k	0	SW		0.06	1.5	Fair	
Boston, Massachusetts	29.82	757.4	29.97	761.2	64.5	18.1	92	SW	3	1.3			10s		SW	0.66	16.8	Cloudy	
Brackettville, Texas	28.71	729.2	29.68	753.9	80	26.7	59	E	8	3.6		5c	0	Calm		0	0	Fair	
Breckenridge, Minnesota	28.98	736.1	29.98	761.5	47	8.3	92	N	15	6.7		2k	0	Calm		0	0	Fair	
Brownsville, Texas	29.77	756.1	29.81	757.2	80	26.7	78	S	12	5.4			10ks		S	0	0	Cloudy	
Buffalo, New York	29.16	740.7	29.83	757.7	67	19.4	69	SW	4	1.8		5c	Haze	W	Calm	0	0	Fair	
Burkes, Arizona					66	18.9	23	Calm			0	2cs	0	Calm		0	0	Clear	
Burlington, Vermont	29.61	752.1	29.89	759.2	65	18.3	78	S	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Cairo, Illinois	29.48	748.8	29.85	758.2	75	23.9	68	NW	6	2.7		2ck	0	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.24	641.1	30.04	763.0	61	16.1	26	N	4	1.8		2k	0	W		0	0	Clear	
Camp Verde, Arizona					55	12.8	39	NW			1		10s		NW	0	0	Cloudy	
Campo, California	27.40	696.0	29.97	761.2	34	1.1	79	Calm	0	0		8c	0	Calm		0	0	Cloudy	
Cape Hatteras, N. Carolina	29.91	759.7	29.92	760.0	73	22.8	81	SW	4	1.8		5cs	2ks	SW	SW	0.19	4.8	Fair	
Cape Henry, Virginia	29.88	758.9	29.90	759.4	68	20.0	95	E	4	1.8		8ck	Fog	S	E	0.10	2.5	Foggy	
Cape Lookout, N. Carolina	29.89	759.2	29.91	759.7	71	21.7	95	Calm	0	0		2ck	0	Calm		0.02	0.5	Fair	
Cape May, New Jersey	29.85	758.2	29.88	758.9	65	18.3	89	SE	4	1.8			Fog		SE	0.02	0.5	Foggy	
Castroville, Texas	29.04	737.6	29.71	754.6	74	23.3	81	Calm	0	0		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	29.84	757.9	29.90	759.4	72	22.2	80	NW	4	1.8		0	0			0.88	22.4	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	50	10.0	86	SW	4	1.8		2cs	0	SW		0	0	Clear	
Chicago, Illinois	29.09	738.9	29.74	755.4	66	18.9	59	S	2	0.9		8ck	0	W		0	0	Cloudy	
Cincinnati, Ohio	29.24	742.7	29.87	758.7	66	18.9	69	SE	3	1.3		1cs	Sm'e	Calm	Calm	0	0	Clear	
Cleveland, Ohio	29.13	739.9	29.82	757.4	65	18.3	62	E	2	0.9		1c	Sm'e	W	Calm	0	0	Clear	
Coleman City, Texas	28.01	711.4	29.58	751.3	75	23.9	77	W	8	3.6		8cs	0	Calm		0	0	Fair	
Columbus, Ohio	29.02	737.1	29.82	757.4	67	19.4	74	N	2	0.9		2k	Haze	N	Calm	0	0	Fair	
Concho, Texas	27.95	709.9	29.54	750.3	73	22.8	46	SW	5	2.2		0	0			0	0	Clear	
Corsicana, Texas	29.30	744.2	29.74	755.4	74	23.3	86	S	7	3.1		0	0			0	0	Clear	
Davenport, Iowa	29.15	740.4	29.76	755.9	65	18.3	78	NW	1	0.4		0	0			0	0	Clear	
Deadwood, Dakota	25.26	641.6			61	16.1	61	SW	12	5.4		0	0			0	0	Clear	
Decatur, Texas																			
Denison, Texas	28.92	734.6	29.67	753.6	74	23.3	95	SE	5	2.2			10ks		SE	0	0	Cloudy	
Denver, Colorado	24.75	628.6	29.97	761.2	48	8.9	63	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	28.98	736.1	29.84	757.9	57	13.9	75	NE	4	1.8		5c	0	NW		0.43	10.9	Fair	
Detroit, Michigan	29.16	740.7	29.80	756.9	61	16.1	66	E	1	0.4		0	Sm'e		Calm	0	0	Clear	
Dodge City, Kansas	27.30	693.4	29.50	749.3	61	16.1	88	E	4	1.8		0	1s		Calm	0	0	Fair	
Dubuque, Iowa	29.10	739.1	29.78	756.4	62	16.7	61	N	4	1.8		5k	Haze	N	Calm	0	0	Clear	
Duluth, Minnesota	29.20	741.7	29.86	758.4	53	11.7	80	NW	4	1.8		10k	0	NW		0.11	2.8	Cloudy	
Eagle Pass, Texa	29.00	736.6	29.68	753.9	77	25.0	69	NE	4	1.8		4c	0	N		0	0	Fair	
Eastport, Maine	29.91	759.7	29.97	761.2	51	10.6	100	NE	3	1.3			Fog		NE	2.02	51.3	Dense fog	
Edinburg, Texas					77	25.0	95	S			6	0	1s		S	0	0	Fair	
El Paso, Texas	26.22	666.0			55	12.8	38	W	2	0.9		8cs	0	W		0	0	Fair	
Erie, Pennsylvania	29.14	740.1	29.82	757.4	69	20.6	75	Calm	0	0		8c	0	NW		0	0	Fair	
Escanaba, Michigan	29.06	738.1	29.69	754.1	61	16.1	66	W	2	0.9		0	0			Inap.	Inap.	Clear	
Florence, Arizona	28.43	722.1	30.03	762.8	75	23.9	19	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.91	708.9			50	10.0	86	SE	11	4.9		10cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.53	648.4	29.59	751.6	51	10.6	27	SW	3	1.3		5c	2s	SW	Calm	0	0	Cloudy	
Fort Davis, Texas	25.20	640.1	30.16	766.1	67	19.4	29	Calm	0	0		2cs	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.22	742.2	29.74	755.4	66	18.9	89	E	9	4.0		5cs	0	E		0.10	2.5	Fair	
Fort Griffin, Texas	28.46	722.9	29.66	753.4	73	22.8	28	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.27	692.6			55	12.8	93	N	9	4.0			10s		Calm	0.34	8.6	Cloudy	
Fort McKavett, Texas	27.62	701.5	29.43	747.5	73	22.8	63	SW	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska	30.06	763.5	30.09	764.3	31	— 0.6	100	NE	4	1.8			Fog		NE	0	0	Foggy	
Fort Sill, Indian Territory	28.53	724.6	29.58	751.3	69	20.6	85	NE	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.22	716.8			45	7.2	92	E	6	2.7			8s		Calm	0.08	2.0	Cloudy	
Fredericksburg, Texas	28.10	713.7	29.56	750.8	79	26.1	62	SW	2	0.9		5cs	0	Calm		0	0	Fair	
Galveston, Texas	29.52	757.4	29.86	758.4	78	25.6	82	SW	8	3.6		1cs	1s	Calm	S	0	0	Clear	
Graham, Texas	28.65	727.7	29.65	753.1	67	19.4	79	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.12	739.6	29.73	755.1	70	21.1	48	S	16	7.2			10s		S	0	0	Cloudy	
Indianapolis, Indiana	29.02	737.1	29.76	755.9	67	19.4	64	Calm	0	0		8c	0	W		0	0	Fair	
Indianola, Texas	29.84	757.9	29.86	758.4	77	25.0	86	S	16	7.2		2c	8s	N	S	0	0	Cloudy	
Jacksboro, Texas	28.58	725.9	29.64	752.8	75	23.9	68	SW	4	1.8		5c	0	SW		0	0	Fair	
Jacksonville, Florida	29.88	758.9	29.90	759.4	76	24.4	77	SW	3	1.3		0	0			Inap	Inap.	Clear	
Keokuk, Iowa	29.15	740.4	29.74	755.4	66	18.9	89	N	1	0.4		2c	Fog	W	Calm	0.07	1.8	Fair	
Key West, Florida	29.94	760.5	29.97	761.2	78	25.6	69	NW	11	4.9		5k	0	NW		0	0	Fair	
Kittyhawk, North Carolina	29.98	761.5	29.90	759.4	65	18.3	89	S	5	2.2		2ck	Fog	Calm	S	0.03	0.8	Fair	
Knoxville, Tennessee	28.93	734.8	29.91	759.7	63	17.2	89	SE	3	1.3		2cs	Haze	Calm		0	0	Fair	
La Crosse, Wisconsin	29.10	739.1	29.81	757.2	57	13.9	75	N	7	3.1		2k	0	SW		0.04	1.0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	48	8.9	56	Calm	0	0		8c	0	Calm		0	0	Cloudy	
Laredo, Texas	29.50	749.3	29.82	757.4	81	27.2	55	SE	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	28.94	735.1	29.74	755.4	64	17.8	83	N	6	2.7		5cs	5s		N	0.27	6.9	Cloudy	
Los Angeles, California	29.66	753.4	30.01	762.2	45.5	7.5	80	NE	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.31	744.5	29.85	758.2	68	20.0	56	S	3	1.3		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.23	742.4	29.88	758.9	66	18.9	84	Calm	0	0		0	8ks		NW	0.10	2.5	Cloudy	
Madison, Wisconsin	28.77	730.7	29.71	754.6	63	17.2	83	NW	6	2.7		1cs	0	Calm		0	0	Clear	
Marquette, Michigan	29.01	736.8	29.68	753.9	54	12.2	80	NW	10	4.5			10ks		NW	0	0	Cloudy	
Mason, Texas	28.20	716.3	29.86	758.4	78	25.6	69	W	1	0.4		2cs	0	Calm		0	0	Fair	
Memphis, Tennessee	29.50	749.3	29.83	757.7	74	23.3	68	SE	3	1.3		2k	Haze	Calm	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.01	736.8	29.70	754.4	65	18.3	58	W	8	3.6		1c	0	Calm		0	0	Clear	
Mobile, Alabama	29.88	758.9	29.92	760.0	76	24.4	82	SW	3	1.3		0	0			0	0	Clear	
Montgomery, Alabama	29.68	753.9	29.91	759.7	75	23.9	76	S	1	0.4		0	0			0	0	Clear	
Morgantown, West Virginia	28.83	732.3	29.84	757.9	66	18.9	79	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H	23.86	606.0	30.22	767.6	50	10.0	78	SE	2	0.9			Fog		SE	0.17	4.3	Foggy	
Nashville, Tennessee	29.35	745.5	29.86	758.4	72	22.2	71	E	1	0.4		0	0			0	0	Clear	
New Haven, Connecticut	29.84	757.9	29.95	760.7	64	17.8	92	E	2	0.9			10s;fg		Calm	0.19	4.8	Cloudy	
New London, Connecticut	29.91	759.7	29.96	761.0	61	16.1	94	SE	2	0.9			10s;fg		Calm	0.18	4.6	Cloudy	
New Orleans, Louisiana	29.86	758.4	29.92	760.0	76	24.4	86	S	1	0.4		0	0			0	0	Clear	
Newport, Rhode Island	29.93	760.2	29.98	761.5	59.5	15.3	94	SE	4	1.8			Fog			0.45	11.4	Foggy	
New York, New York	29.78	756.4	29.95	760.7	64	17.8	94	E	5	2.2			10s;fg		Calm	0.17	4.3	Cloudy	
Norfolk, Virginia	29.85	758.2	29.90	759.4	70	21.1	85	S	1	0.4			Fog		Calm	0.46	11.7	Foggy	

UNITED STATES SERIES—Continued.

Stations	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.04	686.8	29.55	750.6	57	13.9	94	E	8	3.6		0	0			1.36	34.5	Clear	
Olympia, Washington Ter.	29.95	760.7	29.99	761.7	48.0	8.9	96	S	6	2.7			10s		SW	0.88	22.4	Cloudy	
Omaha, Nebraska	28.73	729.7	29.79	756.7	60	15.6	82	NE	10	4.5			10s		NE	0.95	24.1	Cloudy	
Oswego, New York	29.56	750.8	29.87	758.7	63	17.2	83	S	7	3.1		0	0			0	0	Clear	
Pembina, Dakota	29.19	741.4	30.03	762.8	41	5.0	100	NW	4	1.8		0	0			0.54	13.7	Clear	
Philadelphia, Pa	29.87	758.7	29.92	760.0	64	17.8	94	NE	4	1.8			10s;fg		NE;Calm	0.01	0.3	Cloudy	
Phœnix, Arizona	28.73	729.7	30.48	774.2	67	19.4	33	W	1	0.4		5c	5s	SW	SW	0	0	Cloudy	
Pike's Peak, Colorado	17.89	454.4	30.11	764.8	23	— 5.0	34	SW	44	19.7		0	2s		Calm	0	0	Clear	
Pioche, Nevada	23.98	609.1	29.76	755.9	39.5	4.2	31	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.09	738.9	29.87	758.7	60	15.6	88	N	1	0.4		0	Fog		Calm	0.04	1.0	Clear	
Port Huron, Michigan	29.15	740.4	29.79	756.7	60	15.6	77	SE	4	1.8		0	Sm'e			0	0	Clear	
Portland, Maine	29.92	760.0	29.97	761.2	60	15.6	88	Calm	0	0			Fog			0.38	9.7	Foggy	
Portland, Oregon	30.01	762.2	30.08	764.0	49.5	9.7	93	S	8	3.6			10n		SW	1.60	40.6	Light rain	
Prescott, Arizona	24.71	627.6	30.07	763.8	40	4.4	39	SW	2	0.9		8c	0	W		0	0	Fair	
Pilot Point, Texas	29.04	737.6	29.83	757.7	70	21.1	47	E	3	1.3		0	0			0	0	Clear	
Punta Rassa, Florida	29.93	760.2	29.94	760.5	78	25.6	73	NW	6	2.7		5k	0	NW		0	0	Fair	
Red Bluff, California	29.70	754.4	30.07	763.8	49	9.4	89	NW	6	2.7		2k	0	NE		0.42	10.7	Fair	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	75	23.9	90	SE	8	3.6		0	5ks		SE	0	0	Fair	
Rochester, New York	29.26	743.2	29.85	758.2	66	18.9	64	SW	2	0.9		2c	0	SW		0	0	Clear	
Roseburg, Oregon	29.56	750.8	30.14	765.5	46	7.8	92	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Sacramento, California	29.96	761.0	30.04	763.0	49	9.4	93	Calm	0	0		0	0			0.02	0.5	Clear	
St. Louis, Missouri	29.24	742.7	29.79	756.7	71	21.7	71	S	6	2.7		8ck	0	S		0	0	Fair	
St. Marks, Florida	29.91	759.7	29.92	760.0	73	22.8	90	NW	8	3.6		0	0			0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.85	758.2	55	12.8	68	NW	8	3.6			10s		NW	0.21	5.3	Cloudy	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	48	8.9	43	NE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.14	740.1	29.69	754.1	76	24.4	73	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.97	761.2	30.04	763.0	51	10.6	86	NE	7	3.1		0	5s		Calm	Inap.	Inap.	Fair	
Sandusky, Ohio	29.18	741.2	29.83	757.7	62	16.7	77	Calm	0	0		0	Haze		Calm	0	0	Clear	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	60	15.6	100	SE	4	1.8			Fog		Calm	0.18	4.6	Dense fog	
San Francisco, California	29.99	761.7	30.05	763.3	52	11.1	86	Calm	0	0		0	0			0.65	16.5	Clear	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	46	7.8	26	N	1	0.4		2ck	0	SW		0	0	Clear	
Savannah, Georgia	29.84	757.7	29.92	760.0	76	24.4	73	W	2	0.9		0	0			0	0	Clear	
Shreveport, Louisiana	29.63	752.6	29.84	757.9	74	23.3	90	S	6	2.7			10s		SW	0	0	Cloudy	
Silver City, New Mexico	24.35	618.5	30.57	776.5	44	6.7	36	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.91	759.4	29.93	760.2	71	21.7	95	S	2	0.9		5k	0	W		0	0	Fair	
Springfield, Massachusetts	29.82	757.4	29.94	760.5	69	20.6	85	S	3	1.3			10s		SW	0.74	18.8	Threatening	
Stockton, Texas	26.91	683.5	29.91	759.7	65	18.3	19	S	4	1.8		5c	0	Calm		0	0	Fair	
Thatcher's Island, Mass	29.94	760.5	29.99	761.7	55	12.8	100	SW	6	2.7			Fog			0.34	8.6	Foggy	
Toledo, Ohio	29.16	740.7	29.81	757.2	68	20.0	65	Calm	0	0		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.51	698.7	30.06	763.5	60	15.6	44	SE	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.65	753.1	30.14	765.5	49.5	9.7	64	SW	12	5.4		0	8ks		W	0	0	Cloudy	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.92	734.6	29.71	754.6	76	24.4	73	E	1	0.4		5cs	0	NW		0	0	Fair	
Vicksburg, Mississippi	29.66	753.4	29.91	759.7	73	22.8	90	S	6	2.7			10s		S	0	0	Cloudy	
Virginia City, Montana	24.18	614.2	29.66	753.4	36	2.2	71	Calm	0	0			10s		W	0.32	8.1	Cloudy	
Visalia, California	29.67	753.6	30.04	763.0	50.5	10.3	86	NW	2	0.9		0	0			0	0	Clear	
Washington, D. C.	29.79	756.7	29.90	759.4	67	19.4	89	E	3	1.3			10s;fg		NE	0.03	0.8	Cloudy	
Wickenburg, Arizona																			
Wilmington, N. Carolina	29.83	757.7	29.90	759.4	71	21.7	90	S	1	0.4		8ck	0	NW		0.07	1.8	Fair	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	31	— 0.6	89	Calm	0	0		1k	0	SW		0.04	1.0	Clear	
Wood's Holl, Mass	29.93	760.2	29.97	761.2	64	17.8	89	SE	3	1.3			Fog		Calm	0.18	4.6	Dense fog	
Yankton, Dakota	28.67	728.2	29.93	760.2	55	12.8	80	NE	5	2.2		5k	0	NE		0.48	12.2	Fair	
Yuma, Arizona	29.71	754.6	29.87	758.7	66	18.9	36	W	1	0.4			10s		W	0	0	Cloudy	
Sub-Series.																			
Fayetteville, Ark	28.23	717.0	29.59	751.6	62	16.7	94												J. B. Gordon.
Havana, Cuba, W. I	29.91	759.7	29.96	761.0	80	26.7	61	N	6.0	2.7		4k	4ks	NE	NE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.21	640.3			67.0	19.4	82	Calm			0		10ks			0	0		Thomas Herran.
Navassa, W. I	29.85	758.2	29.93	760.2	79	26.1	74	NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	79	26.1	91	E			2		8ks			0.270	6.86	Cloudy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.82	757.4	29.87	758.7	29.0	— 1.7	94	NE	27	12.1			9s		NE	0.01	0.3	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.07‡	763.8‡			47	8.3	100	NW	3	1.3			2			1.145	29.09			Clear	
Navy Yard, Pensacola, Fla.	29.94‡	760.5‡			76	24.4	91	W	7	3.1			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.01‡	762.2‡			65.5	18.6	89	Calm			0		5k*		SW	0.07	1.8			Fair	
Adams, Callao, Peru	29.99‡	761.7‡			64	17.8	100	SE			3		5		S;E					Fair	
Alaska, Sitka, Alaska	30.03‡	762.8‡			45	7.2	76	NW			3		10		SE	0	0			Overcast	
Alliance, Gibraltar, Mediterranean.	30.05‡	763.3‡			69	20.6	65	Calm			0		7							Pleasant	
Colorado, New York, N. Y.	29.96‡	761.0‡			65	18.3	94	Calm	0	0			10			0.31	7.9			Foggy	
Constitution, N. 36° 03′, W. 71° 16′	29.93‡	760.2‡			70	21.1	100	SSW			5		10		SSW			Smooth	SSW	Rainy	
Despatch, Gibraltar, Mediterranean.	30.04‡	763.0‡			71	21.7	62	W			1		7		Calm	0	0	Smooth		Pleasant	
Enterprise, Havre, France	30.06‡	763.5‡			53	11.7	86	NNW			1		4		W					Misty	
Franklin, Norfolk, Va.	29.87‡	758.7‡			69	20.6	95	SSE	3.6	1.6			10		SSE	0.4	10.2			Foggy	
Hartford, Montevideo, Uruguay.*	29.95‡	760.7‡			59	15.0	82	NNE			3		5		NE	0	0			Fair	
Marion, N. 29° 55′, W. 81° 08′	29.92‡	760.0‡			75	23.9	100	SW			1–2		0?		S;W?			Smooth		Clear	
Michigan, Erie, Pa.					65	18.3	89	S			2		5		S					Fair	
Monocacy, Shanghai, China	29.84‡	757.9‡			65	18.3	94	SE			3		10		SE					Cloudy	
Monongahela, Yokohama, Japan	30.02‡	762.5‡			69	20.6	85	SW			0–1		k			Light	Light			Hazy	
New Hampshire, Port Royal, S. C.	29.91‡	759.7‡			74	23.3	86	WSW	3	1.3			2		WSW	0	0			Clear	
Onward, Callao, Peru †*	30.11‡	764.8‡			64	17.8	89	SE			2		8					Long	W	Misty	
Palos, Shanghai, China	29.82‡	757.4‡			65	18.3	94	SE			4		10							Misty	
Passaic, Washington, D. C.					70	21.1	85	NE			2		10							Cloudy	
Pensacola, Callao, Peru	29.99‡	761.7‡			65	18.3	89	SE	5	2.2			8		SE	0	0	Smooth	W	Misty	
Portsmouth, N. 34° 49′, W. 76° 01′	29.91‡	759.7‡			73	22.8	76	Calm			0		2		Calm			Smooth		Clear	
Powhatan, Port Royal, S. C.	29.90‡	759.4‡			73	22.8	95	WNW			2		2		Calm	0.2	5.			Clear	
Quinnebaug, Jaffa, Syria	29.91‡	759.7‡			74	23.3	76	NW			2		0							Clear	
Ranger, N. 23° 52′, E. 117° 58′	29.97‡	761.2‡			83	28.3	87	S			2		2		Calm			Smooth		Fair	
Richmond, N. 24° 24′. E. 118° 38′	29.88‡	758.9‡			83	28.3	83	E			1		2		E	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.83‡	757.7‡			79	26.1	95	S			1		10		S	0	0			Cloudy	
Santee, Annapolis, Md.	29.89‡	759.2‡			69	20.6	90	NNW			1		8		NNW	0	0			Cloudy	
Saratoga, N. 33° 24′, W. 21° 30′	30.17‡	766.3‡			69	20.6	70	E			4		5		SE	0	0	Mod'ate	SE	Blue sky	
St. Louis, League Island, Pa.	29.94‡	760.5‡			64	17.8	100	Calm	0	0			10			0	0			Light fog	
Trenton, Marseilles, France	29.90‡	759.4‡			66	18.9	40	WSW			2		5		WNW	0	0	Smooth		Fair	
Tuscarora, N. 15° 50′, W 97° 10′	29.88‡	758.9‡			79	26.1	78	ENE			1		2		Calm	0	0	Smooth		Hazy	
Vandalia, N. 14° 43′, W. 79° 36′	29.65‡	753.1‡			82	27.8	91	NNE			4		2		NW	0	0	Smooth		Clear	
Wabash, Boston, Mass.	29.95‡	760.7‡			65	18.3	68	SSW			2		2			0	0			Fair	
Wyoming, Villafranca, France	29.87‡	758.7‡			60	15.6	100	E			2		2		E			Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.*

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury N. 24° 30′, E. 119° 24′		29.94‡	760.5‡	83	28.3		SE			3		0			0	Smooth		Blue sky	L. B. Walls.
S. S. Colima, N. 9° 36′, W. 85° 17′		29.94‡	760.5‡	83	28.3		S			1		6		SE	0.40 in. or 10.2mm	Small	SE	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Esquimault, Vancouver I.†		29.97‡	761.2‡	56	13.3	75	SW			1		4		SE	Heavy			Raining	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.81‡	757.2‡				NE			3				ENE				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.88‡	758.9‡	83	28.3	87	Calm			0		4k			0			D. clouds	D. A. Joyce, 2nd Officer
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 41° 52′, E. 155° 32′		29.71‡	754.6‡	44	6.7	100	SE			6		10n				4	ESE	Raining	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 36′, W. 62° 41′		30.12‡	765.0‡				SW			5		5		WSW		3	WSW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 43′. W. 56° 49′		30.24‡	768.1‡	66	18.9	94	SSW			5		3		SW	0	Smooth		Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 03′. W. 80° 55′		29.97‡	761.2‡	80	26.7	70	N	7	3.1			2k		N	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.57‡	751.1‡				E	6	2.7			8		S	0.50 in. or 12.7mm			Drizzling	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

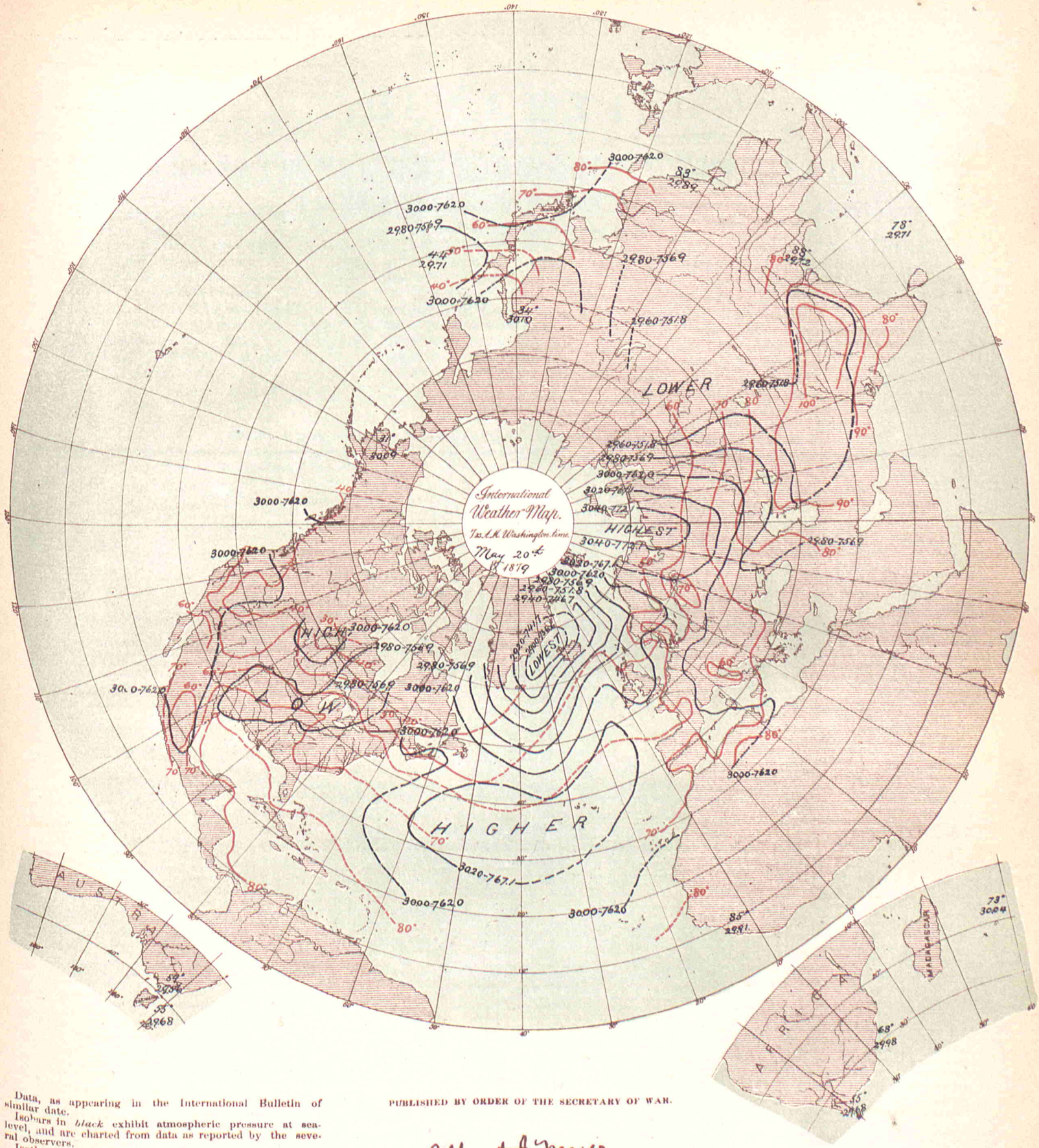
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cu mulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D.) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 21, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.03	762.7	68.4	20.2	78	E			4		8			0	0	Very cloudy	Kesxuche.
Algiers			30.03	762.8	65.5	18.6	71	NE			2		0			0	0	Clear	Touriliere.
La Calle			30.13	765.3	70.3	21.3	72	NNW			2		2			0.020	0.50	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.22	767.5															Gau.
Saida			30.04	762.9	76.3	24.6	2	S			6		8			0	0	Very cloudy	Herbin.
Tebessa			30.15	765.9	65.1	18.4	43	W			4		2			0	0	Fair	Watrin.
Geriville			30.05	763.3	63.1	17.3	32	ESE			2		2			0	0	Fair	Brugniaux.
Laghouat			30.08	764.1	74.8	23.8	48	SE			2		5			0	0	Cloudy	Bertrand.
Biskra			30.13	765.4	79.3	26.3	39	SE			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.44	747.8	29.98	761.5	63.5	17.5	66	NW			4		10			0.197	5.0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.97	761.4	68.0	20.0	62	SW			1		7			0.156	2.7		Dr. Wierzbiski.
Eperies	29.04	737.7	29.89	759.2	69.4	20.8	62	Calm			0		6c;ks			0.224	5.70		Julius Mikolik.
Gratz	28.77	730.8	30.00	762.0	61.9	16.6	70	W			3		8					Thunder-storm.	Andreas Rospini.
Hermannstadt	28.54	724.9	29.92	759.9	72.3	22.4	58	SW			1		2			0.175	4.45		Prof. A. Gottschling.
Kremsmünster	28.66	727.9	29.95	760.8	69.1	20.6	54	ENE			2		7			0	0		Prof. C. Wagner.
Lemberg	28.93	734.9	29.89	759.1	68.5	20.3	54	NE			1		6			0.154	3.9		Dr. T. Stanecki.
Pola	29.91	759.8	30.03	762.7	62.4	16.9	67	ESE			1		6			0.319	8.1		I.R.Hydrographic Office.
Szathmar	29.51	749.6	29.96	760.9	77.4	25.2	66	S			2		6			0.138	3.5		Julius Csics, S. J.
Szegedin	29.72	754.9	29.99	761.8	69.4	20.8	52	E			2		7			0.049	1.25		Karl Stancel.
Trieste	29.94	760.5	30.04	763.1	59.9	15.5	86	Calm			0		10			0.591	15.0	Raining	P. Busin.
Vienna	29.28	743.6	29.97	761.3	69.3	20.7	51	N			1		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Low'r 0–10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	30.01	762.2	30.11	764.8	45.0	7.2		NE	6	2.7			10			0	0	Overcast	W. Boswell.
Ardrossan	30.02	762.5	30.04	763.0	53	11.7		WNW			2		7					D. clouds	William McNeil.
Armagh, Observatory			30.08	764.0	57.0	13.9		S	6	2.7			5					D. clouds	S. Call.
Bidston (Liverpool Obs)			30.10	764.5	54.2	12.3		NW	5	2.2			10					Overcast	John Hartnup.
Bolton (Sharples)			30.09	764.3	59.8	15.4		SSW	6	2.7			7					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.69	754.1	30.08	764.0	60.0	15.6		SW			1		6			0.04	1.0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	84.5	29.2		NE			2		6					Gloomy	Pvt. G. Surgener, A.
Cambridge, Observatory	30.02	762.5	30.11	764.8	65.0	18.3		S			1		7					D. clouds	H. Todd.
Cardington			30.10	764.5	64.0	17.8		S			1		9					Overcast	John McLaren.
Chatham, School M. E.	30.02	762.5	30.14	765.5	67.4	19.7		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	30.05	763.3	30.09	764.3	54	12.2		SSE			4		0					Blue sky	J. Mac Gowan.
Dover	30.13	765.3	30.16	766.1	55	12.8		SW			2		4					½ clouded	J. Costello.
Falmouth, Observatory	29.91	759.7	30.14	765.5	57.3	14.1		SSW			2		10					Overcast	The Staff.
Fort Napier (Natal)	27.81	706.4	30.10	764.5	63.2	17.3		E			2		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	83	28.3		N			1		5					D. clouds	
Galway, Queen's College			29.98	761.5	57	13.9		WSW			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.93	760.2	29.98	761.5	64.7	18.2		E			4		5					D. clouds	Sergt. Wm. Allen, A. H. [C.
Glasgow, Observatory	29.83	757.7	30.04	763.0	53.9	12.2		ENE			2		7					D. clouds	D. G. Maclean.
Great Yarmouth	30.15	765.8	30.16	766.1	52	11.1		SE			2		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.96	761.0	30.13	765.3	63.9	17.7		SW			1		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.92	760.0	30.14	765.5	60.5	15.8		SSW			1		4					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.07	763.8	30.19	766.8	61	16.1		SW			2		4k			0	0	Fair	M. P. Moyle.
Holyhead	30.06	763.5	30.09	764.3	53	11.7		SW			1		5					D. clouds	John Tilston.
Jersey	29.89	759.2	30.17	766.3	59.0	15.0		NW			1		4					D. clouds	J. Fisher.
Kew, Observatory	30.10	764.5	30.14	765.5	63.1	17.3		SW	8	3.6			9					Threatening	The Meteorological Of.
Leicester, Museum.	29.84	757.9	30.09	764.3	66.2	19.0		SW			2		9					D. clouds	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	30.00	762.0	20.08	764.0	68	20.0		NW			3		2k			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.96	761.0	30.05	763.3	52	11.1		ESE			2		2					¼ clouded	W. D. Penny.
Nassau (Bahamas)			29.91	759.7	83.2	28.4		SW			1		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.92	760.0	30.10	764.5	63.1	17.3		S			3		10ks;k;	d]	S	0.010	0.25	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.57	751.1	30.08	764.0	65.1	18.4		SW			3		9					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.12	765.0	62	16.7		S			1		7					D. clouds	H. E. Bellamy.
Plymouth	30.06	763.5	30.13	765.3	56.2	13.4		S			1		10					Foggy	John Merrifield.
Prince Town	28.58	725.9	30.06	763.5	51.7	10.9		SW			1		9					Gloomy	W. H. Tooker.
*Roche's Point	30.04	763.0	30.15	765.8	58	14.4		SSE			3		2					¼ clouded	Wm. Kennedy.
Saint Ann's Head	29.94	760.5	30.11	764.8	52	11.1		Calm			0		10					Foggy	John C. Walker.
Sandwick Manse (Orkneys)			30.12	765.0	53.1	11.7		SE	20	8.9			0			0	0	Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.98	761.5	30.05	763.3	72.0	22.2		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.82	757.4	30.19	766.8	62.3	16.8		SW			1		10			0.01	0.3	Overcast	W. F. Cooper.
Silloth Rectory	30.05	763.3	30.08	764.0	55.4	13.0	60	W			2		4			0.010	0.25	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.70	754.4	30.10	764.5	59.0	15.0		WSW			1		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.92	760.0	30.14	765.5	61.4	16.3		SW			2		10					D. clouds	Rev. C.H.Griffith, F.M.S.
Truro, Royal Institution	30.08	764.0	30.11	764.8	62	16.7		SW			4		6					D. clouds	W. Newcombe.
Valencia, Observatory	30.03	762.8	30.06	763.5	54.7	12.6		SSW	16	7.2			6					D. clouds	The Meteorological Of.
SUB-SERIES.																			
Cape of Good Hope Obs'y	30.03	762.8	30.06	763.5	73.1	22.8	36	SE	10	4.5		1	4			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.46	748.3	54.0	12.2	88	NW			2		7k			0.05	1.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park	30.09	764.3	30.11	764.8	49.2	9.6		E			1		10s			0.03	0.8	Overcast	Andrew Gibb.
Mauritius, Observatory	29.85	758.2	30.04	762.9	74.9	25.8	72	ENE	5.0	2.2		2	2		ENE	0.03	0.8	Fine	C. Meldrum.
Melbourne, Observatory	29.49	749.0	29.58	751.3	59.0	15.0	87	N	15	6.7			9			0.11	2.79	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.01	762.2	52	11.1		S			4	5	0	S		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.12	765.0	50	10.0		E			6	3	7	SE				Hazy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Bar. corr. Inches	Millimeters	Bar. reduced Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind from—	Miles per hour	Meters per second	Force	Clouds Up'er	Low'r	Upper from—	Lower from—	Sea or swell Height scale 0–9	Direction from—	Weather	Observer
H. M. S. "Fawn.."																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 29 13', W. 54° 51'			30.20‡	767.1‡	75	23.9		ENE			4		4					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle.																			Capt. A. J. Brown.
Ship British Commodore, Taskar, N. 51° 24', W. 3° 36'			30.12	765.0	53	11.7		NE			2		10			2	E	Foggy	Capt. J. W. Thorne.
—— City of Agra.																			Capt. Thos. Young.
Barque Commewyne.																			Capt. A. Buchan.
Barque Fedalma.																			Capt. H. L. Eox.
Barque Mertole, N. 50° 24', W. 8° 46'			30.10‡	764.5‡	52.8	11.6		Calm			0		10					Misty	Capt. E. W. Turner.
S. S. Nizam, N. 5° 07', E. 82° 45'			29.81‡	757.2‡	79	26.1		SW			6		10					Raining	Capt. Barlow.
S. S. Royal Alexandra, N. 43° 10', W. 46° 20'			30.22	767.6	62	16.7		W			6		10			4	W	Foggy	W. P. Hughes.
S. S. Strathleven.																			Capt. C. W. Pearson.
S. S. Wyberton.																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7	29.93	760.2	68.0	20.0	86	SE			1	5c;k				0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.13	765.4	30.18	766.6	59.0	15.0	61	Calm			0		7						
Fanöe	30.17	766.3	30.19	766.8	48.7	9.3	84	NE			6		9					Raining	
Godthaab (Greenland)	29.45	747.9	29.49	749.0	32.2	0.1	89	S			4		9						
Stykkisholm (Iceland)	29.43	747.4	29.48	748.5	43.9	6.6	98	SW			4		10					Raining	
Thorshavn (Faröe)	30.03	762.8	30.07	763.7	52.5	11.4	76	SSE			2		5						
Vestervig	30.06	763.5	30.23	767.8	52.5	11.4	78	NW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.66	753.4	30.21	767.4	61.9	16.6	63	NE			1		2		N	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.02	762.5	30.13	765.2	73.4	23	59	NW			1		5		E	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.90	759.4	30.15	765.8	66.2	19.0	41	NNE			1				NW	0	0		Klein, Commandant.
Avignon, Normal School	29.94	760.5	30.02	762.5	76.3	24.6	49	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.56	750.8	30.10	764.6	68.5	20.3	37	E			1		5ckn			0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.90	759.4	30.16	766.0	65.5	18.6	48	NNW			1		8	S	N	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.21	742.0	30.09	764.2	67.6	19.8	57	NE			2		2		NE	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.20	741.7	30.12	765.0	68.0	20	64	N			2		0			0	0	Clear	Marlot, Director.
Bourges, Normal School	29.58	751.3	30.12	765.0	68.0	20	67	NW			1		1	W	NW	0.165	4.2	Clear	A. Waquet, Director
Brest, Naval Observatory	29.86	758.4	30.10	764.6	67.3	19.6	72	SW			1		2		SW	0.069	1.75		De Rermaree, Director.
Carcassonne, Normal School	29.67	753.5	30.07	763.8	72.7	22.6	49	W			1		1		W	0	0	Slightly cloudy	September, Director.
Caen, Normal School	30.07	763.8	30.14	765.6	64.0	17.8	67	S			1		5		S	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.54	750.2	30.10	764.4	65.3	18.5	84	NE			1		7		E	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.82	757.4	30.13	765.3	68.4	20.2	37	NW			1		8	NW	NW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.74	730.1	30.07	763.7	66.2	19.0	46	N			1		8		N	0.016	0.4		Alluard, Director.
Commercy, Normal School	29.27	743.5	30.12	765.0	63.7	17.6	50	N			9		8kn		N	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.94	735.0	30.08	764.0	71.4	21.9	59	SW			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.33	745.0	29.92	760.0	67.3	19.6	50	NW			1		5k		E	0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	30.01	762.2	30.22	767.5	68.0	20.0	55	W			1		5		W	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.87	758.7	30.18	766.5	63.7	17.6	57	NNW			1		5	S	S	0	0	Cloudy	Poirrier, Director.
Lens-Le-Saulnier, N. School	29.10	739.1	30.02	762.4	67.1	19.5	49	NE			2		2ck	E	E	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.06	763.4	30.15	765.9	60.8	16.0	81	SSW			2			SW	S	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			30.02	762.4	70.9	21.6	43	SW			1		1			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.07	738.4	30.10	764.4	64.4	18	57	SSE			3		2n		NW	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.84	757.9	30.04	762.9	75.6	24.2	41	N			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.94	735.1	29.98	761.5	68.0	20	47	N			3	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.22	742.2			43.9	6.6	85	NNE			2		8			0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.15	765.9	30.19	766.7	69.4	20.8	51	NNW			1		2	NE	NE	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.09	764.2	30.17	766.4	64.4	18.0	58	SSW			1		8			0.035	0.9	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.11	764.8	30.14	765.6	61.2	16.2	75	N			2		5	N	N	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.98	761.6	30.15	765.8	64.9	18.3	60	N			0–1				NNE	0	0		E. Renou, Director.
Tarbes, Normal School	29.06	738.1	30.14	765.6	62.6	17	61	W			1		2	SW	W	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.44	747.8	30.17	766.2	63.7	17.6	65	NW			1		3			0	0		Mercadier Julier.
Versailles, Observatory	29.67	753.5	30.16	766.0	64.0	17.8	55	NNW			1		10			0	0	Covered	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.39	746.6	30.08	764.1	74.3	23.5	48	N			1		2		N	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	80.6	27										0	0		L'Abbé Marchése.
Lyons Obs'y (Park Station)	29.46	748.2	30.05	763.3	71.2	21.8	38	NE			1		3cs		NE	0	0		Mr. Jays.
Mont-Louis	24.93	633.2	30.24	768.2	53.2	11.8	37	S	11.2	5.0			0			0	0		M. Cave.
Nice			30.04	763.0	67.6	19.8	72	W			1		2			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.87	758.8			62.6	17.0	62	NNW			2		10		SSE	0	0		Marié Davy, Director.
Perpignan	29.97	761.3	30.08	764.0	69.1	20.6	27	E	5.6	2.5			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.58	573.5			35.4	1.9		Calm			0		0			0	0	Clear	Gen'l de Nansouty.
Tours	29.95	760.7	30.15	765.7	68.0	20.0	47	WNW			1		7		SSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.83	757.7	29.85	758.3	64.0	17.8	99	NNW	2.5	1.1			10n			1.894	48.1	Raining	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:06 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.06	763.5	67.3	19.6	48	E			6		3	E		0.004	0.1		Prof. Dr. Hoh.
Berlin	29.91	759.8	30.08	764.1	68.0	20.0	45	E			1		5			0	0		Prof. Arndt.
Breslau	29.54	750.4	30.08	763.9	66.0	18.9	59	N			2		8						Royal University Obs'y.
Carlsruhe	29.64	752.9	30.06	763.5	69.8	21.0	44	N			2		1	N		0	0	Raining	Albert Senz.
Cassel	29.54	750.3	30.15	765.8	61.5	16.4	60	NNE			4		5	WNW		0	0		Dr. H. Möhl.
Crefeld	29.98	761.6	30.15	765.7	65.3	18.5	40	N			4		7			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.72	754.8	30.08	764.0	69.4	20.8		NW			1		6			0.008	0.2		Physical Society.
Freienwalde on the Oder	30.04	763.1	30.08	764.1	72.3	22.4	42	NE			1		1k	NE		0	0		Assmann., M. D.
Friedrichshafen	28.65	727.8	30.03	762.7	62.6	17.0	67	SW			1		4	NE		0.075	1.9	Thunder	M. Wilhelm.
Hamburg	30.07	763.8	30.14	765.6	59.0	15.0	72	WSW			1		2k	S		0.453	11.5	Clear.	Captain F. Hegeman.
Kiel	30.13	765.2	30.14	765.6	54.0	12.5	88	NE			2		10			0.847	21.52		Prof. G. Karsten.
Königsberg (Prussia)	30.00	761.9	30.08	764.0	63.1	17.3	63	N			3		2			0	0		Prof. E. Luther.
Köslin			30.11	764.7	58.1	14.5		NE			2		3			0	0		H. Müller.
Leipsic Observatory	29.68	753.8	30.09	764.3	63.7	17.6	65	NNW			2		7	NW		0.012	0.3		Prof. Bruhns, Privy Counsellor.
Memel	30.05	763.3	30.10	764.5	69.8	21.0	51	NNE			4		5cs						Skalweit.
Munich (München)	28.23	717.0	30.10	764.4	64.8	18.2	47	W			1		5	W	E	0.047	1.2		Dr. C. Lang.
Neufahrwasser	30.14	765.5	30.15	765.9	50.0	10.0	74	NNW			4		4			0	0		A. Lothes.
Posen	29.89	759.1	30.17	766.4	59.9	15.5	66	N			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.56	750.8	30.10	764.4	68.4	20.2	44	NE			2		4	NE				Thunder-storm.	Imp. University Observatory.
Stuttgart	29.11	739.4	30.02	762.6	67.6	19.8	39	N					3	N					Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.1	30.02	762.4	65.7	18.7	48	NE	2	1			9ckn		NE	0	0	Dust haze	Dr. Van Bebber
Wustrow	30.12	765.1	30.15	765.7	54.5	12.5	69	ENE			3		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.2	30.08	763.9	75.4	24.1		SW			2.5							⅜ Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.58	751.3	29.63	752.5	95.1	35.1	77	W											
Deesa	29.12	739.6	29.56	751.0	107.8	42.1	13	SE	12.9	5.8			3			0	0	D. clouds	
Bombay	29.57	751.0	29.60	751.9	84.3	29.1	83	NW	11.0	4.9			9			0	0	D. clouds	
Poona	27.64	702.0	29.61	752.0	84.0	28.9	75	WNW					10		W	0	0	Overcast	
Lahore	28.84	732.5	29.54	750.4	105.3	40.7	13	NW	2.1	0.9			10		NE	0.08	2.0	Overcast	
Belgaum	27.10	688.2	29.62	752.5	73.6	23.1	91	W	16.0	7.2			0			0	0	Blue sky	
Roorkee	28.70	729.1	29.56	750.7	102.9	39.4	13	Calm	3.0	1.3			10	NE	NE	1.13	28.7	Drizzling	
Agra	29.04	737.6	29.57	751.1	107.1	41.7	24	N								0	0		
Nagpur	29.56	725.4	29.57	751.1	91.7	33.2	42	E	6.3	2.8			0			0	0	Blue sky	
Lucknow	29.22	742.3	29.58	751.3	104.7	40.4	34	SE	2.5	1.1			9		W	0.19	4.8	Gloomy	
Allahabad	29.28	743.6	29.57	751.1	104.1	40.1	21	Calm	2.0	0.9			8	NNE		0	0	D. clouds	
Patna	29.46	748.3	29.63	752.7	97.6	36.4	43	E	4.3	1.9			9			0	0	D. clouds	
Hazaribagh	27.70	703.5	29.65	753.2	91.3	32.9	43	ESE	11.6	5.2			2	E	E	0	0		
Cuttack	29.61	752.2	29.69	754.2	92.1	33.4		SE	4.0	1.8			4			0	0		
Calcutta (Alipore)	29.38	746.1	29.76	756.0	81.0	27.2	82	ENE	4.5	2.0			3			0	0	D. clouds	
Goalpara	29.76	755.8	29.78	756.3	81.8	27.7	85	ESE	3.0	1.3			4	W		1.75	44.4	D. clouds	
Chittagong	29.73	755.2	29.82	757.5	87.7	30.9	73	SW	5.2	2.3			10	W	SE	0.17	4.3	Thunder-storm	
Sibsagar	29.53	750.1	29.87	758.7	78.1	25.6	76	NE	2.5	1.1			8			0	0	Gloomy	
Jubbulpore	28.25	717.5	29.56	750.9	95.7	35.4	26	SE	6.4	2.9			10	W	W	0.50	12.7	D. clouds	
													10		W	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,365 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or under-ta error and temperature. Inches.	Barometer. Corrected or under-ta error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.65	753.1	30.05	763.3	62.6	17.0	73	S	2.5	1.1			10			0.020	0.5		Prof. Giovanni Clodig.
Milan	29.49	749.0	30.00	762.1	69.3	20.7	50	SSW			2		1			0	0		Prof. Schiaparelli.
Padua	29.93	760.2	30.04	762.9	64.4	18.0	64	ESE	10.5	4.7			10			0.004	0.1		Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.1	30.00	761.9	67.1	19.5	48	ENE	0.7	0.3			2	NE		0	0		Prof. P. F. Denza.
Genoa	29.78	756.4	29.97	761.2	65.5	18.6	61	SW	6.9	3.1			6	NE		0.031	0.8		Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	30.02	762.4	64.0	17.8	35	N			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.01	762.2	59.4	15.2	76	NE	17.4	7.8			10	ENE		0.984	25.0		Prof. Luigi Guidi.
Florence	29.75	755.7	30.00	762.1	64.4	18.0	56	N			4		10			0.142	3.6		Cav. F. Meucci.
Leghorn	29.89	759.1	29.97	761.2	64.9	18.3	77	W			4		10			0.020	0.5		Prof. P. Monte.
Rome	29.85	758.1	30.02	762.5	59.7	15.4	75	N	0.7	0.3			10			0.079	2.0		Prof. P. S. Ferrari.
Lecce	29.76	755.8	30.01	762.2	66.2	19.0	54	WSW	4.3	1.9			5	SW		0.197	5.0		Prof. C. De Giorgi.
Cosenza	29.15	740.3	30.01	762.3	63.5	17.5	75	SW	0.7	0.3			7			0.031	0.8		Prof. D. Conti.
Cagliari	29.84	758.0	30.03	762.8	67.3	19.6	53	NW			4		5	N		0.083	2.1		Prof. A. Pacinotti.
Palermo	29.70	754.4	30.03	762.7	64.2	17.9	54	W	14.3	6.4			7	W		0	0		Prof. G. Cacciatore.
Syracuse	29.93	760.3	30.00	762.1	67.3	19.6	64	NE	7.4	3.3			5	S		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.6	30.03	762.7	60.8	16.0	72	SE	1.3	0.6			8			0.012	0.3		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.93	760.2	66.6	19.2	96	W	1.3	0.6			10n			1.450	36.83	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	75.1	23.9	87	S	17.4	7.8			10s			0.640	16.26	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	65.5	18.6	83	S	7.3	3.3			0			0.075	1.90	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.07	636.7	30.09	764.2	57.2	14.0	62	Calm			0	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.43	620.5	30.02	762.5	66.2	19.0	62	SW			3	4c	0			0	0	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.6	30.08	764.0	55.4	13.0	53	Calm	0	0		0	0			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					63.0	17.3	40	Calm			0	4cs	0			0	0	Fair	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.7	29.88	759.0	77.2	25.1	81	S			2	0	0			0	0	Hazy	M. M. Chàzaro.
San Luis Potosi	24.21	615.0	30.12	765.1	62.1	16.7	54	SE			1	1	0	W		0	0	Fine	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.56	573.1	29.97	761.1	66.2	19.0	27	E			1	1c	0	E		0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.44	595.4	30.21	767.2	48.2	9.0	11	NNE	1.6	0.7		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.34	719.9	29.98	761.4	76.3	24.6	45	NE			2	0	10		N	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.18	766.5	30.18	766.5	67.6	19.8		SW								0	0		
Groningen	30.15	765.7	30.20	767.1	54.9	12.7		N			1					0	0		
Helder	30.20	767.0	30.20	767.0	54.5	12.5		NE			4					0	0		
Hellevoetsluis	30.17	766.2	30.17	766.2	70.0	21.1	57	ESE			1					0.610	15.5		
Utrecht	30.14	765.6	30.19	766.8	64.9	18.3	43	NNE			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.15	765.9	30.21	767.8	54.0	12.2	63	NW	0.4	0.2			4			0	0		
Brönø	30.21	767.2	30.24	768.2	50.0	10.0	67	SSE	9	4			10			0	0		
Christiania	30.05	763.2	30.19	766.8	64.9	18.3	37	SW	4	2			0			0	0		
Tromsö	30.00	762.1	30.05	763.2	43.9	6.6	80	SSW	11	5			10			0.079	2.0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.12	765.1	30.31	769.9	64.6	18.1	84	W	1.8	0.8			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.61	736.8	30.00	762.0	77.4	25.2	32	SSE	4.3	1.9			9			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.99	761.7	30.18	763.9	68.2	20.1	58	SW	3.8	1.7			2			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.04	762.9	66.9	19.4	62	NNE	6.3	2.8			10			0	0		The Staff.
Ponta Delgada (Azores)	30.26	768.5	30.33	770.3	70.6	21.4	57	SW	4.9	2.2			5			0	0		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 12° 05′, W. 20° 53′			30.05	763.2	77.9	25.5		Var.			2		0			3	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.85	758.3	80.6	27.0		WNW			2		1		WNW	1	WNW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa, Island of Cayo, Senegambia			29.89	759.3	80.6	27.0		Var.			2		2		NE	0		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.85	758.1	82.8	28.2		SW			2		3		SW	1	SW	D. clouds	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.58	751.3	29.99	761.7	67.6	19.8	59	SSE	7	3			10ks						Astronomical Obs.
Wilna	29.60	751.8	30.01	762.3	56.7	13.7	91	N	4	2			10					Raining	Astronomical Obs.
Dorpat	29.92	759.9	30.15	765.9	65.5	18.6	66	ESE	4	2			9n						Prof. Dr. Weihrauch.
St. Petersburg	30.16	766.0	30.17	766.4	66.7	19.3	51	S	11	5			10n;s						Central Physical Obs.
Kieff	29.31	744.4	29.93	760.2	63.0	17.2	69	WNW	9	4			8ks;e						Physical Cabinet.
Nikolaiev	30.00	761.9	30.07	763.7	78.6	25.9	37	SSW	9	4			8cs						Kurdakof.
Kertch	30.07	763.7	30.09	764.2	69.3	20.7	73	N	2	1			0						Lagorio.
Moscow	29.63	752.6	30.16	766.0	72.3	22.4	41	SE	9	4			4ks						Meteorological Obs.
Lugan	29.55	758.2	30.05	763.3	71.1	21.7	54	NW	13	6			9						Meteorological Obs.
Archangel	30.06	763.6	30.08	764.1	64.2	17.9	61	SSW	4	2			9k						Capt. Sseliwerstow.
Tiflis	28.57	725.7	29.93	760.1	77.2	25.1	23	WNW	22	10			3k						Physical Observatory.
Astrakhan	29.96	760.9	29.87	758.8	90.9	32.7	24	E	4	2			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	30.02	762.5	30.28	769.1	71.1	21.7	28	E	2	1			1						Physical Cabinet.
Ekaterinburg	29.28	743.8	30.23	767.9	63.7	17.6	26	NNW	2	1			3c					Light clouds	Meteorological Obs.
Nukuss	29.65	753.0	29.87	758.6	84.0	28.9	41	SSE	9	4			0?						
Tashkend	28.19	715.9	29.66	753.3	81.3	27.4	59	Calm	0	0			10						Teich, A. M.
Barnaul	29.35	745.4	29.86	758.4	38.7	3.7	51	WNW	4	2			10						Meteorological Obs.
Yeniseisk	29.26	743.1	29.54	750.3	52.3	11.3	55	W	20	9			3						Marks.
Irkutsk																			
Peking (China)	29.43	747.6	29.58	751.2	71.2	21.8	28	Calm	0	0			8n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.52	749.9	29.92	752.4	41.7	5.4	99	SE	18	8			10n						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.98	761.6	30.09	764.2	66.2	19	42	SSW	5.2	2.31			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.05	763.3	30.11	764.7	70.5	21.4	59	NW	2.5	1.1		2	1	SW		0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.0			64.4	18.0	48	NE	6.3	2.81			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.84	707.2			77.4	25.2	35	S	5.2	2.33		0	1			0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.95	760.7	30.10	764.4	75.2	24.0	44	NE	4.9	2.17		0	2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.11	739.3	29.98	761.5	70.2	21.2	56	NE	0	0		0	1			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	758.8	29.94	760.5	78.5	25.8	75	Calm	0	0		0	2k		NE	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.82	757.4	29.87	758.7	88.0	31.1	64	E	1.6	0.7		0	0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	759.0	29.98	761.4	74.7	23.7	27	ESE	26.0	11.6		3	7	NW	E	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.85	758.2	29.94	760.5	80.6	27.0	85	SE	0	0		3s	1k	SE	SE	0.276	7.00	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	30.14	765.6	30.18	766.6	43.5	6.4	....	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Umea	30.13	765.2	30.18	766.5	56.8	13.8	51	NW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Hernosand	30.15	765.9	30.21	767.2	59.4	15.2	60	SW	.....	.....	2	.....	2	.....	.....	0.008	0.2	.....	
Stockholm	30.03	762.7	30.21	767.2	62.8	17.1	34	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Wisby	30.00	764.2	30.15	765.7	51.8	11.0	60	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.11	764.9	30.19	766.8	66.2	19.0	38	NE	4.5	2.0	.....	.....	3	.....	NNW	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.64	727.5	30.04	762.9	64.9	18.3	47	N	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
Zurich	28.47	723.0	30.06	763.6	66.4	19.1	57	W	.....	.....	2	.....	4	.....	.....	0	0	Fair	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +2.1 mm.; Thermometer, +0.9 Cent.; Relative Humidity, --10 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.4	74.5	23.6	54	S	4	2.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	89.6	32.0	.....	NW	.....	.....	6	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.6	66.6	19.2	.....	S	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.04	760.5	30.06	763.5	73.2	22.9	70	NW	.....	.....	1	2c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.51	749.5	29.81	757.2	53	11.7	.....	NW	6	2.7	.....	.....	8s	NW	.....	0.02	0.5	Cloudy	W. R. Bigg.
*Chatham, N. B	29.44	747.8	29.50	749.3	60	15.6	94	SW	9	4.0	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.64	752.8	58	14.4	94	S	10	4.5	.....	.....	10n	.....	.....	0.115	2.92	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.71	754.6	55.7	13.2	72	NW	.....	.....	4	.....	9s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.24	742.7	29.41	747.0	48.7	9.3	100	E	.....	.....	1	.....	10n	.....	.....	0	0	Misty	H. A. Johnson.
Esquimault, B. C	29.95	761.0	30.01	762.2	47.3	8.5	100	Calm	0	0	.....	4cs	0	.....	.....	0.54	13.7	Fair	W. H. Bevis.
*Father Point, Quebec	29.36	745.7	29.38	746.2	42	5.6	96	NW	12	5.4	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	J. McWilliams.
Fredericton, N. B	29.51	749.5	29.57	751.1	65.0	18.8	83	SW	18	8.0	.....	.....	10ks	.....	.....	0.34	8.6	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.33	745.0	30.16	766.1	49	9.4	85	NE	5	2.2	.....	5k	5n	NE	NE	0.10	2.5	Light rain	James Stewart.
Granton, Ontario	28.90	734.0	30.00	762.0	47	8.3	.....	N	.....	.....	2	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.62	752.3	29.75	755.6	55	12.8	98	SW	15	6.7	.....	.....	10n	.....	.....	0.076	1.93	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.91	759.7	54.5	12.5	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.81	757.2	56	13.3	67	W	13	5.8	.....	2k	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.69	754.1	29.73	755.1	57.3	14.1	95	S	11	4.9	.....	.....	10n	.....	.....	0.29	7.4	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.47	748.5	29.66	753.4	59	15.0	69	NW	20	8.9	.....	2c	2ks	W	N	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.30	744.2	30.00	762.0	47	8.3	63	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.16	740.7	29.90	759.4	53.7	12.1	67	NW	.....	.....	6	0	2ks	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.93	760.2	52	11.1	86	N	18	8.0	.....	10k	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.73	755.1	29.78	756.4	52.3	11.3	.....	SW	3	1.3	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.95	760.7	52	11.1	82	W	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.18	741.2	29.49	749.0	58	14.4	88	NW	.....	.....	6	0	2ks	.....	NW	0.04	1.0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.52	749.8	29.98	761.5	46	7.8	68	NW	10	4.5	.....	0	5ks	.....	N	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.57	751.1	29.62	752.3	54	12.2	98	SW	.....	.....	3	.....	Fog	.....	.....	0.08	2.0	Foggy	Dr. Gove.
St. John, N. B	29.46	748.3	29.63	752.6	49	9.4	100	S	16	7.2	.....	.....	Fog	.....	.....	0.26	6.6	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.04	763.0	46	7.8	61	N	20	8.9	.....	2cs	0	.....	.....	0.01	0.3	Clear	K. Stewart.
Stayner, Ontario	29.21	741.9	29.99	761.7	44	6.7	72	NW	18	8.0	.....	8k	0	N	.....	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.68	728.5	29.97	761.2	45.0	7.2	80	NW	15	6.7	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.73	755.1	29.77	756.1	55	12.8	97	S	9	4.0	.....	.....	10n	.....	.....	0.16	4.1	Cloudy	T. C. Hill.
*Toronto, Ontario	29.55	750.6	29.94	760.5	51	10.6	66	NW	24	10.7	.....	2ck	0	N	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.62	752.3	29.71	754.6	65.5	18.6	86	SW	16	7.2	.....	0	9n;k	.....	.....	0.14	3.6	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.86	758.4	30.10	764.5	47.0	8.3	92	S	.....	.....	.....	10k	10s	.....	.....	0.01	0.3	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.48	748.8	29.70	754.4	71	21.7	75	S	8	3.6		0	1s		S	0	0	Clear	
Alpena, Michigan	29.47	748.5	30.12	765.0	48	8.9	43	NW	18	8.0		0	0			0	0	Clear	
Atlanta, Georgia	28.71	729.2	29.80	756.9	70	21.1	71	NW	7	3.1		10c	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	29.83	757.7	29.84	757.9	62	16.7	100	SW	8	3.6			Fog		S	0	0	Foggy	
Augusta, Georgia	29.69	754.1	29.86	758.4	74	23.3	81	SE	2	0.9		0	0			0	0	Clear	
Baltimore, Maryland	29.79	756.7	29.83	757.7	66	18.9	95	SE	6	2.7			10s;fg		Calm	0	0	Foggy	
Barnegat, New Jersey	29.79	756.7	29.81	757.2	62	16.7	100	S	12	5.4			Fog		S	0	0	Foggy	
Bismarck, Dakota	28.25	717.5	30.10	764.5	54	12.2	86	E	6	2.7		1k	0	Calm		0.06	1.5	Clear	
Boerne, Texas	28.37	720.6	29.61	752.1	76	24.4	69	Calm	0	0		2cs	0	Calm		0	0	Clear	
Boise City, Idaho	27.02	686.3	29.98	761.5	43	6.1	67	S	4	1.8		5cs	5s	Calm	SW	0	0	Cloudy	
Boston, Massachusetts	29.56	750.8	29.70	754.4	67.5	19.7	82	SW	15	6.7		0	8ks		SW	Inap.	Inap.	Fair	
Brackettville, Texas	28.70	729.0	29.68	753.9	75	23.9	77	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	29.10	739.1	30.10	764.5	52	11.1	86	SE	10	4.5		10cs	0	W		0	0	Cloudy	
Brownsville, Texas	29.74	755.4	29.78	756.4	81	27.2	74	S	10	4.5		5k	0	S		0	0	Fair	
Buffalo, New York	29.21	741.9	29.90	759.4	52	11.1	73	NW	8	3.6			10s		NW	0	0	Cloudy	
Burkes, Arizona					63	17.2	28	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.37	746.0	29.65	753.1	64	17.8	73	NW	4	1.8			10s		W	0.10	2.5	Cloudy	
Cairo, Illinois	29.53	750.0	29.90	759.4	72	22.2	85	N	7	3.1		8c	Haze	Calm		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.23	640.8	30.03	762.8	62	16.7	22	E	4	1.8		8ck	0	W		0	0	Cloudy	
Camp Verde, Arizona					67	19.4	23	S			2	5k	0	W		0	0	Fair	
Campo, California	27.40	696.0	29.97	761.2	44	6.7	92	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	29.88	758.9	29.89	759.2	75	23.9	81	SW	2	0.9		2cs	2ks	SW	SW	0	0	Fair	
Cape Henry, Virginia	29.83	757.7	29.84	757.9	70	21.1	85	SW	6	2.7		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	29.88	758.9	29.89	759.2	74	23.3	86	SW	3	1.3		2k	0	Calm		0	0	Fair	
Cape May, New Jersey	29.76	755.9	29.79	756.7	64	17.8	89	S	8	3.6			Fog		S	0	0	Foggy	
Castroville, Texas	29.01	736.8	29.68	753.9	73	22.8	85	W	2	0.9		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	29.81	757.2	29.86	758.4	75	23.9	86	Calm	0	0		2k	0	Calm		0.05	1.3	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	50	10.0	52	W	4	1.8		2ck	5s	SW	W	0	0	Cloudy	
Chicago, Illinois	29.39	746.5	30.09	764.3	48	8.9	78	N	12	5.4		0	0			0	0	Clear	
Cincinnati, Ohio	29.28	743.7	29.90	759.4	71	21.7	66	N	8	3.6		9cs;k	0	W;NW		0	0	Threatening	
Cleveland, Ohio	29.26	743.2	29.98	761.5	52	11.1	73	N	20	8.9			10s		N	0	0	Cloudy	
Coleman City, Texas	28.05	712.5	29.65	753.1	68	20.0	90	Calm	0	0			Fog			0	0	Foggy	
Columbus, Ohio	29.11	739.4	29.92	760.0	64	17.8	63	N	9	4.0		2cs	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	27.96	710.2	29.56	750.8	70	21.1	28	NE	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.36	745.7	29.81	757.2	74	23.3	90	Calm	0	0		0	0			0	0	Clear	
Davenport, Iowa	29.47	748.5	30.10	764.5	52	11.1	66	NE	12	5.4		5c	0	W		0	0	Fair	
Deadwood, Dakota	25.41	645.4			49	9.4	85	S	4	1.8			10s		Calm	0	0	Cloudy	
Decatur, Texas	28.72	729.5	29.81	757.2	82	27.8	83	E	6	2.7		0	0			0	0	Clear	
Denison, Texas	29.09	738.9	29.85	758.2	71	21.7	85	NE	4	1.8		0	0			0	0	Clear	
Denver, Colorado	24.76	628.9	29.98	761.5	59	15.0	28	SW	7	3.1		0	0			0	0	Clear	
Des Moines, Iowa	29.18	741.2	30.06	763.5	55	12.8	81	E	6	2.7		10cs	0	W		0	0	Cloudy	
Detroit, Michigan	29.36	745.7	30.04	763.0	48	8.9	78	N	16	7.2			10s		NW	0.03	0.8	Cloudy	
Dodge City, Kansas	27.42	696.5	29.62	752.3	65	18.3	89	Calm	0	0		5c	0	W		0	0	Fair	
Dubuque, Iowa	29.43	747.5	30.13	765.3	52	11.1	60	E	9	4.0		2ck	Haze	NE	Calm	0	0	Fair	
Duluth, Minnesota	29.53	750.0	30.22	767.6	45	7.2	84	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.00	736.6	29.68	753.9	75	23.9	56	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	29.56	750.8	29.62	752.3	50	10.0	97	S	8	3.6			Fog		S	0.02	0.5	Dense fog	
Edinburg, Texas					75	23.9	90	S			1	0	5s		Calm	0	0	Fair	
El Paso, Texas	26.24	666.5			54	12.2	37	Calm	0	0		5c	0	W		0	0	Fair	
Erie, Pennsylvania	29.22	742.2	29.92	760.0	55	12.8	81	N	13	5.8			10s		NW	0	0	Cloudy	
Escanaba, Michigan	29.56	750.8	30.22	767.6	45	7.2	76	NE	11	4.9		0	0			0	0	Clear	
Florence, Arizona	28.40	721.3	30.00	762.0	65	18.3	49	W	2	0.9			10s		W	0	0	Cloudy	
Fort Buford, Dakota	28.01	711.4			50	10.0	93	E	4	1.8		0	0			0.34	8.6	Clear	
Fort Craig, New Mexico	25.53	648.4	29.60	751.8	52	11.1	28	Calm	0	0		1c	0	Calm		0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	70	21.1	28	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.39	746.5	29.90	759.4	71	21.7	80	Calm	0	0		0	0			0	0	Clear	
Fort Griffin, Texas	28.63	727.2	29.83	757.7	75	23.9	81	N	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	29.48	748.8			50	10.0	93	NW	1	0.4			Fog		Calm	0	0	Foggy	
Fort McKavett, Texas	27.62	701.5	29.44	747.8	70	21.1	44	SW	4	1.8		4c	4s	SW	Calm	0	0	Fair	
Fort St. Michael, Alaska	29.93	760.2	29.96	761.0	29	— 1.7	100	N	2	0.9		Haze	0	Calm		0	0	Fair	
Fort Sill, Indian Territory	28.70	729.0	29.76	755.9	67	19.4	79	N	9	4.0		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.21	716.5			53	11.7	79	NE	7	3.1		1c	0	Calm		Inap.	Inap	Fair	
Fredericksburg, Texas	28.09	713.5	29.56	750.8	77	25.0	69	SW	1	0.4		2c	0	Calm		0	0	Fair	
Galveston, Texas	29.80	756.9	29.84	757.9	77	25.0	91	S	1	0.4		2k	0	S		0	0	Clear	
Graham, Texas	28.80	731.5	29.79	756.7	76	24.4	82	Calm	0	0		1cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.46	748.3	30.11	764.8	51	10.6	72	NE	16	7.2			10s		NE	0	0	Cloudy	
Indianapolis, Indiana	29.13	739.9	29.88	758.9	64	17.8	71	N	7	3.1		8cs	0	W		0	0	Fair	
Indianola, Texas	29.80	756.9	29.83	757.7	80	26.7	82	S	10	4.5		1c	0	W		0	0	Clear	
Jacksboro, Texas	28.70	729.0	29.77	756.1	75	23.9	77	E	6	2.7		0	0			0	0	Clear	
Jacksonville, Florida	29.86	758.4	29.89	759.2	79	26.1	66	SW	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.42	747.2	30.03	762.8	57	13.9	69	NE	12	5.4		7c	0	NW		0	0	Fair	
Key West, Florida	29.92	760.0	29.95	760.7	79	26.1	70	NW	7	3.1		0	0			0	0	Clear	
Kittyhawk, North Carolina	29.83	757.7	29.85	758.2	71	21.7	90	S	7	3.1		0	0			0	0	Clear	
Knoxville, Tennessee	28.92	734.6	29.89	759.2	68.5	20.3	70	NE	1	0.4		1cs	Sm'e	Calm		0	0	Clear	
La Crosse, Wisconsin	29.43	747.5	30.17	766.3	52	11.1	60	E	3	1.3		2c	0	Calm		0	0	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	55	12.8	39	NW	1	0.4		10cs	0	NW		0	0	Cloudy	
Laredo, Texas	29.40	746.7	29.72	754.9	81	27.2	48	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.15	740.4	29.97	761.2	62	16.7	77	N	3	1.3		5c	0	NW		0	0	Fair	
Los Angeles, California	29.64	752.8	29.98	761.5	52.5	11.4	79	N	1	0.4		0	8s		SE	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.87	758.7	70	21.1	75	N	7	3.1		8c;cs	0	Calm		0.03	0.8	Fair	
Lynchburg, Virginia	29.17	740.9	29.81	757.2	74	23.3	68	W	2	0.9		0	0			0	0	Clear	
Madison, Wisconsin	29.15	740.4	30.14	765.5	49	9.4	71	NE	18	8.0		1cs	0	W		0	0	Clear	
Marquette, Michigan	29.49	749.0	30.21	767.3	43	6.1	75	N	4	1.8		0	0			Inap.	Inap.	Clear	
Mason, Texas	28.21	716.5	29.88	758.9	71	21.7	58	NW	1	0.4		8cs	0	NW		0	0	Fair	
Memphis, Tennessee	29.54	750.3	29.87	758.7	70	21.1	84	NE	6	2.7		5c	2s	Calm	Calm	0.41	10.4	Fair	
Milwaukee, Wisconsin	29.39	746.5	30.13	765.3	46	7.8	77	NE	22	9.8		0	0			0	0	Clear	
Mobile, Alabama	29.89	758.9	29.85	758.2	76	24.4	91	S	3	1.3			10n		W	0.05	1.3	Light rain	
Montgomery, Alabama	29.63	752.6	29.86	758.4	72	22.2	80	SE	4	1.8		8cs	2ks	Calm	Calm	0	0	Cloudy	
Morgantown, West Virginia	28.79	731.3	29.79	756.7	70	21.1	75	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.58	598.9	29.94	760.5	47	8.3	100	NW	37	16.5			Fog		NW	0.15	3.8	Foggy	
Nashville, Tennessee	29.35	745.5	29.86	758.4	74	23.3	72	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
New Haven, Connecticut	29.66	753.4	29.76	755.9	67	19.4	89	W	8	3.6			Fog		Calm	0	0	Foggy	
New London, Connecticut	29.74	755.4	29.78	756.4	63	17.2	100	SW	8	3.6			Fog		SW	0.09	2.3	Dense fog	
New Orleans, Louisiana	29.77	756.1	29.83	757.7	78	25.6	82	S	9	4.0			10s		S	0	0	Cloudy	
Newport, Rhode Island	29.74	755.4	29.79	756.7	58	14.4	94	SW	7	3.1			Fog			0.01	0.3	Foggy	
New York, New York	29.64	752.8	29.81	757.2	64	17.8	100	W	7	3.1			10s;fg		Calm	0	0	Cloudy	
Norfolk, Virginia	29.80	756.9	29.85	758.2	75	23.9	77	S	4	1.8		0	5s		Calm	0.01	0.3	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.10	688.3	29.58	751.3	64	17.8	89	E	8	3.6			10s		SE	0	0	Cloudy	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	55.0	12.8	96	W	1	0.4			Fog		W	0.03	0.8	Foggy	
Omaha, Nebraska	28.99	736.3	29.97	761.2	58	14.4	82	NE	5	2.2			10s		Calm	0	0	Cloudy	
Oswego, New York	29.51	749.5	29.83	757.7	48	8.9	85	W	14	6.3			10s		Calm	0	0	Cloudy	
Pembina, Dakota	29.27	743.4	30.09	764.3	52	11.1	86	Calm	0	0		5k	0	W		0	0	Fair	
Philadelphia, Pa	29.75	755.6	29.80	756.9	68	20.0	90	SW	10	4.5			10ks		SW	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.70	729.0	30.43	772.9	72	22.2	19	E	2	0.9			10s		S	0	0	Cloudy	
Pike's Peak, Colorado	17.94	455.7	30.15	765.8	28	— 2.2	22	SW	40	17.9		0	0			0	0	Clear	
Pioche, Nevada					48	8.9	23	S	6	2.7		2c	0	S		0	0	Fair	
Pittsburg, Pennsylvania	29.06	738.1	29.84	757.9	64	17.8	73	N	8	3.6		0	0			Inap.	Inap.	Clear	
Port Huron, Michigan	29.37	746.0	30.04	763.0	44	6.7	84	N	24	10.7			10ks		N	0	0	Cloudy	
Portland, Maine	29.60	751.8	29.64	752.8	65	18.3	89	SW	10	4.5		1k	0	W		Inap	Inap.	Clear	
Portland, Oregon	29.96	761.0	30.03	762.8	48.3	9.1	90	N	4	1.8			10s		N	0.33	8.4	Cloudy	
Prescott, Arizona	24.67	626.6	30.03	762.8	60	15.6	55	SW	12	5.4		10cs	0	W		0	0	Cloudy	
Pilot Point, Texas	29.04	737.6	29.83	757.7	74	23.3	81	SE	10	4.5		0	0			0	0	Clear	
Punta Rassa, Florida	29.91	759.7	29.93	760.2	78	25.6	73	NW	8	3.6		0	0			0	0	Clear	
Red Bluff, California	29.54	750.3	29.89	759.2	56	13.3	78	SW	2	0.9		1k	8ks	S	S	0.02	0.5	Cloudy	
Rio Grande City, Texas	29.59	751.6	29.80	756.9	73	22.8	81	SE	6	2.7		0	0			0	0	Clear	
Rochester, New York	29.23	742.4	29.83	757.7	58	14.4	76	NW	14	6.3			10s		NW	0	0	Cloudy	
Roseburg, Oregon	29.40	746.7	29.96	761.0	50	10.0	86	NW	4	1.8			10s		Calm	0	0	Cloudy	
Sacramento, California	29.82	757.4	29.91	759.7	52	11.1	79	SW	6	2.7			10s		Calm	0	0	Cloudy	
St. Louis, Missouri	29.41	747.0	29.97	761.2	61	16.1	66	N	16	7.2		0	0			0.06	1.5	Clear	
St. Marks, Florida	29.88	758.9	29.89	759.2	75	23.9	95	SW	1	0.4		0	2s		SW	0	0	Fair	
St. Paul, Minnesota	29.32	744.7	30.15	765.8	52	11.1	54	SE	11	4.9		10cs	0	Calm		0	0	Cloudy	
Salt Lake City, Utah	25.49	647.4	29.82	757.4	60	15.6	29	SE	6	2.7			10ks		SW	0	0	Cloudy	
San Antonio, Texas	29.11	739.4	29.67	753.6	76	24.4	73	Calm	0	0		5c	0	Calm		0	0	Fair	
San Diego, California	29.97	761.2	30.04	763.0	56	13.3	75	W	4	1.8		0	2s		W	0	0	Clear	
Sandusky, Ohio	29.34	745.2	30.01	762.2	53	11.7	86	N	25	11.2			10ks		N	0	0	Cloudy	
Sandy Hook, New Jersey	29.76	755.9	29.79	756.7	65	18.3	100	SW	8	3.6			Fog		Calm	0	0	Dense fog	
San Francisco, California	29.88	758.9	29.94	760.5	52.5	11.4	83	S	3	1.3		8k	0	SW		0	0	Fair	
Santa Fé, New Mexico	23.35	593.1	29.89	759.2	51	10.6	28	NE	2	0.9		1cs	0	Calm		0	0	Clear	
Savannah, Georgia	29.79	756.7	29.87	758.7	79	26.1	70	W	3	1.3		1c	0	E		0	0	Clear	
Shreveport, Louisiana	29.66	753.4	29.87	758.7	76	24.4	77	E	10	4.5		0	5ks		NE	0	0	Fair	
Silver City, New Mexico	24.35	618.5	30.56	776.2	45	7.2	38	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.88	758.9	29.91	759.7	73	22.8	95	SW	2	0.9		0	2ks		W	Inap.	Inap.	Fair	
Springfield, Massachusetts	29.59	751.6	29.71	754.6	70	21.1	85	S	8	3.6		0	8s		SW	0	0	Cloudy	
Stockton, Texas	26.91	683.5	29.91	759.7	73	22.8	31	SW	4	1.8		8c	2s	SW	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.64	752.8	29.69	754.1	55	12.8	93	S	15	6.7			Fog			0.23	5.8	Foggy	
Toledo, Ohio	29.39	746.5	30.02	762.5	55	12.8	68	N	14	6.3			10s		N	0	0	Cloudy	
Tucson, Arizona	27.48	698.0	30.03	762.8	64	17.8	43	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.66	753.4	30.16	766.1	46.0	7.8	84	SE	4	1.8		0	0			0	0	Clear	
Unalashka, Aleutian Islands																			
Uvalde, Texas	28.90	734.0	29.69	754.1	75	23.9	72	NE	2	0.9		1c	0	Calm		0	0	Clear	
Vicksburg, Mississippi	29.63	752.6	29.88	758.9	69	20.6	90	NE	2	0.9		5cs	0	Calm		1.49	37.8	Fair	
Virginia City, Montana	24.26	616.2	29.74	755.4	39	3.9	64	SE	4	1.8		5c	0	Calm		0.11	2.8	Fair	
Visalia, California	29.59	751.6	29.95	760.7	54	12.2	87	NW	2	0.9			10s		Calm	0	0	Cloudy	
Washington, D. C.	29.71	754.6	29.82	757.4	67	19.4	89	SW	2	0.9			Fog		S	0	0	Foggy	
Wickenburg, Arizona																			
Wilmington, N. Carolina	29.80	756.9	29.88	758.9	70	21.1	95	S	1	0.4		1k	0	Calm		0.25	6.3	Clear	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	42	5.6	74	SW	12	5.4			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	29.73	755.1	29.77	756.1	59	15.0	94	SW	12	5.4			Fog		Calm	0	0	Dense fog	
Yankton, Dakota	28.85	732.8	30.12	765.0	58	14.4	87	E	2	0.9			10n		Calm	0.02	0.5	Light rain	
Yuma, Arizona	29.66	753.4	29.82	757.4	67	19.4	29	NW	4	1.8		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.37	720.6	29.73	755.1	66	18.9	78											Clear	J. B. Gordon.
Havana, Cuba, W. I.	29.89	759.2	29.94	760.5	79	26.1	74	Calm	0	0		0	4ks		N	0	0	Smoky	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.22	640.6			65.0	18.3	84	Calm			0	2cs	3ks			0.24	6.1	Fair	Thomas Herran.
Navassa, W. I.	29.82	757.4	29.90	759.4	79	26.1	74	SE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	81	27.2	83	E			2		8ks			0.040	1.02	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	29.99	761.7	30.04	763.0	29.5	— 1.4	95	E	7	3.1		7ck	0	NE		0	0	Cloudy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in,; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 m.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 1—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.95‡	760.7‡			53	11.7	80	W	9	4.0			10		W	0	0			Overcast	
Navy Yard, Pensacola, Fla.	29.87‡	758.7‡			77	25.0	91	SW	10	4.5			10			0	0			Threatening	
Navy Yard, Portsmouth, N. H.																					
Naval Hospital, Yokohama, Japan	30.08‡	764.0‡			67	19.4	81	Calm			0		Haze		Calm	0	0			Clear	
Adams, Callao, Peru	30.04‡	763.0‡			64	17.8	100	Calm			0		10							Foggy	
Alaska, Sitka, Alaska	30.18‡	766.6‡			40	4.4	91	Calm			0		5			0	0			D. clouds	
Alliance, Gibraltar, Mediterranean	30.06‡	763.5‡			67	19.4	64	NNW			1–6		8							Squally	
Colorado, New York, N. Y.	29.80‡	756.9‡			65	18.3	100	SW	5	2.2			10			0	0			Foggy	
Constitution, N. 37° 45′, W. 72° 51′	29.81‡	757.2‡			67	19.4	100	SSW			3		3		SW			Smooth	S	Fair	
Despatch, Gibraltar, Mediterranean	30.04‡	763.0‡			66	18.9	79	W			3		9		Calm	0	0	Smooth		Cloudy	
Enterprise, Havre, France	30.15‡	765.8‡			58	14.4	70	W			2		5		W					D. clouds	
Franklin, Norfolk, Va.	29.84‡	757.9‡			71	21.7	90	SSW	6.0	2.7			2		SSW	0.78	19.8			Clear	
Hartford, Montevideo, Uruguay.*	29.88‡	758.9‡			62	16.7	77	NE			5		10		NE	0.30	7.6			Cloudy	
Marion, N. 27° 30′, W. 80° 00′	29.91‡	759.7‡			79	26.1	86	WSW			2		5		S; W			Smooth		Fair	
Michigan, Erie, Pa.					55	12.8	87	NNW			4		10							Overcast	
Monocacy, Shanghai, China	29.83‡	757.7‡			65	18.3	100	NNW			1		10		NW					Rainy	
Monongahela, Yokohama, Japan	30.11‡	764.8‡			68	20.0	79	SW			0-1		cs			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.83‡	757.7‡			79	26.1	78	Calm	0	0			0			0.04	1.0			Clear	
Onward, Callao, Peru †*	30.07‡	763.8‡			62	16.7	94	S			1		10					Long	W	Foggy	
Palos, Shanghai, China	29.86‡	758.4‡			63	17.2	100	NW			1		10		NW					Rainy	
Passaic, Washington, D. C.					68	20.0	90	W			2		10							Cloudy	
Pensacola, Callao, Peru	29.95‡	761.5‡			61	16.1	100	SSE	2	0.9			10			0	0	Smooth	W	Misty	
Portsmouth, N. 34° 43′, W. 76° 09′	29.89‡	759.2‡			71	21.7	90	Calm			0		2		S	0	0	Smooth		Clear	
Powhatan, Port Royal, S. C.	29.88‡	758.4‡			77	25.0	86	Calm			0		2		Calm	0.2	5.			Clear	
Quinnebaug, Jaffa, Syria	30.04‡	763.0‡			72	22.2	76	NNW			3		8		W					Fair	
Ranger, Swatow, China	29.89‡	759.2‡			85	29.4	91	E			2		2		Calm			Smooth		D. clouds	
Richmond, N. 26° 58′. E. 121° 48′	29.77‡	756.1‡			79	26.1	91	SSW			4–5		5		SSW	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.79‡	756.7‡			80	26.7	91	S			1		5		S					Fair	
Santee, Annapolis, Md.	29.83‡	757.7‡			70	21.1	90	SW			1		5		SW	0	0			Cloudy	
Saratoga, N. 32° 34′, W. 20° 00′	30.21‡	767.3‡			66	18.9	79	NE			5		10		SW	0	0	Mod'ate	NW	D. clouds	
St. Louis, League Island, Pa.	29.84‡	757.9‡			67	19.4	95	SW	8	3.6			10		WSW	0.3	8.			Cloudy	
Trenton, Marseilles, France	30.07‡	763.8‡			73	22.8	54	WSW			1–2		2		Calm	0	0	Smooth		Clear	
Tuscarora, Port Angel, Mexico	29.85‡	758.2‡			80	26.7	78	NW			1		0			0	0	Smooth		Hazy	
Vandalia, N. 16° 19′, W. 80° 46′	29.67‡	753.6‡			81	27.2	100	NE			1		10			Blank	Blank	Smooth		Cloudy	
Wabash, Boston, Mass.	29.76‡	755.9‡			67	19.4	64	SW			5		8			0	0			Cloudy	
Wyoming, Leghorn, Italy	29.98‡	761.5‡			66	18.9	94	WSW			1		8		WSW			Smooth	WSW	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, N. 26° 26′, E. 123° 25′		29.92‡	760.0‡	78	25.6		S			4		Sck		S	0	Smooth		Blue sky	L. B. Walls.
S. S. Colima, N. 7° 11′, W. 81° 32′ †.		29.92‡	760.0‡	79	26.1		E			4		10		W	0.12 in. or 3.0 mm	Small	SE	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, N. 46° 27′, W. 124° 33′ †.		30.04‡	763.0‡	58	14.4	82	W			1		2		SE;NW	0			Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, N. S. W.		29.75‡	755.6‡				NE			3				ENE				Rainy	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyers, Hong-Kong, China		29.89‡	759.2‡	83	28.3	87	Calm			0	5c				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 44° 04′, E. 160° 50′		29.55‡	750.0‡	40	4.4	100	SW			3		10n				5	SE	Misty	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 05′, W. 67° 10′		29.85‡	758.9‡				WSW			4		8		WSW		4	WSW	Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 59′. W. 60° 08′		30.22‡	767.6‡	64	17.8	78	SSW			3		3		SW	0	Smooth		Clear	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 33.′ W. 80° 35′		29.96‡	761.0‡	80	26.7	78	N	8	3.6			5k		N	0	Smooth		D. clouds	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax",																			
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.57‡	751.1‡				SE	4	1.8			5		S	2. in. or 51. mm			Raining	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

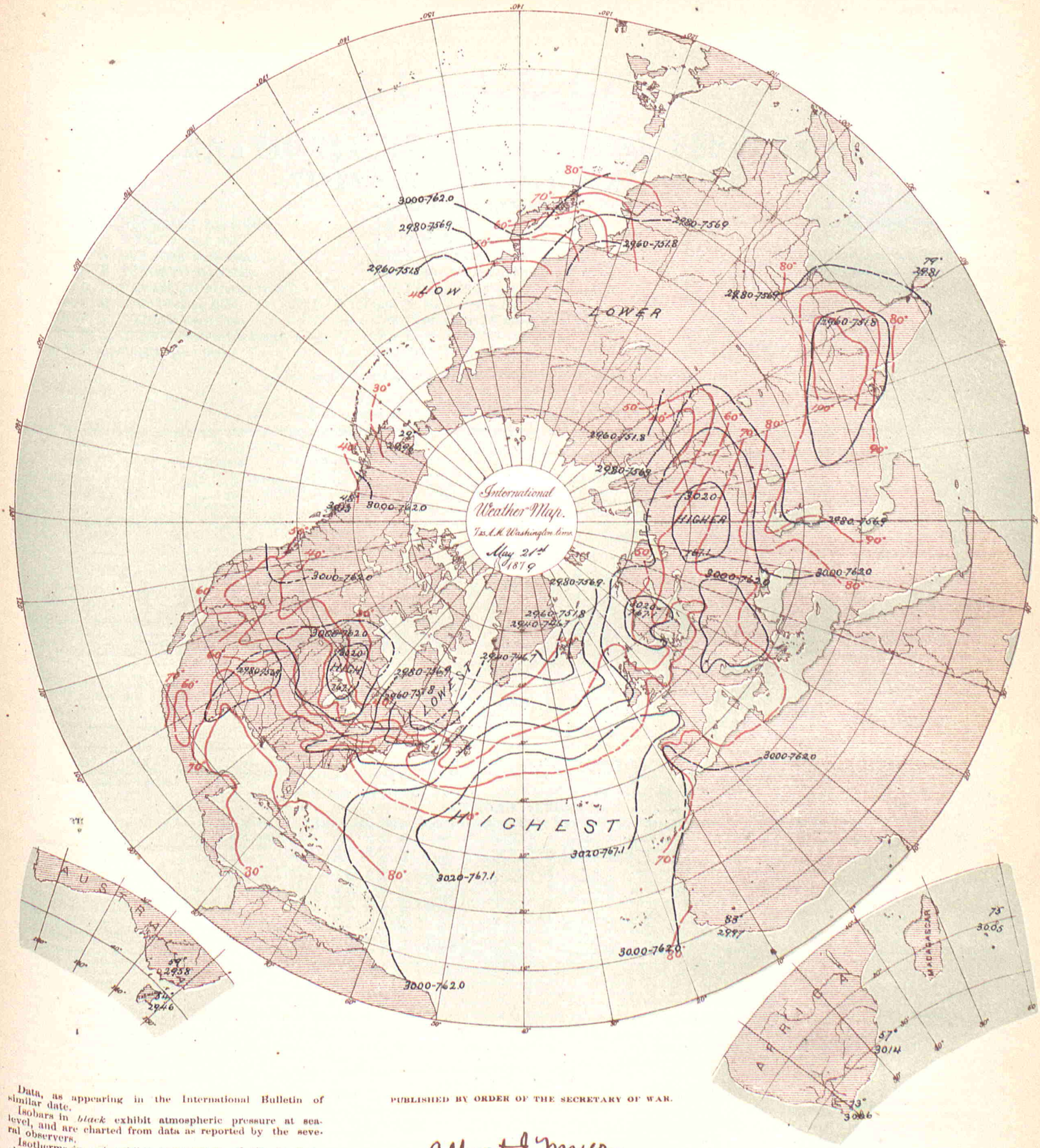
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.01	762.2	65.3	18.5	92	NNW			2		10			0.059	1.5	Covered	Kesxuche.
Algiers			29.98	761.5	64.8	18.2	84	NE			1		10			0	0	Covered	Tourilière.
La Calle			30.08	764.0	66.4	19.1	76	NE			3		5			0	0	Cloudy	Foufrode.
Tunis																			Jacques.
Sfax			30.23	767.9															Gau.
Saida			29.99	761.7	77.4	25.2	5	NW			4		8			0	0	Very cloudy	Herbin.
Tebessa			30.15	765.9	76.5	24.7	31	WSW			4		5			0	0	Cloudy	Watrin.
Geriville			29.99	761.8	64.9	18.3	40	ESE			2		2			0	0	Fair	Brugniaux.
Laghouat			30.02	762.6	81.3	27.4	37	SE			4		2			0	0	Fair	Bertrand.
Biskra			30.10	764.5	82.6	28.1	24	SE			3		8			0	0	Very cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.50	749.2	30.04	762.9	63.7	17.6	64	SW			4		10			0.094	2.4		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.28	743.6	30.03	762.7	66.6	19.8	70	E			3		9			0.008	0.2		Dr. Wierzbiski.
Eperies	29.12	739.7	29.98	761.4	66.9	19.4	68	Calm			0		10k			0.059	1.50		Julius Mikolik.
Gratz	28.85	732.8	30.08	764.1	64.6	18.1	70	SE			2		8			0.319	8.1		Andreas Rospini.
Hermannstadt	28.61	726.7	30.00	762.1	66.2	19.0	68	SSE			2		10			0.173	4.40		Prof. A. Gottschling.
Kremsmünster	28.71	729.3	30.04	763.0	59.0	15.0	64	WSW			3		8			0	0		Prof. C. Wagner.
Lemberg	29.00	736.7	29.95	760.8	70.9	21.6	62	SE			1		8			0.079	2.0		Dr. T. Stanecki.
Pola	29.99	761.7	30.10	764.5	60.1	15.6	89	WNW			1		8			0	0		I.R.Hydrographic Office.
Szathmar	29.58	751.4	30.04	763.0	63.0	17.2	80	S			5		10			0.118	3.0		Julius Csics, S. J.
Szegedin	29.75	755.7	30.02	762.6	67.3	19.6	48	E			2		4			0.030	0.76		Karl Stancel.
Trieste	30.01	762.1	30.11	764.7	67.1	19.5	79	Calm			0		2			0.146	3.7		P. Busin.
Vienna	29.36	745.6	30.06	763.4	65.8	18.8	59	WNW			1		3			0.087	2.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	29.89	759.2	29.99	761.7	50.2	10.1		S	10	4.5			9			0.410	10.41	Drizzling	W. Boswell.
Ardrossan	29.96	761.0	29.98	761.5	50	10.0		WNW			3		8					Raining	William McNeil.
Armagh, Observatory			30.06	763.5	50.0	10.0		NNW	4	1.8			10					Drizzling	S. Call.
Bidston (Liverpool Obs)			30.06	763.5	52.6	11.4		WSW	15	6.7			10					Raining	John Hartnup.
Bolton (Sharples)			30.05	763.3	53.2	11.8		WNW	18	8.0			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.65	753.1	30.05	763.3	55.4	13.0		W			1		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.89	759.2	29.92	760.0	83	28.3		SE			2		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	30.00	762.0	30.10	764.5	62.0	16.7		SW			1		10					Overcast	H. Todd.
Cardington			30.09	764.3	62.0	16.7		SW			1		10					Overcast	John McLaren.
Chatham, School M. E.	30.01	762.2	30.14	765.5	66.5	19.2		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	30.02	762.5	30.07	763.8	47	8.3		NNE			3		10					Overcast	J. Mac Gowan.
Dover	30.12	765.0	30.14	765.5	59	15.0		SW			1		1					¼ clouded	J. Costello.
Falmouth, Observatory	29.93	760.2	30.16	766.1	59.0	15.0		SW			2		10					Overcast	The Staff.
Fort Napier (Natal)	27.82	706.6	30.12	765.0	68.0	20.0		NE			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	77	25.0		N			1		4					D. clouds	
Galway, Queen's College			30.06	763.5	54	12.2		NW			3		7					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.7	30.00	762.0	64.8	18.2		E			4		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.77	756.1	29.97	761.2	49.8	9.9		W			1		10					Raining	D. G. Maclean. [O.
Great Yarmouth	30.11	764.8	30.11	764.8	54	12.2		SSE			2		3					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.95	760.7	30.12	765.0	66.7	19.3		WSW			1		9					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.95	760.7	30.17	766.3	58.5	14.7		NW			1		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.09	764.3	30.21	767.3	60	15.6		SW			2		3ck			0	0	Fine	M. P. Moyle.
Holyhead	30.00	762.0	30.04	763.0	51	10.6		SW			3		10					Drizzling	John Tilston.
Jersey	29.91	759.7	30.20	767.1	60.0	15.6		NW			1		9					Gloomy	J. Fisher.
Kew, Observatory	30.09	764.3	30.13	765.3	63.0	17.2		SW	11	4.9			10					Threatening	The Meteorological Of.
Leicester, Museum.	29.83	757.7	30.08	764.0	57.7	14.3		Calm			0		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	30.09	764.3	30.16	766.1	68	20.0		S			1	2c				0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.84	757.9	29.93	760.2	49	9.4		Calm			0		10					Raining	W. D. Penny.
Nassau (Bahamas)			29.94	760.5	80.2	26.8		NW			1		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.89	759.2	30.08	764.0	59.7	15.4		SW			3		10k;d		SSW	0.054	1.37	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.55	750.6	30.07	763.8	58.6	14.7		SSW			3		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.13	765.3	57	13.9		SW			1		10					Overcast	H. E. Bellamy.
Plymouth	30.08	764.0	30.15	765.8	60.8	16.0		SW			1		10					Overcast	John Merrifield.
Prince Town	28.68	728.5	30.17	766.3	51.0	10.6		NW			1		8					Fine	W. H. Tooker.
*Roche's Point	30.04	763.0	30.14	765.5	55	12.8		NNW			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.94	760.5	30.10	764.5	49	9.4		SSW			2		10					Raining	John C. Walker.
Sandwick Manse (Orkneys)			29.98	761.5	46.4	8.0		W	9	4.0			10					Raining	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.96	761.0	30.02	762.5	78.8	26.0		NE			2		6					D. clouds	Serg't W. H. Lyne.
Sheffield	29.80	756.9	30.08	764.0	58.7	14.8		SW			1		10			0.03	0.8	Overcast	W. F. Cooper.
Silloth Rectory	29.98	761.5	30.02	762.5	49.5	9.7	87	W			3		10			0.250	6.35	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.66	753.4	30.06	763.5	52.2	11.2		WSW			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.87	758.7	30.09	764.3	59.6	15.3		SW			2		10					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.10	764.5	30.13	765.3	58	14.4		SW			4		10					Raining	W. Newcombe.
Valencia, Observatory	30.07	763.8	30.09	764.3	52.3	11.3		NNW	16	7.2			5					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.06	763.5	30.10	764.5	67.8	19.9	64	W	2	0.9		0	2			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.45	748.0	56.0	13.3	88	NW			3		9k			0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.98	761.5	29.99	761.7	53.2	11.8		SW			3		10ks			0.24	6.1	Overcast	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.06	763.6	76.8	24.9	69	W	5.5	2.5		1	2			0.01	0.3	Fine	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	57.8	14.3	74	NNW	9	4.0			7			0.05	1.27	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.00	762.0	52	11.1		W			3	0	0			0.1	3.		J. Youngclause.
North Unst (Shetland Is.)			29.94	760.5	46	7.8		W			2		Fog					Foggy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer
H. M. S. "Fawn."																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 31° 27′, W. 54° 30′			30.20‡	767.1‡	73	22.8		ESE			4		6					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore.																			
—— City of Agra																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. Thos. Young.
Barque Fedalma																			Capt. A. Buchan.
Barque Mertole, N. 51° 35′, W. 7° 34′			30.11‡	764.8‡	50	10.0		N			5		10					Drizzling	Capt. H. L. Fox.
S. S. Nizam, N. 5° 58′, E. 80° 31′			29.82‡	757.4‡	77	25.0		SW			4		10					Raining	Capt. E. W. Turner.
S. S. Royal Alexandra, N. 44° 00′, W. 42° 10′			30.35	770.9	62	16.7		WSW			4		6			3	W; N	Misty	Capt. Barlow.
S. S. Strathleven																			W. P. Hughes.
S. S. Wyberton																			Capt. C. W. Pearson.
																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			
San José	26.20	665.5	29.92	760.0	68.4	20.2	89	SE			1	9ck		E		Inap	Inap.		Mr. Ansart. Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Copenhagen	30.11	764.8	30.16	766.0	60.8	16.0	58	SSW			2		8						
Fanöe	30.09	764.2	30.11	764.7	58.5	14.7		Calm			0		5						
Godthaab (Greenland)	29.41	747.1	29.46	748.2	32.7	0.4	75	NE			2		3						
Stykkisholm (Iceland)	29.21	741.9	29.25	743.0	43.5	6.4	94	SW			4		10					Raining	
Thorshavn (Faröe)																			
Vestervig	29.91	759.3	30.08	764.1	61.5	16.4	54	E			4		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Alençon, Normal School	29.63	752.5	30.18	766.5	62.6	17	70	SSW			1		2		N	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.02	762.5	30.12	765.1	77.0	25	39	SW			2		5		NE	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.90	759.4	30.15	765.8	69.4	20.8	43	SW			2				S	0	0		Klein, Commandant.
Avignon, Normal School	30.00	761.9	30.08	763.9	77.4	25.2	48	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.57	751.1	30.11	764.8	70.0	21.1	34	NNE			1		8kn		W	0	0	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.87	758.7	30.13	765.4	68.9	20.5	43	E			1		5	SSW	E	0	0	Cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.22	742.3	30.10	764.4	71.2	21.8	49	E			1		2		NE	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.2	30.10	764.6	73.4	23	96	NW			3		5n	NW	NW	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.60	751.7	30.13	765.4	68.7	20.4	44	N			1		1	N	N	0	0	Clear	A. Waquet, Director.
Brest, Naval Observatory	29.89	759.1	30.13	765.3	69.4	20.8	69	W			1		6k		W	0	0		De Kermarec, Director.
Carcassonne, Normal School	29.77	756.1	30.17	766.4	71.6	22	59	WNW			2		1		WNW	0	0	V. slightly cloudy	September, Director.
Caen, Normal School	30.05	763.3	30.12	765.1	68.7	20.4	55	S			1		5		S	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.53	750.1	30.08	764.0	71.6	22	67	SSE			1		4		E	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	757.6	30.22	767.5	72.1	22.3	35	S			1		5			0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.73	729.8	30.04	763.1	72.3	22.4	42	NE			1		5			0	0		Allnard, Director.
Commercy, Normal School	29.28	743.8	30.12	765.1	66.6	19.2	43	SSE			2		8kn		SSE	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.93	734.8	30.07	763.8	70.2	21.2	48	SE			2		5		S	0	0		L. Kina, Director.
Grenoble, Normal School	29.34	745.2	30.08	764.1	71.6	22.0	50	NW			1		0			0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.96	761.0	30.17	766.2	72.3	22.4	49	NE			1		5		E	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.86	758.5	30.17	766.3	70.2	21.2	46	S			1		5		S	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.4	30.06	763.5	73.2	22.9	37	NE			2		2ck	E	E	0	0	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.10	764.4	30.19	766.9	65.8	18.8	66	WSW			1				W	0.020	0.5		Lt. T. Caré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			30.08	763.9	71.4	21.9	58	SW			2		3			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.68	738.7	30.10	764.5	66.7	19.3	60	SSE			3		2kn		NW	0	0	Slightly cl'dy	Barbier, Director.
Nîmes, Normal School	29.88	759.0	30.08	763.9	82.4	28	57	SE			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	29.05	737.9	30.08	764.1	71.6	22	50	N			1	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.26	743.1			47.3	8.5	83	E			2		8			0	0	Very cloudy	Allnard, Director.
Rochefort, Naval Obs'y	30.09	764.2	30.12	765.0	75.6	24.2	44	NW			1		2	NW	NW	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	30.07	763.8	30.15	765.9	71.2	21.8	37	WSW			1		5		S	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.15	765.7	30.18	766.5	67.9	14.4	81	NW			2		1	NW	NW	0	0	Hazy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.97	761.3	30.14	765.5	71.6	22.0	38	N			0-1			N	SSW	0	0		E. Renou, Director.
Tarbes, Normal School	29.11	739.3	30.17	766.2	68.0	20	64	W			2		0			0	0	Clear	T. Hugnet, Director.
Toulouse, Observatory	29.42	747.2	30.14	765.6	72.1	22.3	56	SSE			0		1			0	0		Mercadier Julier.
Versailles, Observatory	29.65	753.1	30.14	765.6	71.2	21.8	35	NW			1					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.47	748.5	30.15	765.9	77.0	25	92	NE			1		2		N	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.76	756.0	29.79	756.7	79.5	26.4										0.24	6.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.49	749.0	30.08	764.1	74.3	23.5	41	NE			1		3		NE	0	0	Slightly cl'dy	Mr. Jays.
Mont-Louis	24.93	633.1	30.24	768.1	56.3	13.5	60	NE	24 2	10.8			5		NE	0	0		M. Cave.
Nice			30.12	765.1	67.1	19.5	75	SE			3		2			0	0	Misty	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.86	758.4			71.8	22.1	40	ESE			2		1			0	0		Marié Davy, Director.
Perpignan	30.01	762.2	30.11	764.9	70.2	21.2	44	S	7.4	3.3			0			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.62	574.6			42.4	5.8		Calm			0		0			0	0	Clear	Gen'l de Nansouty.
Tours	29.93	760.2	30.13	765.2	73.0	22.8	40	E			1		5		SSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.82	757.3	29.84	757.9	66.0	18.9	95	SSE	5.4	2.4			8			0.528	13.4	Almost cov.	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.28	743.8	30.13	765.4	67.6	19.8	34	NW			2		2	W		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.96	761.1	30.13	765.3	69.6	20.9	50	S			3		4			0	0		Prof. Arndt.
Breslau	29.60	751.8	30.13	765.3	61.5	16.4	81	N			3		10			0.115	2.93	Rainy	Royal University Obs'y
Carlsruhe	29.69	754.0	30.10	764.6	70.5	21.4	48	NE			0		0			0	0		Albert Senz.
Cassel	29.54	750.3	30.15	765.8	66.6	19.2	59	NNW			3		4	WNW		0	0		Dr. H. Möhl.
Crefeld	29.99	761.8	30.15	765.9	70.3	21.3	44	NW			2		6k			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.77	756.2	30.17	766.4	69.8	21.0		E			2		1			0	0		Physical Society.
Freienwalde on the Oder	30.10	764.4	30.13	765.4	60.4	15.8	90	S			1		10ks	S		0.709	18.0	Thunder-storm.	Assmann., M. D.
Friedrichshafen	28.68	728.5	30.09	764.2	64.9	18.3	63	SW			3		3	NE		0.008	0.2	Light rain	M. Wilhelm.
Hamburg	30.11	764.7	30.18	766.5	58.5	14.7	73	WSW			3		2k	WSW		0	0	Clear	Captain F. Hegeman.
Kiel	30.13	765.3	30.15	765.8	57.0	13.9	76	NE			1		7			0	0		Prof. G. Karsten.
Königsberg (Prussia)	30.06	763.6	30.14	765.6	68.0	20.0	54	N			3		2			0	0		Prof. E. Luther.
Köslin			30.09	764.2	59.0	15.0		E			2		1			0	0		H. Müller.
Leipsic Observatory	29.72	755.0	30.14	765.5	67.3	19.6	47	NNW			1		6			0	0		Prof. Bruhns, Privy Counsellor.
Memel	30.10	764.5	30.15	765.7	61.0	16.1	55	NW			3		0						Skalweit.
Munich (München)	28.29	718.6	30.16	766.1	63.7	17.6	56	NE			4		5	N		0.051	1.3		Dr. C. Lang.
Neufahrwasser	30.12	765.1	30.14	765.5	51.4	10.8	77	N			1		7			0.004	0.1		A. Lothes.
Posen	29.89	759.2	30.18	766.5	61.3	16.3	81	NW			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.60	751.8	30.13	765.4	70.5	21.4	49	NE			2		3	NW		0.010	0.26		Imp. University Observatory.
Stuttgart	29.17	740.9	30.08	764.1	69.4	20.8	43	NE					7	W		0	0		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.62	726.9	30.08	764.0	67.3	19.6	42	WNW	4	2			5ck	S	NE	0.197	5.0		Dr. Van Bebber
Wustrow	30.12	765.0	30.14	765.6	61.5	16.4	61	ENE			2		4s			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.67	753.7	30.06	763.4	76.5	24.7		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.57	751.0	29.62	752.2	103.6	39.8	62	WNW					4			0	0	D. clouds	
Deesa	29.04	737.5	29.48	748.7	111.7	44.3	9	NNE	11.5	5.1			0			0	0	Blue sky	
Bombay	29.43	747.6	29.47	748.6	83.4	28.6	91	NW	13.0	5.8			10		SSW	0.28	7.1	Overcast	
Poona	27.55	699.7	29.52	749.7	81.6	27.6	74	ENE					9		ENE	0.20	5.1	D. clouds	
Lahore	28.79	731.3	29.49	749.1	106.3	41.3	16	NE	1.7	0.8			0			0	0	Blue sky	
Belgaum	26.97	685.1	29.48	748.7	75.2	24.0	86	E	23.0	10.3			10	E	E	0.96	24.4	Showery	
Roorkee	28.66	728.1	29.52	749.7	101.9	38.8	23	Calm	3.8	1.8			0			0	0		
Agra	28.97	735.8	29.50	749.3	107.1	41.7	24	N					0			0	0	Blue sky	
Nagpur	28.52	724.3	29.52	749.9	92.7	33.7	40	S	5.1	2.3			8		N	0	0	Gloomy	
Lucknow	29.23	742.4	29.59	751.6	100.4	38.0	49	SE	4.7	2.1			10	E		0	0	Overcast	
Allahabad	29.23	742.5	29.53	750.0	104.1	40.1	28	E	3.1	1.4			0			0	0	Blue sky	
Patna	29.41	746.9	29.58	751.3	100.3	37.9	34	ESE	2.9	1.3			4	ESE	SE	0	0	D. clouds	
Hazaribagh	27.64	702.1	29.59	751.6	91.8	33.2	44	ESE	13.9	6.2			4			0	0		
Cuttack	29.60	751.9	29.68	753.9	89.8	32.1		S	5.0	2.2			0			0.03	0.8	Blue sky	
Calcutta (Alipore)	29.67	753.6	29.69	754.2	88.8	31.6	61	S	6.0	2.7			6	S		0	0	D. clouds	
Goalpara	29.30	744.2	29.58?	751.3?	85.3	29.6	74	Calm	6.0	2.7			5		SW	0	0	D. clouds	
Chittagong	29.67	753.6	29.76	755.8	87.1	30.6	75	SSW	5.9	2.6			5			0	0	Misty	
Sibsagar	29.40	746.9	29.74	755.4	79.6	26.4	85	NE	2.1	0.9			5			0.19	4.8	D. clouds	
Jubbulpore	28.19	716.0	29.51	749.5	92.7	33.7	40	N	7.0	3.1			4		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.07	763.8	69.4	20.8	51	SW	3.8	1.7			4			0.051	1.3		Prof. Giovanni Clodig.
Milan	29.56	750.8	30.08	763.9	70.7	21.5	49	W			2		1			0	0		Prof. Schiaparelli.
Padua	29.98	761.4	30.08	764.1	70.5	21.4	49	S	6.3	2.8			3	NW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.17	740.9	30.07	763.8	70.9	21.6	53	S	2.5	1.1			3	SE		0	0		Prof. P. F. Denza.
Genoa	29.95	760.8	30.14	765.6	64.8	18.2	74	SW	5.6	2.5			6	E		0.394	10.0		Prof. G. M. Garibaldi.
Mondovi	28.18	715.7	30.08	763.9	67.5	19.7	59	SE			2		1	W		0	0		Prof. D. C. Bruno.
Pesaro	30.08	763.8	30.12	765.0	62.6	17.0	64	NE	7.4	3.3			1			0	0		Prof. Luigi Guidi.
Florence	29.88	759.0	30.13	765.4	68.9	20.5	52	W			2		3			0	0		Cav. F. Meucci.
Leghorn	30.06	763.4	30.14	765.5	65.8	18.8	72	WSW			4		2			0	0		Prof. P. Monte.
Rome	29.98	761.6	30.16	766.0	67.1	19.5	62	WSW	9.8	4.4			3			0	0		Prof. P. S. Ferrari.
Lecce	29.90	759.4	30.15	765.7	62.8	17.1	69	NNE	4.3	1.9			5			0.114	2.9		Prof. C. De Giorgi.
Cosenza	29.26	743.2	30.13	765.2	66.0	18.9	66	NW	3.8	1.7			2			0.079	2.0		Prof. D. Conti.
Cagliari	29.92	760.0	30.11	764.8	65.7	18.7	64	S			2		1			0	0		Prof. A. Pacinotti.
Palermo	29.92	759.9	30.17	766.2	67.1	19.5	57	E	6.9	3.1			1			0	0		Prof. G. Cacciatore.
Syracuse	30.08	763.9	30.15	765.7	65.7	18.7	65	NE	7.4	3.3			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.64	752.9	30.20	767.0	64.4	18.0	62	W	4.9	2.2			4			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.81	757.2	29.83	757.7	65.3	18.5	98	Calm	0	0			10s			1.328	33.72	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	64.9	18.3	92	SSW	2.5	1.1			10n			0.240	6.10	Drizzling	S. Takehayashi.
Tokei (Yeddo) Observatory	29.67	753.6	29.73	755.1	66.9	19.4	92	NW	2.0	0.9			10s			0.030	0.76	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.07	636.7	30.11	764.7	55.4	13.0	62	SE			1	1	0			0	0	Hazy	Prof. L. Perez.
Leon	24.44	620.7	30.02	762.5	66.9	19.4	65	SW			1	1c	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.8	30.08	763.9	56.7	13.7	52	Calm	0	0		0	0			0	0	Very hazy	The Staff.
Pabellon (Aguascalientes)					62.4	16.9	42	Calm			0	0	0			0	0	Very clear	M. V. de Leon, M. E.
Tlacotalpam	29.84	757.8	29.85	758.1	76.3	24.6	77	S			2	0	0			0	0	Hazy	M. M. Chàzaro.
San Luis Potosi	24.21	615.0	30.12	765.0	62.4	16.9	32	SE			2	1	0	W		0	0	Fine	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.4	30.07	763.7	64.9	18.3	33	NE			2	0	0			0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.1	30.19	766.9	48.2	9.0	56	ENE	0.4	0.2		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.1	29.99	761.8	75.9	24.4	50	NE			1	0	2			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra
Mazatlan	29.56	750.8	29.85	758.1	73.2	22.9	9.4	SE			3	0	4		NW	0		Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.17	766.4	30.17	766.4	64.9	18.3		W								0	0		
Groningen	30.11	764.8	30.17	766.2	59.4	15.2		NNW			1					0	0		
Helder	30.16	766.0	30.16	766.0	58.3	14.6		E			1					0.079	2.0		
Hellevoetsluis	30.15	765.7	30.15	765.7	66.4	19.1	60	W			2					0	0		
Utrecht	30.11	764.9	30.16	766.1	69.3	20.7	50	SSW			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.10	764.6	30.16	766.0	60.4	15.8	56	S	14.8	6.6			1			0	0		
Brönno	30.13	765.2	30.17	766.2	57.9	14.4	53	ESE	9	4			3			0	0		
Christiania	30.03	762.7	30.17	766.3	69.1	20.6	31	SW	4	2			3			0	0		
Tromsö	30.25	768.3	30.29	769.4	45.3	7.4	60	NE	11	5			1			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.25	768.4	30.44	773.2	69.6	20.9	69	NNE	5.6	2.5			3			0	0		Dr. J. A. Sampaio.
Campo Major	28.98	736.1	29.97	761.2	78.8	26.0	30	ENE	9.4	4.2			6	ENE		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.5	30.19	766.7	69.8	21.0	57	SW	6.3	2.8			7			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.7	30.03	762.7	67.8	19.9	59	N	15.0	6.7			7	NE		0.079	2.0		The Staff.
Ponta Delgada (Azores)	30.36	771.2	30.43	773.0	69.8	21.0	65	NNE	12.5	5.6			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira. N. 10° 49′, W. 19° 52′			30.05	763.2	78.8	26		ENE			2		3		ENE	3	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.88	759.0	80.4	26.9		W			3		1		WNW	1	W	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Island of Cayo, Senegambia			29.89	759.2	81.0	27.2		SE			2		10			1	SE	Overcast	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.85	758.1	83.3	28.5		SW			2		3			1	SW	D. Clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.67	753.7	30.08	764.1	71.1	21.7	43	E	9	4			6k;ks						Astronomical Obs.
Wilna	29.70	754.4	30.11	764.9	62.6	17.0	64	NW	7	3			9					Heavy clouds	Astronomical Obs.
Dorpat	29.83	757.6	30.07	763.7	60.6	15.9	61	NNW	9	4			9k;ks						Prof. Dr. Weihrauch.
St. Petersburg	29.92	760.0	29.94	760.4	59.0	15.0	70	NNE	11	5			8n;s						Central Physical Obs.
Kieff	29.43	747.4	30.03	762.7	78.1	25.6	49	S	13	6			5k;ks						Physical Cabinet.
Nikolaiev	30.12	765.1	30.19	766.9	77.2	25.1	51	SSW	9	4			0						Kurdakof.
Kertch	30.20	767.0	30.22	767.5	69.4	20.8	72	N	2	1			0						Lagorio.
Moscow	29.51	749.5	30.04	762.9	72.5	22.5	49	S	13	6			6ks						Meteorological Obs.
Lugan	29.93	760.1	30.12	765.1	77.0	25.0	51	NNW	18	8			9					Light clouds	Meteorological Obs.
Archangel	29.99	761.8	30.01	762.3	51.6	10.9	76	WNW	13	6			9k						Capt. Sseliwerstow.
Tiflis	28.74	730.0	30.08	764.1	85.1	29.5	29	N	13	6			4cs						Physical Observatory.
Astrakhan	30.27	768.8	30.19	766.7	76.3	24.6	24	ESE	13	6			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.87	758.7	30.13	765.2	78.4	25.8	30	SSW	13	6			0						Physical Cabinet.
Ekaterinburg	29.18	741.1	30.11	764.9	69.8	21.0	23	W	18	8			4c;cs;ck						Meteorological Obs.
Nukuss	29.75	755.6	29.97	761.3	79.0	26.1	23	NNE	16	7									
Tashkend	28.31	719.1	29.80	757.0	77.9	25.5	72	Calm	0	0			10						Teich, A. M.
Barnaul	29.42	747.2	29.93	760.3	36.9	2.7	63	NW	9	4			10						Meteorological Obs.
Yeniseisk	29.58	751.2	29.87	758.7	38.7	3.7	77	NNW	16	7			10					Snowing	Marks.
Irkutsk																			
Peking (China)	29.33	745.0	29.47	748.6	74.8	23.8	35	Calm	0	0			3k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.50	749.2	29.60	751.7	47.8	8.8	87	SW	9	4			6k						
Nikolaievsk, on the Amoor	29.77	756.1	29.85	758.3	37.9	3.3	93	E	16	7			10n					Raining	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.98	761.5	30.08	764.1	67.6	19.8	41	SW	4.5	2.03			0			0	0	Clear.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.03	762.8	30.09	764.2	71.6	22.0	62	NW	2.6	1.17		0	0			0	0	Clear.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.12	688.9			72.5	22.5	41	NE	4.3	1.90			2			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.81	706.4			79.5	26.4	33	SE	5.2	2.33		3	4	N		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.93	760.2	30.08	764.0	68.4	20.2	51	NE	3.3	1.47		5	5	E		0	0	Covered	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.02	762.5	69.8	21.0	63	N	13.0	5.8		0	0			0	0	Clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.85	758.3	29.92	759.9	79.2	26.2	77	Calm	0	0		8cp	1s	WSW		0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands.	29.79	756.7	29.84	758.1	86.8	30.4	69	ESE	3.8	1.7		1c	0	E		0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.3	29.99	761.8	66.0	18.9	56	ESE	22.5	10.1		0	10		SE	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.85	758.1	29.94	760.4	80.2	26.8	78	SE	8.2	1.43		8k	4k	SE	SE	0.591	15.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	30.24	768.1	30.28	769.1	50.0	10.0	.....	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	30.26	768.6	30.31	769.9	52.2	11.2	48	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.24	768.0	30.29	769.3	59.4	15.2	87	SSW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	30.06	763.5	30.24	768.0	61.9	16.6	42	NE	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	30.11	764.7	30.17	766.2	47.8	8.8	76	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.14	765.5	30.21	767.4	63.7	17.6	37	NNE	11.6	5.2	.....	.....	2	SW	NE	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.69	728.8	30.09	764.3	64.4	18.0	49	N	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
Zurich	28.49	723.6	30.08	764.0	68.0	20.0	52	E	.....	.....	2	.....	3	.....	.....	0	0	Fair	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +3.4 mm.; Thermometer, +0.5 Cent.; Relative Humidity, --7 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.08	763.9	75.2	24.0	47	ENE	9	4.0	.....	.....	6	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.16	766.0	80.6	27.0	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	70.2	21.2	.....	SW	.....	.....	2	.....	5	.....	.....	0.24	6.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.91	759.7	30.02	762.5	72.3	22.4	77	N	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.91	759.7	30.22	767.6	48	8.9	.....	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.99	761.7	30.05	763.3	41	5.0	60	N	3	1.3	.....	5k	0	W	.....	0.26	6.6	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.97	761.2	30.02	762.5	39	3.9	65	N	13	5.8	.....	.....	10ks	.....	NW	0.080	2.03	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.96	761.0	30.16	766.1	47.0	8.3	53	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.88	758.9	30.05	763.3	38.8	3.8	76	W	.....	.....	2	0	1s	.....	.....	0.58	14.7	Fine	H. A. Johnson.
Esquimault, B. C	29.96	761.0	30.01	762.2	48.3	9.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.07	763.8	30.09	764.3	35	1.7	62	N	13	5.8	.....	0	2s	.....	Calm	0.06	1.5	Clear.	J. McWilliams.
Fredericton, N. B	30.02	762.5	30.09	764.3	43.1	6.2	51	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.31	744.5	30.13	765.3	54	12.2	83	SE	6	2.7	.....	2c	2s	S	S	0.020	0.51	Fair	James Stewart.
Granton, Ontario	29.16	740.7	30.27	768.8	51	10.6	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S.	29.82	757.4	29.95	760.7	48	8.9	64	N	7	3.1	.....	.....	8ks	.....	NW	0.385	9.78	Fair	F. Allison, M. A.
Hamilton, Ontario	29.85	758.2	30.22	767.6	52.7	11.5	63	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.88	758.9	30.22	767.6	48	8.9	83	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.90	759.4	29.93	760.2	42.2	5.7	76	N	9	4.0	.....	5k	0	N	.....	0.11	2.8	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.98	761.5	30.18	766.6	47	8.3	51	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.62	752.3	30.33	770.4	47	8.3	64	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.50	749.3	30.25	768.8	50.7	10.4	65	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.57	751.1	30.27	768.8	49	9.4	78	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.87	758.7	29.92	760.0	41.7	5.4	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.61	752.1	30.26	768.6	49	9.4	69	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	28.80	731.5	30.13	765.3	41	5.0	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.82	757.4	30.29	769.4	44	6.7	48	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.04	763.0	46	7.8	40	N	.....	.....	2	0	0	.....	.....	0.10	2.5	Clear	Dr. Gove.
St. John, N. B	29.88	758.9	30.04	763.0	45	7.2	61	N	9	4.0	.....	1k	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.59	751.6	30.30	769.6	53	11.7	47	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.51	749.5	30.29	769.4	49	9.4	51	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.94	735.1	30.23	767.8	47.8	8.8	57	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.89	759.2	29.93	760.2	43	6.1	72	N	8	3.6	.....	0	8ks	.....	N	0.10	2.5	Fair	T. C. Hill.
*Toronto, Ontario	29.91	759.7	30.29	769.4	51	10.6	49	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.89	759.2	29.99	761.7	45.5	7.5	80	NW	10	4.5	.....	6k	0	.....	.....	0.14	3.6	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.61	752.1	29.85	758.2	52.0	11.1	86	S	.....	.....	.....	.....	10n	.....	.....	0.21	5.3	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.92	760.0	30.15	765.8	50	10.0	52	N	12	5.4		0	0			0	0	Clear	
Alpena, Michigan	29.65	754.1	30.34	770.6	52	11.1	41	E	4	1.8		0	0			0	0	Clear	
Atlanta, Georgia	28.80	731.5	29.90	759.4	71	21.7	67	N	7	3.1		2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	30.05	763.3	30.06	763.5	60	15.6	60	NE	25	11.2		0	0			0.43	10.9	Clear	
Augusta, Georgia	29.78	756.4	29.95	760.7	75	23.9	72	Calm	0	0		5cs	0	N		0	0	Fair	
Baltimore, Maryland	30.07	763.8	30.12	765.0	60	15.6	49	N	12	5.4		2c	2s	NW	NW	Inap.	Inap.	Fair	
Barnegat, New Jersey	30.03	762.7	30.05	763.3	58	14.4	70	N	22	9.8		5k	0	N		0	0	Fair	
Bismarck, Dakota	28.06	712.7	29.92	760.0	58	14.4	93	E	15	6.7			10s		W	0.90	22.9	Cloudy	
Boerne, Texas	28.48	723.4	29.72	754.9	78	25.6	73	E	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.04	686.8	30.00	762.0	49	9.4	85	SE	4	1.8			10s		Calm	0.16	4.1	Cloudy	
Boston, Massachusetts	29.92	760.0	30.08	764.0	57.5	14.2	44	NE	12	5.4		0	0			0.07	1.8	Clear	
Brackettville, Texas	28.66	728.0	29.63	752.6	84	28.9	64	NE	10	4.5		0	0			0	0	Clear	
Breckenridge, Minnesota	29.08	738.6	30.07	763.8	52	11.1	93	SE	7	3.1			10n		Calm	0.04	1.0	Light rain	
Brownsville, Texas	29.73	755.1	29.78	756.4	77	25.0	86	E	2	0.9			10s		E	0	0	Cloudy	
Buffalo, New York	29.55	750.6	30.26	768.6	49	9.4	44	NE	9	4.0		0	0			0	0	Clear	
Burkes, Arizona					67	19.4	21	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.88	758.9	30.17	766.3	45	7.2	53	N	12	5.4		0	0			0	0	Clear	
Cairo, Illinois	29.73	755.1	30.12	765.0	64	17.8	68	NE	12	5.4		2c	Sm'e	Calm		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.25	641.3	30.05	763.3	70	21.1	32	NE	8	3.6		5k	2s	Calm	SW	0	0	Cloudy	
Camp Verde, Arizona					59	15.0	33	W			1	0	0			0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	28	— 2.2	66	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.93	760.2	29.94	760.5	65	18.3	73	NE	24	10.7			10s		NE	0	0	Cloudy	
Cape Henry, Virginia	29.99	761.7	30.00	762.0	65	18.3	63	N	22	9.8		2c	1s	W	N	0.03	0.8	Clear	
Cape Lookout, N. Carolina	29.90	759.4	29.92	760.0	71	21.7	75	NE	28	12.5		5k	2ks	NE	NE	0	0	Cloudy	
Cape May, New Jersey	29.96	761.0	29.99	761.7	61	16.1	55	N	17	7.6		2ck	0	NW		0	0	Fair	
Castroville, Texas	29.10	739.1	29.77	756.1	78	25.6	82	E	2	0.9		0	0			0	0	Clear	
Charleston, South Carolina	29.87	758.7	29.92	760.0	75	23.9	86	SW	4	1.8		2c	Fog	Calm		0	0	Fair	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	50	10.0	72	W	6	2.7		0	0			0	0	Clear	
Chicago, Illinois	29.57	751.1	30.27	768.8	53	11.7	73	NE	5	2.2		0	0			0	0	Clear	
Cincinnati, Ohio	29.58	751.3	30.23	767.8	55	12.8	39	NE	7	3.1		1cs	0	NW		0	0	Clear	
Cleveland, Ohio	29.52	749.8	30.25	768.3	51	10.6	59	N	8	3.6		0	Sm'e		Calm	0	0	Clear	
Coleman City, Texas	28.16	715.3	29.75	755.6	72	22.2	80	SE	4	1.8		1cs	0	Calm		0	0	Clear	
Columbus, Ohio	29.38	746.2	30.23	767.8	53	11.7	62	NE	6	2.7		0	Haze		Calm	0	0	Clear	
Concho, Texas	28.02	711.7	29.60	751.8	80	26.7	70	E	5	2.2		10k	0	SE		0	0	Cloudy	
Corsicana, Texas	29.49	749.0	29.94	760.5	72	22.2	85	E	2	0.9		0	0			0	0	Clear	
Davenport, Iowa	29.60	751.8	30.24	768.1	56	13.3	46	E	5	2.2		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.22	640.6			62	16.7	67	SW	8	3.6		0	0			0.08	2.0	Clear	
Decatur, Texas	28.80	731.5	29.91	759.7	75	23.9	72	E	4	1.8		0	0			0	0	Clear	
Denison, Texas	29.20	741.7	29.96	761.0	72	22.2	85	SE	1	0.4		0	0			0	0	Clear	
Denver, Colorado	24.72	627.9	29.94	760.5	50	10.0	79	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.27	743.4	30.15	765.8	55	12.8	68	SE	6	2.7			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.59	751.6	30.27	768.8	51	10.6	53	N	5	2.2		0	0			0	0	Clear	
Dodge City, Kansas	27.35	694.7	29.52	749.8	69	20.6	80	S	20	8.9		2c	0	W		0	0	Fair	
Dubuque, Iowa	29.55	750.6	30.25	768.3	56	13.3	51	SE	5	2.2			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.59	751.6	30.28	769.1	48	8.9	78	NE	4	1.8		0	0			0	0	Clear	
Eagle Pass, Texa	29.11	739.4	29.78	756.4	83	28.3	79	SE	10	4.5		0	0			0	0	Clear	
Eastport, Maine	29.99	761.7	30.06	763.5	46	7.8	47	N	12	5.4		0	0			0.20	5.1	Clear	
Edinburg, Texas					74	23.3	95	SE			1		Fog			0	0	Foggy	
El Paso, Texas	26.25	666.7			68	20.0	21	N	2	0.9		10cs	0	NW		0	0	Cloudy	
Erie, Pennsylvania	29.53	750.0	30.26	768.6	50	10.0	65	NE	10	4.5		0	0			0	0	Clear	
Escanaba, Michigan	29.70	754.4	30.37	771.4	48	8.9	70	N	4	1.8		8ck	0	N		0	0	Fair	
Florence, Arizona	28.44	722.4	30.04	763.0	65	18.3	49	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.80	706.1			60	15.6	81	SE	12	5.4			10s		SE	0	0	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	58	14.4	36	Calm	0	0		1c	0	Calm		0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	77	25.0	22	N	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.48	748.8	29.99	761.7	76	24.4	69	E	5	2.2		0	0			0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.89	759.2	71	21.7	80	E	4	1.8		0	0			0	0	Clear	
Fort Keogh, Montana	27.18	690.4			62	16.7	83	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.69	703.3	29.50	749.3	78	25.6	78	SE	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	30.11	764.8	30.14	765.5	27	— 2.8	100	S	2	0.9			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.75	730.2	29.81	757.2	73	22.8	72	SE	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2			58	14.4	87	SE	15	6.7		4ck	0		NW	0.18	4.6	Fair	
Fredericksburg, Texas	28.20	716.3	29.68	753.9	75	23.9	86	NE	4	1.8			10s		Calm	0	0	Cloudy	
Galveston, Texas	29.86	758.4	29.90	759.4	79	26.1	74	E	10	4.5		0	0			0	0	Clear	
Graham, Texas																			
Grand Haven, Michigan	29.65	753.1	30.30	769.6	57	13.9	47	NE	10	4.5		0	0			0	0	Clear	
Indianapolis, Indiana	29.38	746.2	30.16	766.1	55	12.8	45	NE	6	2.7		8ck	2s	NW	Calm	0	0	Cloudy	
Indianola, Texas	29.89	759.2	29.91	759.7	77	25.0	91	NE	12	5.4			10s		NE	0	0	Cloudy	
Jacksboro, Texas	28.77	730.7	29.84	757.9	75	23.9	77	SE	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.94	760.5	75	23.9	72	SW	4	1.8		5cs	0	W		0	0	Fair	
Keokuk, Iowa	29.54	750.3	30.16	766.1	55	12.8	56	E	11	4.9		10c	0	NW		0	0	Cloudy	
Key West, Florida	29.92	760.0	29.96	761.0	79	26.1	74	NW	1	0.4		5cs	0	SW		0	0	Fair	
Kittyhawk, North Carolina	29.95	760.7	29.98	761.5	59	15.0	82	NE	17	7.6		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.05	737.9	30.02	762.5	69	20.6	70	NE	7	3.1		0	Haze			0	0	Clear	
La Crosse, Wisconsin	29.51	749.5	30.24	768.1	59	15.0	48	SE	6	2.7		8k	0	W		0	0	Fair	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	57	13.9	47	NW	1	0.4		5cs	0	NW		0	0	Fair	
Laredo, Texas	29.50	749.3	29.82	757.4	85	29.4	44	E	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.25	742.9	30.07	763.8	63	17.2	62	SE	7	3.1			10s			0	0	Cloudy	
Los Angeles, California	29.72	754.9	30.07	763.8	45.0	7.2	72	NE	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.61	752.1	30.17	766.3	57	13.9	47	NE	14	6.3		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.41	747.0	30.07	763.8	68	20.0	46	N	6	2.7		2cs	0	Calm		0	0	Clear	
Madison, Wisconsin	29.27	743.4	30.26	768.6	55	12.8	56	E	10	4.5		1c	Sm'e	NW	Calm	0	0	Clear	
Marquette, Michigan	29.60	751.8	30.32	770.1	45	7.2	68	N	4	1.8		5k	0	NW		0	0	Fair	
Mason, Texas	28.32	719.3	29.99	761.7	78	25.6	73	SE	2	0.9		0	8s		SE	0	0	Fair	
Memphis, Tennessee	29.68	753.9	30.01	762.2	71	21.7	67	NE	8	3.6		8c	Haze	NW	Calm	Inap.	Inap.	Fair	
Milwaukee, Wisconsin	29.56	750.8	30.30	769.6	50	10.0	65	NE	8	3.6		1c	Haze	Calm		0	0	Clear	
Mobile, Alabama	29.85	758.2	29.89	759.2	71	21.7	90	N	6	2.7		1c	2s	Calm	E	0.36	9.1	Fair	
Montgomery, Alabama	29.71	754.6	29.94	760.5	73	22.8	85	NE	2	0.9		2cs	0	E		0.88	22.4	Clear	
Morgantown, West Virginia*	29.18	741.2	30.19	766.8	53	11.7	73	NE	4	1.8		5k	0	W		0	0	Fair	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	21	— 6.1	71	NW	21	9.4		0	2ks		NW	0	0	Clear	
Nashville, Tennessee	29.52	749.8	30.04	763.0	65	18.3	63	N	6	2.7		2c	0	Calm		0.14	3.6	Fair	
New Haven, Connecticut	29.96	761.0	30.08	764.0	58	14.4	55	NE	18	8.0		5c	0	Calm		0.73	18.5	Fair	
New London, Connecticut	30.01	762.2	30.06	763.5	61	16.1	45	N	6	2.7		Haze	0	Calm		0.11	2.8	Clear	
New Orleans, Louisiana	29.79	756.7	29.85	758.2	77	25.0	73	N	15	6.7		0	0			0	0	Clear	
Newport, Rhode Island	30.00	762.0	30.05	763.3	58	14.4	53	NE	8	3.6		0	0			0.01	0.3	Clear	
New York, New York	29.92	760.0	30.10	764.5	59	15.0	54	N	8	3.6		2cs	1s	Calm	Calm	0	0	Fair	
Norfolk, Virginia	29.96	761.0	30.01	762.2	64	17.8	83	N	20	8.9		6cs;ck	0	Calm; N		0.41	10.4	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.99	685.5	29.45	748.0	64	17.8	83	S	40	17.9		2c	0	SW		0.15	3.8	Clear.	
Olympia, Washington Ter.	29.90	759.4	29.94	760.5	45.0	7.2	96	N	2	0.9		5ck	0	NW		0	0	Fair	
Omaha, Nebraska	28.90	734.0	29.97	761.2	60	15.6	65	SE	12	5.4			10s		Calm	0.06	1.5	Cloudy	
Oswego, New York	29.89	759.2	30.22	767.6	46	7.8	62	N	7	3.1		0	0			0	0	Clear	
Pembina, Dakota	29.27	743.4	30.10	764.5	51	10.6	93	SE	8	3.6			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	30.04	763.0	30.09	764.3	59	15.0	48	NE	20	8.9		5ck	0	NW		Inap.	Inap.	Fair	
Phœnix, Arizona	28.77	730.7	30.54	775.7	62	16.7	36	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	25	— 3.9	38	SW	60	26.8		0	0			0	0	Clear	
Pioche, Nevada					39	3.9	25	S	2	0.9		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.39	746.5	30.21	767.3	49	9.4	64	N	4	1.8		1c	0	N		0	0	Clear	
Port Huron, Michigan	29.60	751.8	30.28	769.1	46	7.8	77	NE	13	5.8		0	0			0	0	Clear	
Portland, Maine	30.04	763.0	30.08	764.0	53	11.7	48	NE	8	3.6		0	0			0.01	0.3	Clear	
Portland, Oregon	29.93	760.2	30.00	762.0	54.8	12.7	85	SW	3	1.3			10s		NW	0	0	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	54	12.2	32	NW	5	2.2		0	0			0	0	Clear	
Pilot Point, Texas	29.14	740.1	29.92	760.0	76	24.4	77	SE	1	0.4		2k	0	S		0	0	Fair	
Punta Rassa, Florida	29.91	759.7	29.93	760.2	77	25.0	82	N	4	1.8		5cs	0	Calm		0	0	Fair	
Red Bluff, California	29.70	754.4	30.06	763.5	52	11.1	83	S	10	4.5		2ck	8s	SW	SW	0.29	7.4	Cloudy	
Rio Grande City, Texas	29.64	752.8	29.84	757.9	76	24.4	82	NE	8	3.6		0	0			0	0	Clear	
Rochester, New York	29.64	752.8	30.26	768.6	51	10.6	46	NE	8	3.6		0	0			0	0	Clear.	
Roseburg, Oregon	29.50	749.3	30.08	764.0	50	10.0	100	Calm	0	0			10n		Calm	0.12	3.0	Light rain	
Sacramento, California	29.99	761.7	30.07	763.8	47	8.3	85	SW	2	0.9		0	0			0	0	Clear.	
St. Louis, Missouri	29.60	751.8	30.17	766.3	57	13.9	69	E	9	4.0		1ck	0	N		0	0	Clear	
St. Marks, Florida	29.91	759.7	29.93	760.2	74	23.3	90	E	4	1.8		8c;cs	0	Calm		0.01	0.3	Fair	
St. Paul, Minnesota	29.36	745.7	30.18	766.6	56	13.3	57	SE	10	4.5			10n;ks		NW	Inap	Inap.	Light rain	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	57	13.9	36	SE	10	4.5		4k	0	SW		0.01	0.3	Fair	
San Antonio, Texas	29.22	742.2	29.77	756.1	81	27.2	71	NE	4	1.8		0	0			0	0	Clear	
San Diego, California	30.01	762.2	30.09	764.3	52	11.1	86	NE	4	1.8		2k	0	W		0	0	Fair	
Sandusky, Ohio	29.59	751.6	30.27	768.8	52	11.1	56	NE	20	8.9		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.04	763.0	30.07	763.8	58	14.4	53	NE	19	8.5		5ck	0	NW		0	0	Fair	
San Francisco, California	30.02	762.5	30.09	764.3	52	11.1	86	SW	4	1.8		1k	1s	SW	W	0	0	Fair	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	59	15.0	33	E	2	0.9		8c;cs	0	SW		0	0	Cloudy	
Savannah, Georgia	29.85	758.2	29.94	760.5	78	25.6	78	NE	3	1.3		8c	0	W		0	0	Fair	
Shreveport, Louisiana	29.75	755.6	29.96	761.0	77	25.0	77	NE	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico	24.37	619.0	30.46	773.7	55	12.8	38	Calm	0	0		5k	0	SW		0	0	Fair	
Smithville, North Carolina	29.91	759.7	29.94	760.5	71	21.7	90	NW	2	0.9		5cs	0	NW		Inap.	Inap.	Fair	
Springfield, Massachusetts	29.96	761.0	30.09	764.3	57	13.9	47	N	12	5.4		0	0			0.01	0.3	Clear.	
Stockton, Texas	26.93	684.0	29.93	760.2	77	25.0	15	S	4	1.8		0	0			0	0	Clear.	
Thatcher's Island, Mass	30.05	763.3	30.11	764.8	51	10.6	86	NW	15	6.7		0	0			0.16	4.1	Clear.	
Toledo, Ohio,	29.58	751.3	30.27	768.8	53	11.7	48	N	8	3.6		0	0			0	0	Clear	
Tucson, Arizona	27.49	698.2	30.04	763.0	65	18.3	48	SW	1	0.4			10s		SW	0	0	Cloudy	
Umatilla, Oregon	29.49	749.0	29.97	761.2	53.0	11.7	73	W	4	1.8		0	8ks		W	0	0	Fair	
Uvalde, Texas	28.96	735.6	29.74	755.4	81	27.2	70	E	2	0.9		0	0			0	0	Clear	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	73	22.8	81	NE	5	2.2		0	0			0	0	Clear	
Virginia City, Montana	24.10	612.1	29.58	751.3	40	4.4	65	SE	4	1.8		0	0			0.07	1.8	Clear	
Visalia, California	29.73	755.1	30.10	764.5	49.7	9.8	72	NW	2	0.9			10s		Calm	0	0	Cloudy	
Washington, D. C.	30.01	762.2	30.12	765.0	60	15.6	55	N	12	5.4		2c	0	NW		Inap.	Inap.	Fair	
Wickenburg, Arizona																			
Wilmington, N. Carolina	29.84	757.9	29.92	760.0	71	21.7	80	NE	2	0.9		8ck	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	34	1.1	100	SW	5	2.2		2k	0	SW		0.03	0.8	Fair	
Wood's Holl, Mass	30.01	762.2	30.05	763.3	58	14.4	47	N	12	5.4		0	8ks		NW	0	0	Cloudy	
Yankton, Dakota	28.72	729.5	29.98	761.5	60	15.6	76	SE	12	5.4		0	0			0.24	6.1	Clear	
Yuma, Arizona	29.74	755.4	29.90	759.4	58	14.4	53	E	2	0.9		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.47	723.1	29.83	757.7	69	20.6	75												
Havana, Cuba, W. I.	29.87	758.7	29.92	760.0	80	26.7	74	Calm	0	0		8c	0	Calm		0	0	Smoky	J. B. Gordon.
Kingston, Jamaica, W. I.																			Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.21	640.3			66.0	18.9	82	Calm			0	6k	6ks			0.11	2.8		James Gall.
Navassa, W. I.	29.85	758.2	29.93	760.2	77	25.0	86	SE										Raining	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	81	27.2	83	NE			2	0	4k			0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I.																			C. J. Hering.
St. Thomas, W. I.																			Robert Mason.
York Factory, B. A.	30.10	764.5	30.15	765.8	34.0	1.1	95	NE	14	6.3		3c	0	E		0	0	Fair	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.38 in., Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	29.90‡	759.4‡			74	23.3	95	NE	9	4.0			10			0	0			Threatening	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.74‡	755.4‡			71.8	22.1	90	SW			5		9ks		SW	0.20	5.1			Cloudy	
Adams, Callao, Peru	29.96‡	761.0‡			64	17.8	94	Calm			0		10		S;E					Foggy	
Alaska, Sitka, Alaska	30.04‡	763.0‡			46	7.8	92	Calm			0		5			0	0			D. clouds	
Alliance, Gibraltar, Mediterranean.	30.07‡	763.8‡			62	16.7	77	E			4–6		9		E					Pleasant	
Colorado, New York, N. Y.	30.10‡	764.5‡			58	14.4	58	N	15	6.7			5		N	0	0			Pleasant	
Constitution, N. 38° 58′, W. 72° 50′	29.91‡	759.7‡			58	14.4	88	NNE			6		4		Calm			Mod'ate	NE	Fair	
Despatch, Gibraltar, Mediterranean.	30.03‡	762.8‡			62	16.7	83	N			3–6		10		ESE	0	0	Smooth		Cloudy	
Enterprise, Havre, France	30.13‡	765.3‡			65	18.3	59	W			1		2		W					D. clouds	
Franklin, Norfolk, Va.	29.99‡	761.7‡			64	17.8	73	N	18.0	8.0			5		Calm	0.48	12 2			Fair	
Hartford, Montevideo, Uruguay.*	29.66‡	753.4‡			65	18.3	89	NE			5		10		NE	0.05	1.3			Cloudy	
Marion, N. 25° 10′, W. 80° 00′	29.92‡	760.0‡			78	25.6	100	WSW			1		2		S;W					Fair	
Michigan, Erie, Pa.					49	9.4	71	NE			4		0							Clear	
Monocacy, Shanghai, China	29.85‡	758.2‡			68	20.0	90	SE			3		8		SE					Cloudy	
Monongahela, Yokohama, Japan	29.70‡	754.4‡			72	22.2	85	SSW			3–4		ck			Light	Light			Overcast	
New Hampshire, Port Royal, S. C.	29.92‡	760.0‡			78	25.6	91	Calm	0	0			5		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.05‡	763.3‡			63	17.2	89	SE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.80‡	756.9‡			67	19.4	79	SW			1		2							Clear	
Passaic, Washington, D. C.					61	16.1	88	NE			3		2		SW					Clear	
Pensacola, Callao, Peru	29.96‡	761.0‡			62	16.7	94	Var.	2	0.9			10			0	0	Smooth	W	Overcast	
Portsmouth, N. 34° 42′, W. 76° 30′	29.93‡	760.2‡			70	21.1	90	N			4		2		NNW	0	0	Smooth		Clear	
Powhatan, Port Royal, S. C.	29.91‡	759.7‡			76	24.4	64	Calm			0		8		Calm	0	0	Mod'ate		Cloudy	
Quinnebaug, Jaffa, Syria	30.01‡	762.2‡			72	22.2	76	NNW			3		2		W					Fair	
Ranger, N. 23° 26′, E. 117° 18′	29.88‡	758.9‡			83	28.3	91	E			1		5		Calm			Smooth		D. clouds	
Richmond, N. 28° 40′. E. 122° 26′	29.83‡	757.7‡			70	21.1	100	NNE			2		10		NNE	0.5	13.	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.81‡	757.2‡			74	23.3	100	SE			1		Fog		S					Fair	
Santee, Annapolis, Md.	30.09‡	764.3‡			62	16.7	56	NE			4		5		NW	0	0			Fair	
Saratoga, N. 32° 17′, W. 18° 27′	30.28‡	769.1‡			65	18.3	84	NNE			4		5		SW	0	0	Long	ENE	D. clouds	
St. Louis, League Island, Pa.	30.08‡	764.0‡			62	16.7	51	NNE	15	6.7			5		WNW	0	0			Fair	
Trenton, Marseilles, France	30.11‡	764.5‡			74	23.3	55	W			1–2		2		Calm	0	0	Mod'ate	S	Clear	
Tuscarora, Port Angel, Mexico	29.86‡	758.4‡			80	26.7	78	NW			1		1		Calm	0	0	Smooth		Hazy	
Vandalia, N. 17° 06′, W. 81° 26′	29.65‡	753.1‡			83	28.3	79	NE			3		8			0	0	Smooth		Cloudy	
Wabash, Boston, Mass.	30.04‡	763.0‡			58	14.4	53	N			2		0			0	0			Clear	
Wyoming, Leghorn, Italy	30.14‡	765.5‡			69	20.6	70	W			1		2		W			Smooth	W	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury N. 28° 26′, E. 127° 46′		29.96‡	761.0‡	80	26.7		SSE			3		2s		S	0	Smooth		Hazy	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehur
S. S. Dakota, Capt. H. G. Morse. N. 41° 50′, W. 124° 47′..†		30.06‡	763.5‡	55	12.8	??	W			1		0		SW;NW	0			Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 33° 50′, E. 152° 53′		29.75‡	755.6‡				NNE			4				N				Squally	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.86‡	758.4‡	84	28.9	87	SW			2	4c				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf. N. 46° 03′, E. 167° 18′		29.47‡	748.5‡	37	2.8	100	W			2		10n				4	ESE	Overcast	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 38° 51′, W. 72° 23′		29.96‡	761.0‡				NE			5		8		N		4	NE	Rain & fog	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 8; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 44° 15′, W. 43° 44′		30.31‡	769.9‡	65	18.3	94	WSW			6		5		WSW	0	Smooth		Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 35′, W. 80° 50′		29.96‡	761.0‡	80	26.7	66	NE	3	1.3			5ck		Calm	0	Smooth		Hazy	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.57‡	751.1‡				SE	2	0.9			8		NE	0.50 in. or 12.7mm			Drizzling	Capt. George Gardner.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper olumn.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.02	762.5	62.2	16.8	98	NNW			2		10			0.288	7.2	Raining	Kesxuche.
Algiers			29.91	759.7	66.9	19.4	73	NNE			4		10			0	0	Covered	Touriliere.
La Calle			29.95	760.6	69.3	20.7	75	ENE			1		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.08	764.1															Gau.
Saida			30.00	762.0	74.3	23.5		W			5		2			0	0	Fair	Herbin.
Tebessa			30.02	762.5	79.7	26.5	29	ESE			1		8			0	0	Very cloudy	Watrin.
Geriville			29.94	760.5	66.6	19.2	37	S			6		8			0	0	Very cloudy	Brugniaux.
Laghouat			29.88	759.0	84.0	30.0	36	E			4		8			0	0	Very cloudy	Bertrand.
Biskra			29.89	759.2	89.2	31.8	17	SE			4		8			0	0	Very cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,92[illegible].0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.47	748.4	30.00	761.9	71.8	22.1	50	E			3		3			0.008	0.2		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.20	741.6	29.96	761.0	57.6	14.2	96	SW			1		10			0.665	16.9		Dr. Wierzbiski.
Eperies	29.05	737.9	29.91	759.6	65.8	18.8	78	S			1		9s			0	0		Julius Mikolik.
Gratz	28.77	730.7	29.98	761.4	69.3	20.7	53	NW			2		2			0.067	1.7		Andreas Rospini.
Hermannstadt	28.54	725.0	29.95	760.6	63.3	17.4	57	SW			1		10			0.112	2.85		Prof. A. Gottschling.
Kremsmünster	28.70	728.9	30.01	762.3	62.6	17.0	72	E			3		6			0	0		Prof. C. Wagner.
Lemberg	28.94	735.0	29.89	759.1	71.1	21.7	55	S			1		7			0	0		Dr. T. Stanecki.
Pola	29.99	761.7	30.10	764.6	66.7	19.3	63	SW			1		0			0.118	3.0		I.R.Hydrographic Office.
Szathmar	29.50	749.2	29.94	760.5	73.8	23.2	50	S			2		4			0.854	21.7		Julius Osics, S. J.
Szegedin	29.72	754.9	30.00	761.9	66.0	18.9	57	SE			2		5			0	0		Karl Stancel.
Trieste	30.01	762.3	30.11	764.9	66.2	19.0	74	W			1		1			0	0	Almost clear	P. Busin.
Vienna	29.30	744.3	30.01	762.1	65.1	18.4	68	N			2		8			0.047	1.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	30.08	764.0	30.18	766.6	54.7	12.6		N	7	3.1			2			0.175	4.45	Blue sky	W. Boswell.
Ardrossan	30.21	767.3	30.23	767.8	56	13.3		WSW			1		5					D. clouds	William McNeil.
Armagh, Observatory			30.30	769.6	55.0	12.8		W	6	2.7			8					Overcast	S. Call.
Bidston (Liverpool Obs)			30.26	768.6	51.0	10.6		WNW	31	13.9			1					Blue sky	John Hartnup.
Bolton (Sharples)			30.22	767.6	54.5	12.5		NW	30	13.4			5					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.76	755.9	30.16	766.1	56.1	13.4		N			5		7			0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	84	28.9		SE			2		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	30.05	763.3	30.14	765.5	47.0	8.3		N			2		10					Raining	H. Todd.
Cardington			30.15	765.8	51.0	10.6		NW			5		10					Overcast	John McLaren.
Chatham, School M. E.	30.02	762.5	30.15	765.8	49.1	9.5		SW			2		8					Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	30.24	768.1	30.28	769.1	54	12.2		NNW			3		2					Blue sky	J. Mac Gowan.
Dover	30.10	764.5	30.13	765.3	47	8.3		NW			5		10					Raining	J. Costello.
Falmouth, Observatory	30.16	766.1	30.39	771.9	53.2	11.8		NNW			4		5					D. clouds	The Staff.
Fort Napier (Natal)	27.70	703.6	30.00	762.0	71.0	21.7		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	84	28.9		E			0		4					D. clouds	
Galway, Queen's College			30.26	768.6	55	12.8		WSW			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.99	761.7	30.05	763.3	68.6	20.3		E			3		4					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	30.00	762.0	30.20	767.1	55.3	12.9		W			4		4					D. clouds	D. G. Maclean. [C.
Great Yarmouth	30.02	762.5	30.02	762.5	48	8.9		NW			2		7					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	30.00	762.0	30.17	766.3	49.1	9.5		NW			2		10					Raining	The Staff, for G.B.Airy.
Guernsey	30.08	764.0	30.31	769.9	54	12.2		NW			3		0					Blue sky	Dr. S.E.Hoskins, F.R.S.
Helston	30.32	770.1	30.44	773.2	57	13.9		NW			2		3ck			0.2	5.	Fine	M. P. Moyle.
Holyhead	30.29	769.4	30.32	770.1	53	11.7		WNW			3		5					D. clouds	John Tilston.
Jersey	30.05	763.3	30.35	770.9	54.8	12.7		NNW			4		4					D. clouds	J. Fisher.
Kew, Observatory	30.14	765.5	30.18	766.6	49.1	9.5		NW	15	6.7			10					Raining	The Meteorological Of.
Leicester, Museum	29.92	760.0	30.18	766.6	52.8	11.6		NE			2		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	30.06	763.5	30.14	765.5	71	21.7		S			2		3ck			0	0	D. clouds	Sergt. H. J. Beckett, A. H. C.
Nairn	30.05	763.3	30.14	765.5	59	15.0		WSW			2		2					¾ clouded	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	81.2	27.3		NW			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.00	762.0	30.19	766.8	54.2	12.3		NW			3		10k;d		NW	0.122	3.10	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.68	753.9	30.20	767.1	54.7	12.6		NW			6		8					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.18	766.6	54	12.2		W			5		7					Squally	H. E. Bellamy.
Plymouth	30.26	768.6	30.33	770.4	59.5	15.3		NW			5		2					Blue sky	John Merrifield.
Prince Town	28.86	733.0	30.35	770.9	50.0	10.0		N			1		4					Fine	W. H. Tooker.
*Roche's Point	30.34	770.6	30.44	773.2	57	13.9		NNW			4		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	30.20	767.1	30.37	771.4	49	9.4		WNW			4		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			30.15	765.8	49.4	9.7		W	12	5.4			0			0	0	Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.91	759.7	72.0	22.2		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.92	760.0	30.20	767.1	55.7	13.2		N			3		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.19	766.8	30.22	767.6	62.0	16.7	48	W			1		0			0.015	0.38	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.83	757.7	30.23	767.8	53.9	12.2		W			3		5					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.95	761.5	30.20	767.1	53.7	12.1		NW			3-4		8					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.36	771.1	30.39	771.9	57	13.9		NW			9		4					D. clouds	W. Newcombe.
Valencia, Observatory	30.40	772.1	30.43	772.9	55.1	12.8		W	20	8.9			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.06	763.5	30.11	764.8	65	18.3	70	SE	10	4.5		1	4			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.72	754.9	52.0	11.1	88	S			2		10kn			0	0	Clouded	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	30.21	767.3	30.22	767.6	58.0	14.4		W			2		2k			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.1	74.0	25.3	58	SE	16.0	7.2		0	1			0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.81	757.2	50.9	10.5	86	NNE	3	1.3			2			0.08	2.03	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.03	762.7	52	11.1		S			4	10	5	S		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.02	762.5	47	8.3		SW			4	3	5	S					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
H. M. S. "Fawn."																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 33° 50', W. 53° 04'			30.20‡	767.1‡	72	22.2		SSE			5		5					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
—— City of Agra																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 12° 45', W. 61° 40'			29.81	757.2	83	28.3		ENE			5		2			2		Blue sky	Capt. H. L. Fox.
Barque Mertole																			Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Royal Alexandra, N. 44° 45', W. 38° 45'			30.56	776.2	65	18.3		W			4		6			2	SW	Misty	W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.20	665.5	29.92	760.0	69.8	21.0	93	SE			1		9s;cs			0.6	15.2		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.08	763.9	30.12	765.1	57.2	14.0	65	SE			2		3						
Fanöe	30.05	763.2	30.07	763.7	63.3	17.4	56	E			4		5						
Godthaab (Greenland)	29.54	750.3	29.58	751.4	30.6	— 0.8	96	W			4		10					Snowing	
Stykkisholm (Iceland)	29.11	739 3	29.15	740.4	44.6	7.0	88	SE			2		10					Raining	
Thorshavn (Faröe)	29.88	759.0	29.92	759.9	51.3	10.7	57	SW			4		6						
Vestervig	29.95	760.7	30.12	765.0	61.5	16 4	60	E			2		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.73	755.1	30.28	769.1	56.5	13.6	53	NE			3		8	N	NE	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.05	763.2	30.16	766.0	59.4	15.2	39	NW			4		5		SE	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.83	757.7	30.09	764.2	54.7	12.6	56	NW			4				NW	0.008	0.2		Klein, Commandant.
Avignon, Normal School	30.04	763.1	30.12	765.1	78.4	25.8	54	S			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.76	750.8	30.11	764.8	63.1	17.3	57	N			1		10n		NNW	0	0	Covered	G. Saillard, Director.
Beauvais, Normal School	29.92	759.9	30.19	766.7	55.6	13.1	46	NNW			3		5		NW	0	0	Cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.25	742.9	30.12	765.1	67.5	19.7	53	SSW			4		5		SW	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.26	743.2	30.19	766.8	76.5	24.7	54	S			1		5n	S	S	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.69	751.7	30.13	765.4	65.1	18.4	67	N			1		5	NW	N	0	0	Cloudy	A. Waquet, Director
Brest, Naval Observatory	30.09	764.2	30.33	770.4	56.1	13.4	57	N			3		6k		N	0	0		De Rermaree, Director.
Carcassonne, Normal School	29.77	756.1	30.17	766.4	71 6	22	59	WNW			2		1		WNW	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	30.20	767.1	30.28	769.0	58.3	14 6	55	NW			3		5		N	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.65	753.1	30.21	767.4	61.7	16.5	73	NNW			3		10			0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.82	757.4	30.14	765.5	58.3	14.6	63	WNW			3		8	NNW	NNW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.74	730.1	30.06	763.5	69.8	21.0	54	E			1		10			0	0		Allnard, Director.
Commercy, Normal School	29.22	742.1	30.06	763.5	64.9	18.3	63	WNW			3		5kn		WNW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	29.02	737.2	30.17	766.2	74.3	23.5	36	W			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.38	746.3	30.13	765.2	73.0	22.8	43	SSE			1		5k		SE	0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	30.06	763.6	30.28	769.1	59.4	15.2	64	NNW			3		8		N	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.95	760.6	30.25	768.4	55.4	13	90	N			3		5	N	NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.12	739.5	30.02	762.6	75.0	23.9	39	NW			4		4ck	SW	SW	0	0	Pretty cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	30.26	768.6	30.36	771.1	59.0	15.0	47	N			4				N	0	0		Lt. T. Carré, Director.
Mâcon, Normal School			30.13	765.2	70.5	21.4	49	SW			2		6			0	0		Galzin Director.
Marseilles, Observatory	29.01	736.8	30.03	762.7	64.0	17.8	65	E			6		10kn		W	0	0	Covered	E. Stephan, Director.
Mirecourt, Normal School	29.90	759.4	30.09	764.3	77.4	25.2	58	SW			2		0			0	0	Clear	Barbier, Director
Nismes, Normal School	29.15	737.9	30.09	764.2	69.8	21	57	N			1		n	N	N	0	0		Boyer, Director.
Privas, Normal School	29.26	743.2			52.5	11.4	61	WSW			3		8			0	0	Very cloudy	Cantier, Director.
Puy de Dome (Summit) Obs	30.22	767.5	30.25	768.3	70.3	21.3	62	NW			1		5	NW	NW	0	0	½ covered	Allnard, Director.
Rochefort, Naval Obs'y	30.15	765.8	30.24	768.0	57.2	14.0	49	N			4		2		NW	0	0	Slightly cl'dy	Lt. E. Decante, Director.
Rouen, Normal School	30.30	769.6	30.33	770.3	55.9	13.3	67	NNW			4		1	NNW	NNW	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.6	30.15	765.8	58.1	14.5	49	WNW			3			WSW	NW	0.087	2.2		Lt. Hercouet, Director.
Saint Maur (near Paris)	29.19	741.5	30.28	769.2	53.6	12	65	W			4		10			0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.54	750.2	30.27	768.8	64.0	17.8	76	W			2		9			0	0		T. Huguet, Director.
Toulouse, Observatory	29.69	754.2	30.19	766.7	57.6	14.2	89	NW			6					0.006	0.15		Mercadier Julier.
Versailles, Observatory	29.38	746.3	30.07	763.7	75.2	24	79	SE			1		5		SE	0.04	1.	Cloudy	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.																			Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	79.5	26.4										0.12	3.		L'Abbé Marc ési.
Lyons Obs'y (Park Station)	29.48	748.9	30.08	764.1	67.3	19.6	48	NNW			1		8		NNW	0	0		Mr. Jays.
Mont-Louis	25.00	635.0	30.32	770.0	55.8	13.2	59	E	24.2	10.8			10			0	0		M. Cave.
Nice			30.17	766.3	66.7	19.3	76	E			1		8			0	0	Misty	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.91	759.6			55 6	13.1	52	NW			4		7		NNW	0.020	0.5		Marié Davy, Director.
Perpignan	30.06	763.6	30.17	766.3	71.8	22.1	49	S	9.4	4.2			6		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.68	576.1			47.5	8.6		Calm			0		5			0	0	Fair	Gen'l de Nansouty.
Tours	30.02	762.5	30.22	767.5	63.7	17.6	47	NNW			3		10		N	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.63	752.7	29.66	753.3	71.4	21.9	92	SE	15.0	6.7		4ks				0	0	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:06 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Greasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft., Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10	Clouds. Amount. Up'er 0-10	Low'r 0-10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.06	763.5	70.5	21.4	36	SE			3		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.90	759.4	30.06	763.6	71.2	21.8	40	S			3		6			0	0		Prof. Arndt.
Breslau	29.53	750.1	30.06	763.6	62.8	17.1	74	NW			2		10			0.326	8.29	Raining	Royal University Obs'y
Carlsruhe	29.59	751.5	30.00	761.9	73.8	23.2	47	S			0		9	S		0	0		Albert Senz.
Cassel	29.43	747.5	30.04	763.0	76.3	24.6	33	E			4		5	E		0.030	0.76		Dr. H. Möhl.
Crefeld	29.84	758.0	30.00	762.1	66.4	19.1	62	NW			4		8			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.63	752.5	29.99	761.7	75.7	24.3		SW			1		6			0	0		Physical Society.
Freienwalde on the Oder	30.05	763.3	30.09	764.3	69.6	20.9	64	W			3		8ks	SW		0.012	0.3	Threatening	Assmann., M. D.
Friedrichshafen	28.65	727.7	30.06	763.5	64.4	18.0	64	SW			3		5	SW		0.394	10.0	Thunder-storm.	M. Wilhelm.
Hamburg	29.99	761.8	30.06	763.5	67.1	19.5	52	SE			3		7k;s	SW		0	0	Hazy	Captain F. Hegeman.
Kiel	30.06	763.5	30.08	763.9	63.5	17.5	68	NE			1		7			0	0		Prof. G. Karsten.
Königsberg (Prussia)	30.03	762.8	30.11	764.8	73.0	22.8	49	NE			2		2			0	0		Prof. E. Luther.
Köslin			30.06	763.5	67.3	19.6		NE			2		2			0.146	3.7		H. Müller.
Leipsic Observatory	29.65	753.2	30.06	763.5	73.4	23.0	34	SE			1		4			0	0		Prof. Bruhns, Privy Counselor.
Memel	30.10	764.5	30.15	765.7	66.0	18.9	51	NW			2		2ck						Skalweit.
Munich (München)	28.26	717.7	30.12	765.1	67.1	19.5	42	NW			4		4	NW		0.008	0.2		Dr. C. Lang.
Neufahrwasser	30.14	765.5	30.15	765.9	55.4	13.0	73	NNW			2		3			0	0		A. Lothes.
Posen	29.73	755.2	30.01	762.3	71.6	22.0	43	NE			1		5			0.161	4.1		Dr. Magener.
Strassburg (in Alsace)	29.51	749.6	30.04	763.1	72.7	22.6	42	SSW			2		10	W				Thunder-storm.	Imp. University Observatory.
Stuttgart	29.08	738.7	29.99	761.8	70.7	21.5	42	NW					7	W		0.260	6.6		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.56	725.5	30.02	762.5	69.1	20.6	41	SW	2	1			6ck		S	0	0		Dr. Van Bebber
Wustrow	30.08	764.1	30.11	764.7	54.5	12.5	86	N			3		3cs			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.6	30.01	762.2	75.2	24.0		SW			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.37	746.0	29.42	747.2	101.8	38.8	77	WSW					3			0	0	D. clouds	
Deesa	28.97	735.8	29.42	747.1	107.4	41.9	15	E	10.4	4.6			4	ESE		0	0	D. clouds	
Bombay	29.32	744.8	29.36	745.7	93.9	34.4	52	NE	16.0	7.2			9		NE	0.01	0.3	D. clouds	
Poona	27.49	698.3	29.45	747.9	84.7	29.3	58	SE					6		SE	0.09	2.3	D. clouds	
Lahore	28.70	728.8	29.39	746.5	107.3	41.8	17	Calm.	3.0	1.3			0			0	0	Blue sky	
Belgaum	27.08	687.8	29.62	752.3	70.7	21.5	96	W	6.0	2.7			10	W	W	0.42	10.7	Drizzling	
Roorkee	28.53	724.6	29.38	746.1	103.9	39.9	21	W	1.1	0.5			0			0	0	Misty	
Agra	28.84	732.6	29.37	746.0	109.6	43.1	22	E					0			0	0		
Nagpur	28.84	723.4	29.48	748.9	94.7	34.8	37	S	8.1	3.6			7		NE	0.05	1.3	Gloomy	
Lucknow	29.07	738.4	29.42	747.4	105.0	40.6	40	SW	1.7	0.8			0			0	0	Blue sky	
Allahabad	29.12	739.7	29.42	747.1	105.7	40.9	27	Calm	1.8	0.8			1			0	0	D. clouds	
Patna	29.30	744.2	29.47	748.6	101.5	38.6	37	E	1.1	0.5			4	E	E	0	0	D. clouds	
Hazaribagh	27.54	699.5	29.47	748.6	94.8	34.9	36	E	11.3	5.0			3			0	0	D. clouds	
Cuttack	29.49	749.1	29.57	751.4	85.2	29.6		SSW	4.0	1.8			3			0	0		
Calcutta (Alipore)	29.59	751.5	29.61	752.0	88.2	31.2	62	SSW	10.0	4.5			2	SW		0	0	D. clouds	
Goalpara	29.22	742.3	29.61	752.0	82.3	27.9	81	Calm	2.3	1.0			4	SW		0	0	D. clouds	
Chittagong	29.60	751.7	29.69	754.0	82.1	27.8	87	SSE	5.6	2.5			4			0	0	Misty	
Sibsagar	29.36	745.8	29.70	754.3	78.2	25.7	85	ENE	3.0	1.3			10	SW	SW	1.69	42.9	D. clouds	
Jubbulpore	28.15	715.0	29.49	749.0	83.8	28.8	68	S	7.2	3.2			10		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation. Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,357 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or normal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Lower. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.69	754.1	30.09	764.3	69.3	20.7	66	SW	1.8	0.8			6			0.661	16.8		Prof. Giovanni Clodig.
Milan	29.57	751.0	30.08	764.1	73.0	22.8	48	SW			2		2	SW		0	0		Prof. Schiaparelli.
Padua	29.98	761.4	30.08	764.1	71.1	21.7	56	SE	3.1	1.4			6	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.16	740.6	30.06	763.5	70.5	21.5	47	SE	3.8	1.7			2			0	0		Prof. P. F. Denza.
Genoa	29.98	761.4	30.17	766.2	67.1	19.5	66	SW	7.4	3.3			2	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.19	715.9	30.08	764.1	67.1	19.5	50	SW			2		0			0.051	1.3		Prof. D. C. Bruno.
Pesaro	30.06	763.5	30.11	764.7	67.6	19.8	62	N	8.1	3.6			3	SW		0	0		Prof. Luigi Guidi.
Florence	29.91	759.6	30.15	765.8	70.7	21.5	46	W			4		5	SW		0	0		Cav. F. Meucci.
Leghorn	30.08	763.9	30.16	766.1	67.1	19.5	68	S			4		1			0	0		Prof. P. Monte.
Rome	30.06	761.9	30.17	766.3	69.8	21.0	60	W	8.1	3.6			1			0	0		Prof. P. S. Ferrari.
Lecce	29.89	759.2	30.14	765.6	66.7	19.3	47	NNE	1.3	0.6			2			0	0		Prof. C. De Giorgi.
Cosenza	29.24	742.7	30.11	764.8	71.6	22.0	67	NW	0.7	0.3			4			0	0		Prof. D. Conti.
Cagliari	29.87	758.8	30.06	763.6	73.0	22.8	46	W			2		7			0	0		Prof. A. Pacinotti.
Palermo	29.93	760.3	30.19	766.7	65.1	18.4	52	ENE	4.3	1.9			3			0	0		Prof. G. Cacciatore.
Syracuse	30.09	764.2	30.16	766.0	70.0	21.1	55	ENE	7.4	3.3			10	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.64	752.9	30.20	767.0	65.3	18.5	67	WSW	6.3	2.8			4			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.90	759.4	29.91	759.7	65.2	18.4	96	NE	7.2	3.2			0			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.97	761.2	63.0	17.6	89	WSW	0.6	0.3			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.78	756.4	29.85	758.2	67.1	19.5	85	ESE	3.0	1.3			10s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.05	636.3	30.10	764.5	54.5	12.5	32	SE			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.43	620.6	30.01	762.3	67.3	19.6	38	SW			1	Sc	0	NE		0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.2	30.08	764.0	54.5	12.5	46	Calm	0	0		0	0			0	0	Very hazy	The Staff.
Pabellon (Aguascalientes)					61.9	16.6	31	Calm			0	Scs	0			0	0	Hazy	M. V. de Leon, M. E.
Tlacotalpam	29.8	757.0	29.82	757.3	79.2	26.2	75	ENE			1	0	4		N	0	0	Light fog	M. M. Chàzaro.
San Luis Potosi	24.17	614.0	30.04	763.1	64.4	18.0	78	E			2	4	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.2	30.06	763.5	65.3	18.5	28	NE			1	0	3s			0	0	Light haze	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	52.2	11.2	55	N	2.2	1.0		0	0			0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.0	29.98	761.4	77.7	25.4	57	NE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.78	756.3	29.87	758.7	74.7	23.7	100	SE			1	3	2	SE	SE	0	0	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft. Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.08	764.1	30.08	764.1	55.4	13.0		W								0.205	5.2		
Groningen	29.94	760.5	30.00	761.9	59.2	15.1		SW			1					0.004	0.1		
Helder	30.01	762.3	30.01	762.3	54.5	12.5		S			1					0.469	11.9		
Hellevoetsluis	30.04	763.0	30.04	763.0	49.6	9.8	84	WSW			4					0.130	3.3		
Utrecht	29.99	761.7	30.04	762.9	56.8	13.8	88	SSW			2		10			0.173	4.4	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.09	764.2	30.14	765 6	57.2	14.0	91	SSE	7.4	3.3			4			0	0		
Brōno	30.11	764.7	30.15	765.7	64.4	18.0	57	ESE	9	4			0			0	0		
Christiania	30.03	762.7	30.17	766.3	66.4	19.1	33	SSE	4	2			9			0	0		
Tromsō	30.18	766.6	30.23	767.7	48.2	9.0	52	NE	9	4			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.35	771.0	30.54	757.8	67.1	19.5	73	NE	11.2	5.0			4			0	0		Dr. J. A. Sampaio.
Campo Major	30.07	738.4	30.06	763.6	76.3	24.6	34	NNE	13.0	5.8			9	ENE		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.13	765.2	30.21	767.4	69.8	21.0	54	SW	3.1	1.4			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.6	30.10	764.5	74.1	23.4	38	NE	7.4	3.3			2			0	0		The Staff.
Ponta Delgada (Azores)	30.43	772.8	30.50	774.6	66.2	19.0	68	ENE	15.0	6.7			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 10° 00′, W. 19° 18′			29.97	761.3	80.6	27		ENE			1		4		Var.	1	NE	Blue sky	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.8	80.2	26.8		NW			2		1		WNW	1	NW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. Island of Cayo, Senegambia			29.97	761.3	83.1	28.4		S			2		7		SSE	1	SE	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Hong-Kong, China			29.82	757.5	86.2	30.1		S			2		2		S	0		D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.60	751.8	30.01	762.2	66.7	19.3	62	NE	20	9			6c;ks						Astronomical Obs.
Wilna	29.73	755.1	30.14	765.5	68.5	20.3	49	ENE	4	2			4						Astronomical Obs.
Dorpat	29.98	761.5	30.22	767.6	61.9	16.6	46	NNE	7	3			2k						Prof. Dr. Weihrauch.
St. Petersburg	30.23	767.7	30.24	768.1	54.3	12.4	56	ENE	9	4			7k						Central Physical Obs.
Kieff	29.37	746.0	29.97	761.3	77.9	25.5	40	SE	11	5			8k;ks;c						Physical Cabinet.
Nikolaiev	29.92	760.0	29.99	761.8	81.9	27.7	43	SSW	9	4			4k						Kurdakof.
Kertch	29.98	761.6	30.00	762.1	75.4	24.1	73	N	2	1			0						Lagorio.
Moscow	29.57	751.0	30.10	764.5	65.7	18.7	65	SE	9	4			8ks						Meteorological Obs.
Lugan	29.72	754.9	29.91	759.8	86.5	30.3	40	SE	4	2			0						Meteorological Obs.
Archangel	30.25	768.3	30.27	768.8	40.8	4.9	67	NNE	9	4			5ks						Capt. Sseliwerstow.
Tiflis	28.62	726.8	29.95	760.8	86.2	30.1	33	SE	9	4			5n						Physical Observatory.
Astrakhan	30.21	767.2	30.12	765.1	77.4	25.2	24	ESE	13	6			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.64	752.9	29.89	759.3	76.1	24.5	47	W	13	6			8						Physical Cabinet.
Ekaterinburg	28.82	731.9	29.73	755.2	72.0	22.2	37	WSW	45	20			4s;ck						Meteorological Obs.
Nukuss	29.71	754.7	29.94	760.4	77.4	25.2	27	NNW	9	4									
Tashkend	28.34	719.7	29.83	757.7	77.7	25.4	49	NE	4	2			8						Teich, A. M.
Barnaul	29.55	750.5	30.04	763.1	53.8	12.1	42	S	0	0			10						Meteorological Obs.
Yeniseisk	29.70	754.4	29.99	761.7	47.5	8.6	47	N	2	1			2						Marks.
Irkutsk																			
Peking (China)	29.28	743.6	29.42	747.2	81.3	27.4	42	S	4	2			3k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.67	753.5	29.76	756.0	41.2	5.1	95	Calm	0	0			10k					Foggy	
Nikolaievsk, on the Amoor	29.86	758.5	29.95	760.7	37.2	2.9	76	E	2	1			10n						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.02	762.5	30.12	765.1	69.8	21	44	SSE	2.1	0.94			3c;k;ck			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.28	769.1	30.34	770.5	60.8	16.0	82	NW	2.3	1.04		0	10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	692.8			59.5	15.3	53	NE	10.9	4.88			0?			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.89	708.4			75.2	24.0	32	SE	14.9	6.67		3	6	NW		0.047	1.2	Light clouds	The Staff.
Murcia, Met. Obs'y	29.93	760.1	30.08	763.9	65.3	18.5	71	NW	4.0	1.78		3	4	NNE		0.131	3.33	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.31	744.5	30.20	767.0	63.9	17.7	62	NNE	24.8	11.1		0	6			0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.90	759.3	29.96	761.0	79.8	26.6	75	ENE	4.3	1.9		4c;ck	1k;ks	NE		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.75	755.7	29.80	757.1	86.0	30.0	71	E	0.7	0.3		0	0			0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.4	30.07	763.9	71.6	22.0	57	W	8.9	4.0		0	7		W	0	0		Capt. C. Pinazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.84	757.8	29.93	760.1	82.4	28.4	78	SE	2.6	1.17		7k	3k	SE	SE	0.346	8.75	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.38	771.7	30.42	772.7	46.0	7.8	.....	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Umea	30.37	771.4	30.42	772.7	47.5	8.6	58	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.32	770.1	30.37	771.4	55.0	12.8	47	ENE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	30.08	764.1	30.26	768.6	58.6	14.8	51	ENE	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	30.08	764.1	30.14	765.6	47.1	8.4	76	NE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.19	766.7	30.26	768.6	57.6	14.2	33	NE	13.0	5.8	.....	.....	3	.....	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	728.9	30.08	764.0	69.8	21.0	50	W	.....	.....	3	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.47	723.0	30.05	763.3	69.8	21.0	54	W	.....	.....	2	.....	8	.....	.....	0.732	18.6	Cloudy	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, +3.5 mm.; Thermometer, +3.3 Cent.; Relative Humidity, --6 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.7	73.2	22.9	62	E	8	3.5	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.04	763.0	78.8	26.0	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.19	766.9	65.3	18.5	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.83	757.7	29.95	760.6	75 0	23.9	68	NNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.18	766.6	30.49	774.4	51	10.6	.....	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.42	772.6	30.48	774.2	44	6.7	60	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.37	771.4	30.41	772.4	42	5.6	58	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	H J. Cundall, C. E.
Cornwall, Ontario	30.26	768.6	30.45	773.4	46.8	8.2	57	E	.....	.....	2	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.0.	762.2	30.06	763.5	50.3	10.2	86	W	3	1.3	.....	7cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.49	774.4	30.51	774.9	40	4.4	73	NE	9	4.0	.....	0	2ks	.....	Calm	0	0	Clear.	J. McWilliams.
Fredericton, N. B	30.41	772.4	30.47	773.9	43.1	6.2	59	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.99	736.3	29.79	756.7	56	13.3	81	S	12	5.4	.....	5k	5n	S	S	0.315	8.00	Cloudy	James Stewart.
Granton, Ontario	29.37	746.0	30.48	774.2	52	11.1	.....	E	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.17	766.3	30.30	769.6	44	6.7	52	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	30.11	764.8	30.49	774.4	52.7	11.5	65	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.13	765.3	30.47	774.2	53	11.7	59	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.32	770.1	30.36	771.1	39.4	4.1	61	NE	12	5.4	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.30	769.6	30.51	774.9	44	6.7	56	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.79	756.7	30.49	774.4	50	10.0	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.76	755.9	30.51	774.9	57.7	14.3	58	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.76	755.9	30.47	773.9	48	8.9	78	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.28	769.1	30.33	770.4	42.4	5.8	.....	W	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.80	756.9	30.46	773.7	49	9.4	77	E	5	2.2	.....	2ck	0	W	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	30.19	766.8	30.52	775.2	43	6.1	63	NE	.....	.....	1	0	2ks	.....	NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	30.05	763.3	30.52	775.2	45	7.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.36	771.1	30.41	772.4	45	7.2	53	NE	.....	.....	2	0	0	.....	.....	0.02	0.5	Clear	Dr. Gove.
St. John, N. B	30.25	768.3	30.42	772.6	42	5.6	66	NE	12	5.4	.....	7k	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.75	755.6	30.47	773.9	49	9.4	84	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.68	753.9	30.48	774.2	50	10.0	33	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	29.16	740.7	30.46	773.7	49.0	9.4	61	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.32	770.1	30.36	771.1	39	3.9	44	NE	21	9.4	.....	8cs	0	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	30.11	764.8	30.49	774.4	54	12.2	42	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.27	768.8	30.37	771.4	43.0	6.1	67	N	12	5.4	.....	1cs	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.07	763.8	30.33	770.4	37.5	3.1	100	NE	.....	.....	.....	.....	10n	.....	.....	0.02	0.5	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.22	767.6	30.46	773.7	50	10.0	39	N	8	3.6		0	0			0	0	Clear	
Alpena, Michigan	29.81	757.2	30.47	773.9	51	10.6	46	Calm	0	0		0	0			0	0	Clear	
Atlanta, Georgia	29.03	737.3	30.15	765.8	66	18.9	68	NE	16	7.2			10s		NE	0	0	Cloudy	
Atlantic City, New Jersey	30.34	770.6	30.36	771.1	57	13.9	47	NE	22	9.8		0	0			0	0	Clear	
Augusta, Georgia	30.07	763.8	30.24	768.1	71	21.7	53	NE	10	4.5		5ck	0	E		0	0	Fair	
Baltimore, Maryland	30.36	771.1	30.41	772.4	56	13.3	40	NE	12	5.4		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.32	770.1	30.34	770.6	57	13.9	47	NE	28	12.5		0	0			0	0	Clear	
Bismarck, Dakota	27.96	710.2	29.82	757.4	61	16.1	88	NE	6	2.7			10s		SE	0.02	0.5	Cloudy	
Boerne, Texas	28.53	724.6	29.80	756.9	71	21.7	71	NW	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.15	689.6	30.11	764.8	48	8.9	85	SE	1	0.4			10n		Calm	0.22	5.6	Light rain	
Boston, Massachusetts	30.22	767.6	30.38	771.6	51	10.6	46	NE	20	8.9		1k	0	Calm		0	0	Clear	
Brackettville, Texas	28.91	734.3	29.90	759.4	77	25.0	69	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	28.88	733.5	29.85	758.2	57	13.9	58	SE	33	14.8		5k	0	SE		0.60	15.2	Fair	
Brownsville, Texas	29.85	758.2	29.89	759.2	74	23.3	90	E	8	3.6		5cs	0	Calm		0	0	Fair	
Buffalo, New York	29.75	755.6	30.48	774.2	46	7.8	77	SW	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Burkes, Arizona					62	16.7	32	SW			1	2cs	0	W		0	0	Clear	
Burlington, Vermont	30.18	766.6	30.49	774.4	45	7.2	39	N	12	5.4		0	0			0	0	Clear	
Cairo, Illinois	29.82	757.4	30.21	767.3	65	18.3	44	E	10	4.5		0	Sm'e			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.24	641.1	30.04	763.0	57	13.9	25	Calm	0	0		0	0			0	0	Clear	
Camp Verde, Arizona					48	8.9	36	NW			1	5c	0	W		0	0	Fair	
Campo, California	27.43	696.7	30.00	762.0	28	— 2.2	66	E	4	1.8		5c	0	S		0	0	Fair	
Cape Hatteras, N. Carolina	30.25	768.3	30.26	768.6	59	15.0	76	NE	27	12.1		1cs	1ks	Calm	NE	0	0	Clear	
Cape Henry, Virginia	30.27	768.8	30.29	769.4	58	14.4	53	N	24	10.7		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.22	767.6	30.24	768.1	62	16.7	61	NE	28	12.5		2c	0	N		0	0	Fair	
Cape May, New Jersey	30.35	770.9	30.28	769.1	57	13.9	46	N	20	8.9		0	0			0	0	Clear	
Castroville, Texas	29.16	740.7	29.83	757.7	79	26.1	54	W	2	0.9		0	0			0	0	Clear	
Charleston, South Carolina	30.15	765.8	30.20	767.1	66	18.9	64	NE	12	5.4		2ck	0	NE		0	0	Fair	
Cheyenne, Wyoming	29.95	508.3	29.89	759.2	60	15.6	6	NW	11	4.9		0	0			0	0	Clear	
Chicago, Illinois	29.64	752.8	30.33	770.4	56	13.3	57	E	4	1.8		10ck	0	NW		0	0	Cloudy	
Cincinnati, Ohio	29.71	754.6	30.37	771.4	56	13.3	40	NE	8	3.6		8k	0	NW		0	0	Cloudy	
Cleveland, Ohio	29.71	754.6	30.45	773.4	53	11.7	42	E	7	3.1		0	Sm'e		Calm	0	0	Clear	
Coleman City, Texas	28.16	715.3	29.75	755.6	73	22.8	63	Calm	0	0		0	5s		Calm	0	0	Fair	
Columbus, Ohio	29.53	750.0	30.38	771.6	56	13.3	63	E	7	3.1		2c	0	Calm		0	0	Clear	
Concho, Texas	28.07	713.0	29.68	753.9	70	21.1	75	Calm	0	0		0	5s		Calm	2.12	53.8	Fair	
Corsicana, Texas	29.50	749.3	29.95	760.7	74	23.3	81	E	6	2.7		0	0			0	0	Clear	
Davenport, Iowa	29.58	751.3	30.22	767.6	58	14.4	48	SE	16	7.2		1c	0	W		0	0	Clear	
Deadwood, Dakota	25.22	640.6			53	11.7	80	SE	1	0.4		5ck	0	SE		0	0	Fair	
Decatur, Texas	28.82	732.0	29.94	760.5	75	23.9	64	E	8	3.6		5c	0	Calm		0	0	Fair	
Denison, Texas	29.23	742.4	29.99	761.7	74	23.3	81	SE	4	1.8		5cs	0	Calm		0	0	Fair	
Denver, Colorado	24.65	626.1	29.87	758.7	61	16.1	17	S	12	5.4		0	0			0	0	Clear	
Des Moines, Iowa	29.19	741.4	30.06	763.5	60	15.6	55	SE	10	4.5		2k	0	W		0	0	Clear	
Detroit, Michigan	29.77	756.1	30.45	773.4	53	11.7	54	E	5	2.2		0	0			0	0	Clear	
Dodge City, Kansas	27.31	693.7	29.48	748.8	68	20.0	84	S	4	1.8		2c	0	W		0.03	0.8	Fair	
Dubuque, Iowa	29.53	750.0	30.23	767.8	60	15.6	44	SE	5	2.2		5c	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	29.48	748.8	30.16	766.1	49	9.4	85	NE	2	0.9			10s		NE	0.10	2.5	Cloudy	
Eagle Pass, Texa	29.09	738.9	29.76	755.9	89	31.7	30	SW	4	1.8		2ck	0	W		0	0	Fair	
Eastport, Maine	30.34	770.6	30.41	772.4	43	6.1	59	NE	16	7.2		5k	0	N		0	0	Fair	
Edinburg, Texas					75	23.9	86	Calm			0	0	0			0	0	Clear	
El Paso, Texas	26.24	666.5			63	17.2	33	N	4	1.8		0	0			0	0	Clear	
Erie, Pennsylvania	29.73	755.1	30.46	773.7	51	10.6	59	Calm	0	0		0	0			0	0	Clear	
Escanaba, Michigan	29.73	755.1	30.39	771.9	54	12.2	61	S	8	3.6		2ck	8s	SW	SW	0	0	Cloudy	
Florence, Arizona	28.47	723.1	30.07	763.8	70	21.1	13	N	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.73	704.3			51	10.6	100	SW	10	4.5		5cs	2s	Calm	SW	1.13	28.7	Cloudy	
Fort Craig, New Mexico	25.53	648.4	29.60	751.8	54	12.2	31	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	74	23.3	40	W	6	2.7		5ck	0	W		0	0	Fair	
Fort Gibson, Indian Ter	29.48	748.8	29.99	761.7	74	23.3	68	SE	12	5.4		5c	0	N		0	0	Fair	
Fort Griffin, Texas																			
Fort Keogh, Montana	27.32	693.9			50	10.0	86	Calm	0	0		0	5s		Calm	0.10	2.5	Fair	
Fort McKavett, Texas	27.75	704.8	29.59	751.6	71	21.7	71	Calm	0	0		2cs	5s	Calm	Calm	0.14	3.6	Fair	
Fort St. Michael, Alaska	30.15	765.8	30.18	766.6	25	— 3.9	100	N	2	0.9			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.72	729.5	29.77	756.1	76	24.4	64	SE	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.97	710.4			55	12.8	80	W	12	5.4			10n		W	Inap.	Inap.	Light rain	
Fredericksburg, Texas	28.26	717.8	29.74	755.4	77	25.0	57	SW	2	0.9		8ck	0	Calm		0	0	Fair	
Galveston, Texas	29.94	760.5	29.99	761.7	76	24.4	82	NE	12	5.4		0	0			0	0	Clear	
Graham, Texas																			
Grand Haven, Michigan	29.74	755.4	30.40	772.1	55	12.8	45	E	7	3.1			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.49	749.0	30.27	768.8	57	13.9	41	NE	8	3.6		5ck	0	NW		0	0	Fair	
Indianola, Texas	29.95	760.7	29.97	761.2	81	27.2	70	N	13	5.8		2c	0	NW		0	0	Fair	
Jacksboro, Texas	28.86	733.0	29.94	760.5	78	25.6	82	NE	8	3.6		5ck	2s	S		0	0	Cloudy	
Jacksonville, Florida	30.10	764.5	30.12	765.0	75	23.9	72	NE	16	7.2			10s		NE	0.08	2.0	Cloudy	
Keokuk, Iowa	29.52	749.8	30.13	765.3	58	14.4	53	SE	18	8.0		2k	0	NW		0	0	Clear	
Key West, Florida	29.94	760.5	29.98	761.5	83	28.3	67	E	5	2.2		2k	0	NE		0	0	Fair	
Kittyhawk, North Carolina	30.25	768.3	30.27	768.8	57	13.9	81	NE	20	8.9		0	0			0	0	Clear	
Knoxville, Tennessee	29.23	742.4	30.22	767.6	64	17.8	47	N	3	1.3		0	Haze			0	0	Clear	
La Crosse, Wisconsin	29.46	748.3	30.19	766.8	61	16.1	45	SE	13	5.8		10k	0	W		0	0	Cloudy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	55	12.8	50	NW	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.51	749.5	29.84	757.9	76	24.4	49	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.14	740.1	29.96	761.0	68	20.0	70	SE	9	4.0		5cs;hz	0			Inap	Inap	Fair	
Los Angeles, California	29.71	754.6	30.06	763.5	47.0	8.3	74	NE	2	0.9		0	0			0	0	Clear	
Louisville, Kentucky	29.72	754.9	30.28	769.1	58	14.4	32	NE	9	4.0		1ck	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.67	753.6	30.36	771.1	63	17.2	67	NE	6	2.7		0	0			0	0	Clear	
Madison, Wisconsin	29.28	743.7	30.27	768.8	59	15.0	54	S	14	6.3			10ks		SW	0	0	Cloudy	
Marquette, Michigan	29.60	751.8	30.30	769.6	55	12.8	45	SW	16	7.2			10s		SW	0	0	Cloudy	
Mason, Texas	28.34	719.8	30.01	762.2	79	26.1	51	SE	4	1.8		8cs	0	Calm		0	0	Fair	
Memphis, Tennessee	29.78	756.4	30.12	765.0	69	20.6	51	NE	8	3.6		0	Haze		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.81	752.1	30.35	770.9	51	10.6	65	E	9	4.0		10ck	0	NE		Inap.	Inap.	Cloudy	
Mobile, Alabama	30.05	763.3	30.09	764.3	73.5	23.1	90	NE	8	3.6		0	5s		E	0	0	Fair	
Montgomery, Alabama	29.90	759.4	30.13	765.3	75	23.9	72	E	12	5.4		2k	0	E		0.05	1.3	Clear	
Morgantown, West Virginia*	29.39	746.5	30.39	771.9	58	14.4	42	E	8	3.6		0	0			0	0	Clear	
Mt. Washington, N. H.	23.97	608.8	30.33	770.4	18	— 7.8	68	NE	27	12.1		0	0			0	0	Clear	
Nashville, Tennessee	29.66	753.4	30.18	766.6	68	20.0	47	E	5	2.2		2cs	0	Calm		0	0	Fair	
New Haven, Connecticut	30.25	768.3	30.37	771.4	53	11.7	48	N	16	7.2		0	0			0	0	Clear	
New London, Connecticut	30.29	769.4	30.34	770.6	55	12.8	42	N	8	3.6		0	0			0	0	Clear	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	80	26.7	78	NE	7	3.1		Haze	0	Calm		0	0	Clear	
Newport, Rhode Island	30.28	769.1	30.33	770.4	53	11.7	54	N	14	6.3		0	0			0	0	Clear	
New York, New York	30.22	767.6	30.40	772.1	55	12.8	44	N	14	6.3		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.25	768.3	30.31	769.9	60	15.6	49	NE	20	8.9		0	0			0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.85	682.0	29.27	743.4	65	18.3	81	NE	8	3.6		0	Haze		Calm	0	0	Hazy	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	48.5	9.2	85	S	5	2.2		10ck	0	Calm		0	0	Cloudy	
Omaha, Nebraska	28.77	730.7	29.82	757.4	66	18.9	69	SE	16	7.2		0	Haze			0	0	Clear	
Oswego, New York	30.18	766.6	30.51	774.9	47	8.3	70	N	1	0.4		0	0			0	0	Clear	
Pembina, Dakota	28.98	736.1	29.79	756.7	56	13.3	75	S	8	3.6		0	0			0.04	1.0	Clear	
Philadelphia, Pa.	30.33	770.4	30.38	771.6	54	12.2	55	NE	18	8.0		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28.79	731.2	30.57	776.5	61	16.1	26	NE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	25	— 3.9	26	SW	56	25.0		0	0			0	0	Clear	
Pioche, Nevada					36	2.2	45	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.61	752.1	30.44	773.2	50	10.0	45	E	6	2.7		0	0			0	0	Clear	
Port Huron, Michigan	29.78	756.4	30.45	773.4	52	11.1	54	NE	4	1.8		0	Sm'e			0	0	Clear	
Portland, Maine	30.35	770.9	30.40	772.1	48	8.9	49	N	17	7.6		0	0			0	0	Clear	
Portland, Oregon	30.12	765.0	30.20	767.1	50.5	10.3	86	S	5	2.2			10s		SW	0.18	4.6	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	36	2.2	39	W	3	1.3		1c	0	Calm		0	0	Clear	
Pilot Point, Texas	29.23	742.4	30.02	762.5	80	26.7	82	SE	10	4.5		2k	0	S		0	0	Fair	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	77	25.0	73	NE	7	3.1		2cs	0	Calm		0	0	Clear	
Red Bluff, California	29.79	756.7	30.16	766.1	55	12.8	74	S	4	1.8			10ks		SE	0.01	0.3	Cloudy	
Rio Grande City, Texas	29.76	755.9	29.98	761.5	72	22.2	80	N	6	2.7		5cs	0	Calm		0	0	Fair	
Rochester, New York	29.85	758.2	30.49	774.4	50	10.0	58	W	3	1.3		0	0			0	0	Clear	
Roseburg, Oregon	29.65	753.1	30.22	767.6	49	9.4	85	Calm	0	0			10s		Calm	0.05	1.3	Cloudy	
Sacramento, California	30.07	763.8	30.15	765.8	48	8.9	85	S	4	1.8		2ck	0	Calm		0	0	Clear	
St. Louis, Missouri	29.63	752.6	30.20	767.1	62	16.7	46	E	13	5.8		0	0			0	0	Clear	
St. Marks, Florida	30.06	763.5	30.07	763.8	73	22.8	85	E	10	4.5		2ck2cs	1s	E	Calm	0	0	Fair	
St. Paul, Minnesota	29.25	742.9	30.06	763.5	57	13.9	52	SE	21	9.4			10ks		S	0.05	1.3	Cloudy	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	49	9.4	44	NW	8	3.6		7k	0	W		0	0	Fair	
San Antonio, Texas	29.29	744.0	29.85	758.2	74	23.3	72	Calm	0	0		0	0			0	0	Clear	
San Diego, California	30.01	762.2	30.09	764.3	48	8.9	85	E	4	1.8		2cs	0	Calm		0	0	Fair	
Sandusky, Ohio	29.77	756.1	30.46	773.7	54	12.2	49	SE	9	4.0		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.33	770.4	30.36	771.1	54	12.2	55	NE	24	10.7		0	0			0	0	Clear	
San Francisco, California	30.10	764.5	30.16	766.1	51	10.6	82	NW	6	2.7		0	1ks		Calm	0	0	Clear	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	56	13.3	4	E	6	2.7		0	0			Inap.	Inap.	Clear	
Savannah, Georgia	30.11	764.8	30.21	767.3	70	21.1	66	NE	16	7.2		5c	0	E		0.04	1.0	Fair	
Shreveport, Louisiana	29.86	758.4	30.07	763.8	79	26.1	74	E	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico	24.36	618.7	30.51	774.9	49	9.4	37	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.23	767.8	30.26	768.6	61	16.1	66	N	10	4.5		2cs	0	NW		0	0	Fair	
Springfield, Massachusetts	30.27	768.8	30.40	772.1	55	12.8	33	N	9	4.0		0	0			0	0	Clear	
Stockton, Texas	26.96	684.8	29.96	761.0	77	25.0	15	SE	12	5.4			10s		SE	0	0	Cloudy	
Thatcher's Island, Mass.	30.34	770.6	30.40	772.1	47	8.3	85	NE	26	11.6		0	0			0	0	Clear	
Toledo, Ohio	29.72	754.9	30.41	772.4	58	14.4	48	E	4	1.8		0	0			0	0	Clear	
Tucson, Arizona	27.51	698.7	30.06	763.5	55	12.8	38	SW	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.65	753.1	30.14	765.5	51.0	10.6	79	W	18	8.0			10n		W	0.28	7.1	Light rain	
Uvalde, Texas	29.12	739.6	29.91	759.7	76	24.4	64	Calm	0	0		1ck	0	NE		0	0	Clear	
Vicksburg, Mississippi	29.84	757.9	30.09	764.3	77	25.0	77	Calm	0	0		0	0			0	0	Clear	
Virginia City, Montana	24.19	614.4	29.67	753.6	38	3.3	72	SE	2	0.9		0	5s		Calm	0.01	0.3	Fair	
Visalia, California	29.75	755.6	30.12	765.0	49	9.4	78	NW	3	1.3		0	0			0	0	Clear	
Washington, D. C.	30.29	769.4	30.41	772.4	55	12.8	45	NE	12	5.4		0	Haze		Calm	0	0	Clear	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.19	766.8	30.26	768.6	59	15.0	65	NE	10	4.5		0	0			0	0	Clear	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	36	2.2	80	SW	6	2.7		5k	0	SW		0	0	Fair	
Wood's Holl, Mass.	30.28	769.1	30.32	770.1	52	11.1	66	NE	20	8.9		0	5ks		NE	0	0	Fair	
Yankton, Dakota	28.54	724.9	29.77	756.1	62	16.7	78	SE	15	6.7		5k	0	SW		0	0	Fair	
Yuma, Arizona	29.78	756.4	29.94	760.5	59	15.0	38	S	4	1.8		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	28.50	723.9	29.86	758.4	68	20.0	65											Clear	
Havana, Cuba, W. I.	29.90	759.4	29.95	760.7	79	26.1	74	Calm	0	0		8c	0	SW		0	0	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.																			Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.23	640.8			65.0	18.6	77	Calm			0	10ck	0			0.09	2.3		James Gall.
Navassa, W. I.	29.82	757.4	29.90	759.4	79	26.1	74	NE								0.03	0.8	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A.	29.96	761.0	29.96	761.0	82	27.8	79	E			2	5k	7ks	E		0.020	0.51	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.																			C. J. Hering.
St. Thomas, W. I.																			Robert Mason.
York Factory, B. A.	30.10	764.5	30.15	765.8	37.0	2.8	95	SE	10	4.5		5k	4s	SE	S	0	0	Cloudy	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,8[illegible] (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.9 ft. or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in., Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 m.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.15‡	765.8‡			48	8.9	92	WNW	4	1.8			0			0	0			Clear	
Navy Yard, Pensacola, Fla.	30.07‡	763.8‡			76	24.4	91	NE	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.77‡	756.1‡			67.5	19.7	89	NE			1		2k		Calm	0	0			Fair	
Adams, Callao, Peru	29.94‡	760.5‡			60	15.6	94	SSE			2		10		S;E					Foggy	
Alaska, Sitka, Alaska	30.03‡	762.7‡			46	7.8	92	Calm			0		10			0	0			Foggy	
Alliance. N. 35° 53′, W. 5° 39′	30.08‡	764.0‡			70	21.1	61	SE			3		5							Pleasant	
Colorado, New York, N. Y.	30.41‡	772.4‡			54	12.2	55	N	8	3.6			0			0	0			Clear	
Constitution, N. 39° 21′, W. 73° 00′	30.25‡	768.3‡			55	12.8	80	NNE			5		0					Smooth	NE	Clear	
Despatch, Gibraltar Strait, Med.	30.05‡	763.3‡			68	20.0	70	SE			3		7		Calm	0	0	Smooth		Hazy	
Enterprise, Havre, France	30.23‡	767.8‡			53	11.7	73	NNW			5		3		N					D. clouds	
Franklin. Norfolk, Va.	30.27‡	768.8‡			61	16.1	61	N	14.4	6.4			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.60‡	751.8‡			64	17.8	89	N			6		10		N	0.20	5.1			Cloudy	
Marion, Key West, Fla	29.96‡	761.0‡			83	28.3	87	ENE			2		2		E			Smooth		Fair	
Michigan, Erie, Pa.					52	11.1	93	NE			4		0							Clear	
Monocacy. Shanghai, China	29.67‡	753.6‡			72	22.2	95	SSE			3		8		SSE					Cloudy	
Monongahela, Yokohama, Japan	29.81‡	757.2‡			70	21.1	80	NE			1–2		kn			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.19‡	766.8‡			69	20.6	65	NE	28	12.5			5		Calm	0	0			Fair	
Onward, Callao, Peru †*	30.05‡	763.3‡			63	17.2	83	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.67‡	753.6‡			70	21.1	100	SE			2		2							Fair	
Passaic, Washington, D. C.					55	12.8	54	NE			2		2							Clear	
Pensacola, Callao, Peru	29.94‡	760.5‡			62	16.7	94	Calm	0	0			10			0	0	Smooth	W	Misty	
Portsmouth, N. 32° 12′, W. 80° 22′	30.18‡	766.6‡			66	18.9	79	NE			6		5		NE	0	0	Rough	NE	Fair	
Powhatan, N. 33° 06′, W. 78° 13′	30.19‡	766.8‡			68	20.0	46	NE			6		2		Calm	0	0	Mod'ate	NE	Clear	
Quinnebaug, Jaffa, Syria	30.00‡	762.0‡			73	22.8	76	NW			3		2		W					Fair	
Ranger, Amoy, China	29.79‡	756.7‡			82	27.8	87	SSE			2		5		Calm			Smooth		D. clouds	
Richmond, N. 31° 00′. E. 122° 40′	29.67‡	753.6‡			63	17.2	??	S			4		10		S	0.4	10.	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			73	22.8	95	NW			1		2		N					Fair	
Santee, Annapolis, Md.	30.33‡	770.4‡			56	13.3	46	NE			5		0?		N?	0	0			Clear	
Saratoga, Funchal, Maderia	30.23‡	767.8‡			72	22.2	80	SSW			1		8		E	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa	30.33‡	770.4‡			58	14.4	48	NE	15	6.7			0			0	0			Clear.	
Trenton, Marseilles, France	30.16‡	766.1‡			68	20.0	65	W			1–2		0			0	0	Mod'ate	S	Clear	
Tuscarora, N. 15° 40′, W. 96° 24′	29.85‡	758.2‡			77	25.0	77	Calm			0		1		Calm	0	0	Smooth		Hazy	
Vandalia, N. 18° 10′, W. 83° 08′	29.66‡	753.4‡			81	27.2	87	NE			4		10			0	0	Smooth		Cloudy	
Wabash, Boston, Mass	30.34‡	770.6‡			48	8.9	70	N			6		0			0	0			Clear.	
Wyoming, Leghorn, Italy	30.14‡	765.5‡			69	20.6	80	S			1–4		2		S			Smooth	S	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12, amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury N. 30° 52′, E. 132° 04′		30.05‡	763.3‡	75	23.9		SE			3		0			0	Smooth		Hazy	L. B Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, N. 38° 04′, W. 122° 30′..†.		30.16‡	766.1‡	60	15.6	65	NW			1		1		SE;SW				Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 33° 50′, E. 158° 29′		29.83‡	757.7‡				SW			3				SW				Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.79‡	756.7‡	84	28.9	87	S			3		4k			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt J. Metcalf, N. 47° 19′, E. 173° 37′		29.42‡	747.2‡	38	3.3	100	N			3-4		10		SSW		4	E	Showery	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeider.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 37° 36′, W. 76° 14′		30.31‡	769.9‡				NE			4		2		N		2	NNE	Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 46° 39. W. 36° 37'		30.52‡	775.2‡	67	19.4	95	W			7		9		NW	0	Mod'ate	NW	Cloudy	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 17,' W. 81° 48'		30.01‡	762.2‡	82	27.8	75	ENE	8	3.6			2k		E	0	Short		Clear	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax",																			
Schooner Charley Buck, N. 39° 44, W. 72 34 ....†		30.27‡	768.8‡	60	15.6		NNE			6		0				Heavy cross	E	Clear	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I		29.60‡	751.6‡				NE	1	0.4			2		NE	0.75 in. or 19 1mm	Rough	SE	Stormy	Capt. George Gardner.
Schooner Henry Whitney, Off Sandy Hook, N. J.†		30.41‡	772.4‡	58.5	14.7		NE			6		0				Small	E	Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

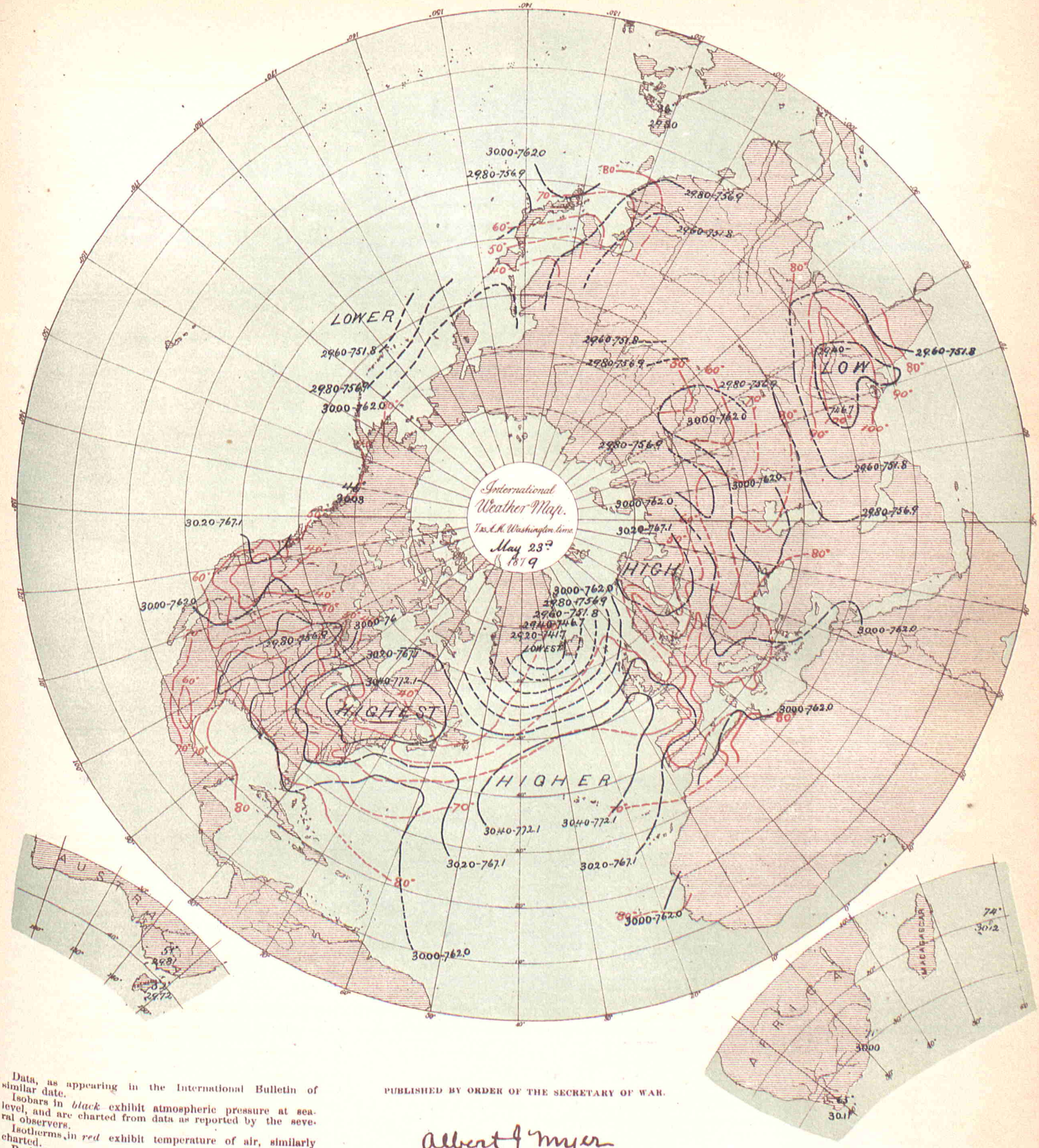
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 120 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.01	762.3	59.5	15.3	93	N			3		10			0.055	1.4	Covered	Kesxuche.
Algiers			29.86	758.5	60.8	16.0	93	NE			1		10			0.051	1.3	Covered	Touriliere.
La Calle			29.83	757.7	76.6	24.8	71	NNW			1		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.87	758.7															Gau.
Saida			29.98	761.6	57.6	14.2	39	NW			4		10			0.047	1.2	Covered	Herbin.
Tebessa			29.85	758.1	83.3	28.5	19	S			7		2			0	0	Fair	Watrin.
Geriville			29.93	760.1	64.2	17.9	39	NW			2		5			0.039	1.0	Cloudy	Brugniaux.
Laghouat			29.80	756.8	82.8	28.2	41	WNW			3		0			0	0	Clear	Bertrand.
Biskra			29.70	754.5	96.1	35.6	24	SE			4		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.36	745.7	29.89	759.1	74.8	23.8	43	W			3		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.7	29.91	759.6	69.8	21.0	60	NNE			2		3			0.035	0.9		Dr. Wierzbiski.
Eperies	29.00	736.5	29.84	758.0	69.4	20.8	60	Calm			0		6c;ks			0.876	22.25		Julius Mikolik.
Gratz	28.68	728.5	29.89	759.2	70.0	21.1	49	ESE			3		3			0	0		Andreas Rospini.
Hermannstadt	28.48	723.4	29.87	758.6	65.7	18.7	64	N			2		8			0	0		Prof. A. Gottschling.
Kremsmünster	28.59	726.2	29.89	759.3	65.5	18.6	54	N			2		8			0	0		Prof. C. Wagner.
Lemberg	28.90	734.0	29.86	758.4	64.4	18.0	61	S			1		10			0.138	3.5		Dr. T. Stanecki.
Pola	29.88	759.0	29.99	761.8	66.4	19.1	69	SE			2		8			0	0		I.R.Hydrographic Office.
Szathmar	29.47	748.5	29.92	759.9	71.2	21.8	50	S			2		5			0	0		Julius Csics, S. J.
Szegedin	29.74	755.5	30.02	762.5	66.9	19.4	69	E			1		8			0	0		Karl Stancel.
Trieste	29.90	759.5	30.00	762.1	68.0	20.0	72	NW			1		3			0	0	½ Clear	P. Busin.
Vienna	29.24	742.8	29.95	760.7	62.1	16.7	82	WNW			2		9			0.067	1.7		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.76	755.9	29.86	758.4	55.0	12.8	.....	SW	10	4.5	.....	.....	9	.....	.....	0.070	1.78	Misty	W. Boswell.
Ardrossan	29.92	760.0	29.93	760.2	51	10.6	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	Raining	William McNeil.
Armagh, Observatory	.....	.....	30.01	762.2	54.4	12.4	.....	SW	13	5.8	.....	.....	10	.....	.....	.....	.....	Drizzling	S. Call.
Bidston (Liverpool Obs)	.....	.....	30.07	763.8	57.3	14.1	.....	W	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton (Sharples)	.....	.....	30.04	763.0	56.3	13.5	.....	SSW	18	8.0	.....	.....	10	.....	.....	.....	.....	Threatening	Thomas Mackereth.
Bradford, Yorkshire	29.65	753.1	30.05	763.3	57.6	14.2	.....	W	.....	.....	5	.....	10	.....	.....	0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	83	28.3	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pvt. G. Surgener, A.
Cambridge, Observatory	30.04	763.0	30.13	765.3	65.8	18.8	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Misty	H. Todd.
Cardington	.....	.....	30.12	765.0	66.0	18.9	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	30.07	763.8	30.20	767.1	62.5	16.9	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	29.95	760.7	29.99	761.7	58	14.4	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	30.13	765.3	30.16	766.1	53	11.7	.....	ESE	.....	.....	1	.....	1	.....	.....	.....	.....	¼ clouded	J. Costello.
Falmouth, Observatory	30.00	762.0	30.23	767.8	56.0	13.3	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier (Natal)	27.76	705.1	30.05	763.3	75.5	24.2	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	85	29.4	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.00	762.0	55	12.8	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.93	760.2	29.98	761.5	72.6	22.6	.....	E	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.70	754.4	29.91	759.7	52.3	11.3	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling	D. G. Maclean. [C.
Great Yarmouth	30.15	765.8	30.16	766.1	53	11.7	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.00	762.0	30.16	766.1	65.0	18.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	The Staff, for G.B.Airy.
Guernsey	29.99	761.7	30.21	767.3	56	13.3	.....	NW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	30.13	765.3	30.25	768.3	58	14.4	.....	NW	.....	.....	1	.....	10k	.....	.....	0.1	3.	Gloomy	M. P. Moyle.
Holyhead	30.01	762.2	30.05	763.3	54	12.2	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.96	761.0	30.26	768.6	54.9	12.7	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	30.13	765.3	30.17	766.3	60.6	15.9	.....	SW	6	2.7	.....	.....	.....	.....	.....	.....	.....	Misty	The Meteorological Of.
Leicester, Museum	29.87	758.7	30.12	765.0	60.6	15.9	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.89	759.2	29.97	761.2	67	19.4	.....	SE	.....	.....	3	.....	3k	.....	.....	0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.73	755.1	29.82	757.4	55	12.8	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau (Bahamas)	.....	.....	30.04	763.0	75.5	24.2	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.94	760.5	30.12	765.0	61.7	16.5	.....	SSW	.....	.....	3	.....	10k;d	.....	SSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.60	751.8	30.12	765.0	57.9	14.4	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.16	766.1	63	17.2	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	Misty	H. E. Bellamy.
Plymouth	30.14	765.5	30.21	767.3	55.5	13.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Prince Town	28.75	730.2	30.24	768.1	52.4	11.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	W. H. Tooker.
*Roche's Point	30.09	764.3	30.20	767.1	59	15.0	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	Wm. Kennedy.
Saint Ann's Head	30.02	762.5	30.18	766.6	50	10.0	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse (Orkneys)	.....	.....	29.79	756.7	48.8	9.3	.....	WSW	21	9.4	.....	.....	10	.....	.....	0	0	Overcast	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.80	756.9	29.87	758.7	71.8	22.1	.....	N	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.85	758.2	30.13	765.3	62.0	16.7	.....	SW	.....	.....	3	.....	8	.....	.....	0.07	1.8	Overcast	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.8	51.7	10.9	90	W	.....	.....	5	.....	10	.....	.....	0.246	6.25	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.68	753.9	30.08	764.0	53.3	11.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.97	761.2	30.19	766.8	64.4	18.0	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.20	767.1	30.23	767.8	58	14.4	.....	NW	.....	.....	9	.....	4	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	30.15	765.8	30.17	766.3	54.9	12.7	.....	WSW	17	7.6	.....	.....	10	.....	.....	Blank	Blank	Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.04	763.0	30.08	764.0	50.6	10.3	100	N	6	2.7	.....	0	8	.....	.....	0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)	.....	.....	29.54	750.3	48.0	8.9	88	NW	.....	.....	3	.....	0	.....	.....	0.01	0.3	Starlight	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.92	760.0	29.93	760.2	56.2	13.3	.....	W	.....	.....	3	.....	10ks	.....	.....	0.08	2.0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.99	761.7	30.18	766.5	73.0	22.8	57	SE	12.5	5.6	.....	2	2	WNW	SSE	0	0	Fair	C. Meldrum.
Melbourne, Observatory	29.55	750.6	29.64	752.8	52.3	11.3	91	Calm	0	0	.....	.....	10	.....	.....	0.09	2.29	Showery	R. L. J. Ellery.
Monach Lt-house (Hebrides)	.....	.....	29.84	757.9	51	10.6	.....	SW	.....	.....	4	5	3	SW	.....	0.1	3.	.....	J. Youngclause.
North Unst (Shetland Is.)	.....	.....	29.67	753.6	46	7.8	.....	SW	.....	.....	6	5	5	SW	.....	.....	.....	Raining	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn."	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. J. L. Wharton.
§Brig Alliance, N. 36° 18′, W. 51° 07′	.....	.....	30.24‡	768.1‡	69	20.6	.....	SE	.....	.....	6	.....	4	.....	.....	.....	.....	Misty	Capt. W. Scott.
S. S. Amanda.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle-Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship British Commodore.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
—— City of Agra.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Thos. Young.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Fedalma, N. 15° 55′, W. 61° 50′	.....	.....	29.96	761.0	82	27.8	.....	ENE	.....	.....	6	.....	2	.....	.....	2	.....	Blue sky	Capt. H. L. Fox.
Barque Mertole	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. W. Turner.
S. S. Nizam, N. 8° 14′, E. 77° 02′	.....	.....	29.80‡	756.9‡	77	25.0	.....	Var.	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Capt. Barlow.
S. S. Royal Alexandra, N. 45° 15′, W. 36° 30′	.....	.....	30.73	780.5	65	18.3	.....	WNW	.....	.....	2	.....	7	.....	.....	3	NW	D. clouds	W. P. Hughes.
S. S. Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.19	665.2	29.91	759.7	69.8	21.0	91	SE			2		2ks			Inap	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Copenhagen	30.07	763.7	30.11	764.9	63.7	17.6	59	S			2		0						
Fanöe	30.04	763.1	30.06	763.6	63.3	17.4	76	WSW			2		1						
Godthaab (Greenland)	29.62	752.4	29.67	753.5	32.9	0.5	92	S			6		10					Snowing	
Stykkisholm (Iceland)	29.06	738.0	29.10	739.1	41.7	5.4	82	W			7		8						
Thorshavn (Faröe)	29.34	745.1	29.37	746.0	46.0	7.8	72	SW			7		10						
Vestervig	29.88	759.0	30.05	763.3	62.2	16.8	69	SW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Alençon, Normal School	29.66	753.3	30.21	767.3	53.6	12	69	NE			2		8		NE	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.08	763.9	30.18	766.6	62.6	17	49	WNW			4		2		N	0.28	7.	Slightly cld'y	Renvallet, Director.
Arras, Engin'r School	29.91	759.7	30.17	766.2	59.4	15.2	47	SE			2				SE	0.169	4.3		Klein, Commandant.
Avignon, Normal School	29.88	759.0	29.96	761.0	64.0	17.8	49	NNW			6		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.59	751.6	30.15	765.8	51.8	11.0	64	SW			1		10		NE	0	0	Covered	G. Saillard, Director.
Beauvais, Normal School	29.91	759.8	30.18	766.5	56.8	13.8	57	E			2		5		NE	0.324	8.25	Cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.24	742.6	30.13	765.4	55.6	13.1	62	NNE			2		10		NE	0.441	11.2	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.24	742.8	30.17	766.3	51.3	10.7	86	N			2		5k	N	N	0.79	20.	Cloudy	Marlot, Director
Bourges, Normal School	29.59	751.6	30.15	765.7	52.2	11.2	83	NW			1		10	NW	W	0.07	1.9	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.95	760.8	30.20	767.0	55.8	13.2	86	NNW			1		10		NW	0	0	Misty	De Rermaree, Director.
Carcassonne, Normal School	29.68	753.8	30.09	764.2	66.2	19	34	NW			3		5	NW	NW	0	0	Cloudy	September, Director.
Caen, Normal School	30.17	766.2	30.24	768.2	55.0	12.8	61	NNW			3		5		NW	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.54	750.4	30.10	764.6	61.7	16.5	64	NE			3		6		N	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.85	758.3	30.18	766.5	55.4	13.0	45	S			2		8	SE	SE	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.74	729.9	30.10	764.5	54.0	12.2	56	NW			1		10		N	0	0		Allnard, Director.
Commercy, Normal School.	29.29	744.0	30.16	766.0	52.9	11.6	71	SSW			1		8kn		SSW	0.087	2.2	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.82	732.1	29.96	761.1	62.4	16.9	37	NW			4		5		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.32	744.6	30.09	764.2	53.2	11.8	57	NW			1		10n		WNW	0.906	23.00	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.96	761.5	30.20	767.0	59.0	15.0	50	NNW			4		8		NNW	0	0	Very cloudy	Mouillot, Director
Le Mans, Normal School	29.87	758.8	30.18	766.6	55.8	13.2	62	N			3		5		NNE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.9	30.04	763.0	56.7	13.7	42	N			2		10n	NE	NE	1.039	26.40	Covered	A. Baudry, Director.
Lorient, Naval Observatory	30.18	766.5	30.28	769.1	53.6	12.0	86	NNW			2				NW	0	0		Lt. P. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			29.91	759.6	64.6	18.1	29	NW			4		3			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.10	739.0	30.15	765.8	52.7	11.5	73	SE			1		10kn		NW	0	0	Covered	Barbier, Director
Nismes, Normal School	29.81	757.2	30.01	762.3	64.8	18.2	51	NW			1		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.98	736.0	30.05	763.3	53.6	12	54	NW			4		n	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.10	739.2			31.3	—0.4	100	NW			3		10					Snow-fog	Allnard, Director.
Rochefort, Naval Obs'y	30.16	766.1	30.19	766.9	58.3	14.6	76	W			1		10	NW	NW	0.08	2.	Raining	Lt. E. Decante, Director.
Rouen, Normal School	30.10	764.5	30.19	766.7	60.3	15.7	52	NNE			3		2		E	0.098	2.5	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.9	30.23	767.7	57.0	13.9	76	NW			3		1	NW	NW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.01	762.2	30.17	766.4	54.0	12.2	68	NE			2				NE	0.248	6.3		E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.22	767.6	50.0	10	62	SW			6		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.44	747.7	30.16	766.1	57.9	14.4	53	NW			3		6			0.252	6.4		Mercadier Julier.
Versailles, Observatory	29.67	753.7	30.17	766.2	51.4	10.8	70	NE			3					0.303	7.70		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.39	746.6	30.10	764.6	60.8	16	89	N			3		10		N	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	81.3	27.4										0	0		L'Abbé Marcl ésl.
Lyons Obs'y (Park Station)	29.47	748.5	30.10	764.4	52.3	11.3	63	NNW			1		10			0.453	11.5	Covered	Mr. Jays.
Mont-Louis	24.85	631.1	30.16	766.1	46.0	7.8	51	WNW	34.0	15.0			5		N	0	0		M. Cave.
Nice			29.93	760.2	65.3	18.5	76	SW			2		8					Light rain	Dr. A. Nieper, Jr.
Paris, Montsouris Obs'y	29.89	759.1			54.5	12.5	65	NNE			3		9		NE	0.256	6.5		Marié Davy, Director.
Perpignan	29.95	760.7	30.06	763.4	61.9	16.6	34	N	28.0	12.5			6		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.51	571.8			33.1	0.6		NNW			3		10			0.429	10.9	Snowy	Gen'l de Nansouty.
Tours	29.95	760.7	30.15	765.7	56.7	13.7	60	NE			3		3		NNE	0.035	0.9		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.59	751.6	29.61	752.2	74.1	23.4	87	WSW	8.9	4.0			7			0.094	2.4	Very cloudy	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:06 instead of 1:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft., Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,208.8 ft.; Pic du Midi, (Summit 2,877 m., or 9,438.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	741.9	30.06	763.4	68.2	20.1	62	SW			3		8	SW		0.157	4.0	Raining	Prof. Dr. Hoh.
Berlin	29.87	758.6	30.03	762.8	75.7	24.3	34	E			1		3			0	0		Prof. Arndt.
Breslau	29.48	748.9	30.02	762.4	71.4	21.9	58	ENE			3		7			0.249	6.32		Royal University Obs'y.
Carlsruhe	29.68	753.9	30.11	764.9	53.2	11.8	76	SW			2		10	SW		0.189	4.8		Albert Senz.
Cassel	29.44	747.8	30.05	763.3	69.1	20.6	74	N			4		8	E		0.027	0.68		Dr. H. Möhl.
Crefeld	29.95	760.7	30.11	764.8	64.9	18.3	66	N			3		9			0.08	2.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.70	754.3	30.06	763.5	63.1	17.3		SSW			2		7			0.059	1.5		Physical Society.
Freienwalde on the Oder	30.00	762.1	30.04	763.1	78.3	25.7	44	NE			2		2k	NE		0	0		Assmann., M. D.
Friedrichshafen	28.66	727.9	30.11	764.8	50.2	10.1	77	SW			5		10	SW		0	0		M. Wilhelm.
Hamburg	30.01	762.3	30.08	764.0	71.1	21.7	62	SE			2		3k	SE		0	0	Clear.	Captain F. Hegeman.
Kiel	30.06	763.6	30.08	764.0	67.3	19.6	68	NE			1		1			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.98	761.6	30.06	763.6	70.3	21.3	48	E			3		2			0.240	6.1		Prof. E. Luther.
Köslin			30.03	762.8	70.5	21.4		N			4		0			0	0		H. Müller.
Leipsic Observatory	29.60	751.9	30.01	762.3	70.3	21.3	59	NE			3		9					Sprinkling	Prof. Bruhns, Privy Counselor.
Memel	30.06	763.5	30.11	764.7	64.4	18.0	43	NW			3		0						Skalweit.
Munich (München)	28.22	716.7	30.08	764.1	54.7	12.6	70	W			5		9	W		0	0		Dr. C. Lang.
Neufahrwasser	30.12	765.1	30.14	765.5	56.8	13.8	73	N			3		2			0	0		A. Lothes.
Posen	29.76	756.0	30.04	763.1	73.4	23.0	52	NW			1		10			0.043	1.1	Thunder-storm.	Dr. Magener.
Strassburg (in Alsace)	29.60	751.8	30.15	765.9	53.8	12.1	64	N			2		10	NW		0.884	22.46		Imp. University Observatory.
Stuttgart	29.11	739.3	30.05	763.3	53.6	12.0	67	N					10			0	0		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	724.8	30.04	762.9	55.8	13.2	73	Calm	0	0			9ck		NW	0	0	Foggy	Dr. Van Bebber.
Wustrow	30.08	764.1	30.11	764.7	64.6	18.1	60	NE			2		0			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.95	760.7	77.4	25.2		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.2	29.47	748.4	107.6	42.0	70	W					3			0	0	D. clouds	
Deesa	29.01	736.8	29.45	748.1	108.0	42.2	16	ENE	10.9	4.9			6	SSE		0	0	D. clouds	
Bombay	29.40	746.9	29.44	747.8	77.1	25.1	97	ESE	56.0	25.0			10		ENE	0.05	1.3	Overcast	
Poona	27.59	701.0	29.57	751.2	78.2	25.7	72	SW					9		SW	0	0	D. clouds	
Lahore	28.62	726.9	29.31	744.5	107.3	41.8	13	W	3.4	1.5			1			0	0	Blue sky	
Belgaum	27.15	689.6	29.70	754.4	69.9	21.1	81	SW	15.0	6.7			7	SW	SW	0.10	2.5	Showery	
Roorkee	28.47	723.2	29.31	744.5	106.1	41.2	13	Calm	1.5	0.7			0			0	0	Misty	
Agra	28.71	729.3	29.23	742.5	110.1	43.4	17	E					0			0	0	Blue sky	
Nagpur	28.45	722.7	29.45	748.1	97.7	36.5	31	S	8.5	3.8			3	N		0	0	D. clouds	
Lucknow	29.06	738.1	29.41	747.1	104.2	40.1	44	ESE	3.4	1.5			0			0	0	Blue sky	
Allahabad	29.09	739.0	29.38	746.4	105.0	40.6	31	Calm	2.2	1.0			8			0	0	D. clouds	
Patna	29.23	742.5	29.40	746.9	99.6	37.6	39	E	2.6	1.2			6	E	E	0	0	D. clouds	
Hazaribagh	27.48	698.0	29.41	747.0	93.0	33.9	41	SE	10.9	4.9			8			0	0		
Cuttack	29.44	747.8	29.52	749.8	89.1	31.7		SSW	5.0	2.2			2			0	0	D. clouds	
Calcutta (Alipore)	29.50	749.2	29.52	749.7	89.2	31.8	62	S	7.0	3.1			3	S		0	0	D. clouds	
Goalpara	29.17	741.0	29.56	750.8	78.8	26.0	87	NE	2.4	1.1			2			0.14	3.6	D. clouds	
Chittagong	29.55	750.6	29.64	752.9	82.1	27.8	85	E	5.9	2.6			9			0	0	Gloomy	
Sibsagar	29.28	743.6	29.61	752.1	79.1	26.2	91	NE	1.9	0.8			10	SW	SW	1.20	30.5	Gloomy	
Jubbulpore	28.11	713.9	29.43	747.4	90.7	32.6	46	S	5.7	2.6			10		W	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.6	29.99	761.8	70.0	21.1	58	SW	2.5	1.1			8			0.012	0.3		Prof. Giovanni Clodig.
Milan	29.41	747.1	29.93	760.1	64.9	18.3	76	E			4		10	E		0.185	4.7		Prof. Schiaparelli.
Padua	29.87	758.8	29.98	761.5	68.9	20.5	59	E	9.4	4.2			5			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.7	29.91	759.6	52.2	11.2	96	N	4.9	2.2			10	SE		2.098	53.3		Prof. P. F. Denza.
Genoa	29.78	756.3	29.97	761.1	63.0	17.2	78	SE	11.9	5.3			10	S		0.016	0.4		Prof. G. M. Garibaldi.
Mondovi	27.97	710.5	29.87	758.6	57.2	14.0	84	W			6		10			0	0		Prof. D. C. Bruno.
Pesaro	29.91	759.8	29.96	761.0	68.9	20.5	65	E	13.0	5.8			5	SW		0	0		Prof. Luigi Guidi.
Florence	29.73	755.1	29.98	761.6	74.3	23.5	46	W			2		8			0	0		Cav. F. Meucci.
Leghorn	29.89	759.1	29.97	761.2	68.2	20.1	60	S			4		9			0	0		Prof. P. Monte.
Rome	29.85	758.2	30.02	762.6	67.3	19.6	71	W	5.6	2.5			10			0.020	0.5		Prof. P. S. Ferrari.
Lecce	29.81	757.2	30.06	763.6	70.0	21.1	48	ESE	2.5	1.1			4			0	0		Prof. C. De Giorgi.
Cosenza	29.14	740.1	30.00	762.1	74.5	23.6	70	N	0.7	0.3			5			0	0		Prof. D. Conti.
Cagliari	29.69	754.2	29.88	759.0	73.4	23.0	45	SE			2		10	W		0	0		Prof. A. Pacinotti.
Palermo	29.76	755.8	30.00	762.1	67.8	19.6	54	ENE	3.1	1.4			10			0	0		Prof. G. Cacciatore.
Syracuse	30.01	762.2	30.08	764.0	70.5	21.5	51	SE	4.9	2.2			6	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.3	30.10	764.4	68.0	20.0	65	SSW	1.8	0.6			8			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	70.1	21.2	86	SW	1.6	0.7			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.09	754.1	29.89	759.2	76.9	24.9	76	S	16.5	7.4			1s			0.040	1.02	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.98	761.5	30.05	763.3	68.2	20.1	81	S	10.7	4.8			0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.05	636.3	30.07	763.7	57.2	14.0	39	Calm			0	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.45	620.9	30.04	763.1	65.8	18.8	71	SW			1	1c	1k			0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.11	764.9	51.8	11.0	56	Calm	0	0		4ck	0			0	0	Very hazy	The Staff.
Pabellon (Aguascalientes)					64.4	18.0	53	Calm			0	2cs	0			0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.84	757.8	29.85	758.1	76.3	24.6	83	S			3	6	3	NW	S	0	0	Threatening	M. M. Chazaro.
San Luis Potosi	24.21	615.0	30.10	764.5	63.9	17.7	71	E			2	6	0	W		0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.56	572.9	30.08	764.1	60.6	15.9	28	NE			3	0	1s		Calm	0	0	Light haze	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.8	30.14	765.6	57.2	14.0	26	N	8.0	3.6		0	0			Inap.	Inap	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.33	719.5	29.95	760.7	78.1	25.6	62	NE			1	0	2			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.74	755.4	30.03	762.7	75.0	23.9	95	Calm			0	1	7	SE	SE	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,111.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.20	767.0	30.20	767.0	58.3	14.6		NW								0.043	1.1		
Groninger	30.07	763.7	30.12	765.1	61.7	16.5		NW			1					0.043	1.1		
Helder	30.15	765.9	30.15	765.9	48.4	9.1		WNW			2					0	0		
Hellevoetsluis	30.17	766.3	30.17	766.3	57.7	14.3	78	WNW			2					0.059	1.5		
Utrecht	30.11	764.7	30.15	765.9	62.6	17.0	71	N			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.88	759.0	29.94	760.4	50.0	10.0	79	S	20.1	9.0			10			1.378	35.0	Raining	
Brōno	29.74	755.4	29.78	756.4	59.0	15.0	54	ESE	27	12			9			0.622	15.8		
Christiania	29.89	759.2	30.04	762.9	61.0	16.1	52	SSW	4	2			10			0	0		
Tromsō	29.83	757.6	29.87	758.7	51.8	11.0	47	NE	9	4			1			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.41	772.5	30.61	777.4	63.3	17.4	63	ENE	11.2	5.0			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.04	737.5	30.03	762.7	77.2	25.1	34	NNE	6.9	3.1			4	NNE		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.5	30.19	766 7	68.0	20.0	65	SW	1.8	0.8			9			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	755.0	30.08	763.9	75.0	23.9	38	NE	9.8	4.4			2			0	0		The Staff.
Ponta Delgada (Azores)	30.48	774.2	30.55	776.0	63.0	17.2	63	ENE	15.5	6.9			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 10° 19′, W. 19° 13′			29.91	759.6	79.7	26.5		SE			2		7		SW	3	S	Gloomy	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.8	80.4	26.9		NW			2		1		WNW	1	NW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. In Rio Geba, Senegambia			29.92	759.9	83.8	28.8		E			1		6		E	1	E	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Hong-Kong, China			29.88	759.0	86.4	30.2		S			3		8		S	0		D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.57	751.0	29.98	761.4	67.1	19.5	61	ENE	13	6			9n					Raining	Astronomical Obs.
Wilna	29.60	751.9	30.00	762.1	71.8	22.1	43	NNW	7	3			5						Astronomical Obs.
Dorpat	29.94	760.4	30.18	766.6	56.7	13.7	63	NE	11	5			10k						Prof. Dr. Weihrauch.
St. Petersburg	30.22	767.5	30.23	767.9	46.6	8.1	61	NE	11	5			9ks					Light clouds	Central Physical Obs.
Kieff	29.21	742.0	29.82	757.5	70.2	21.2	63	WSW	9	4			6k;ks;c						Physical Cabinet.
Nikolaiev	29.79	756.7	29.86	758.5	81 9	27.7	46	W	4	2			7ks						Kurdakof.
Kertch	29.84	757.9	29.86	758.4	77.0	25.0	70	N	2	1			0						Lagorio.
Moscow	29.58	751.4	30.12	765.1	62.1	16.7	54	NW	4	2			5ks						Meteorological Obs.
Lugan	29.61	752.1	29.80	757.0	86.0	30.0	30	ESE	18	8			4					Light clouds	Meteorological Obs.
Archangel	30.29	769.3	30.31	769.8	43.0	6.1	69	WNW	9	4			0						Capt. Sseliwerstow.
Tiflis	28.53	724.7	29.87	758.6	81.9	27.7	32	S	4	2			10						Physical Observatory.
Astrakhan	30.10	764.4	30.01	762.3	78.6	25.9	24	ESE	7	3			0						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.82	757.5	30.09	764.2	63.0	17.2	55	N	4	2			3						Physical Cabinet.
Ekaterinburg	29.15	740 4	30.14	765.6	37.2	2.9	91	N	2	1			10						Meteorological Obs.
Nukuss	29.64	752.9	29.86	758.5	84.0	28.9	35	NNE	22	10									
Tashkend	28.28	718.4	29.78	756.4	76.5	24.7	51	SSW	16	7			10						Teich, A. M.
Barnaul	29.12	739.6	29.61	752.0	56.3	13.5	86	SW	9	4			10					Raining	Meteorological Obs.
Yeniseisk	29.15	740.4	29.44	747.8	38.8	3.8	92	E	7	3			10					Raining	Marks.
Irkutsk																			
Peking (China)	29.47	748.4	29.61	752.0	72.9	22.7	31	NW	20	9			6k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.70	754.4	29.80	756.9	45.7	7.6	88	SE	22	10			6k						
Nikolaievsk, on the Amoor	30.02	762.4	30.10	764.6	39.4	4.1	80	Calm	0	0			10n						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.84	757.9	29.95	760.6	67.5	19.7	57	SSE	4.2	1.89			3cs			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.3	30.26	768.7	60.1	15.6	67	NW	3.1	1.37		0	10			0.008	0.2	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	691.0			57.6	14.2	49	NE	15.2	6.79		0	2			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.82	706.6			74.1	23.4	31	NE	12.0	5.34		8	1	NE		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29 84	758.0	29.99	761.8	68.9	20.5	68	SW	2.0	0.89		4	5	NE		0.015	0.39	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.29	743.9	30.17	766.4	64.4	18.0	45	NE	28.0	12.5		0	3			0	0	Light clouds	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.92	760.0	29.99	761.7	75.1	23.9	86	E	10.5	4.7			10n			0.091	2.3	Raining	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.7	29.83	757.1	86.2	30.1	70	E	5.2	2.3			1cs	E		0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29 96	760.9	30.06	763.4	66.6	19.2	79	ESE	6.6	3.0		0	10		NW	0.001	0.002	Light rain	Capt. C. Puizazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.84	757.8	29.93	760.1	79.9	26.6	80	SE	0	0		3s	2k			0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	30.19	766.7	30.23	767.7	49.3	9.6	.....	S	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	30.15	765.7	30.20	767.0	54.7	12.6	44	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.12	765.1	30.17	766.4	51.8	11.0	59	SSW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	29.96	761.0	30.14	765.5	60.3	15.7	44	ESE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	30.04	763.1	30.10	764.6	51.4	10.8	72	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.04	763.1	30.12	765.0	63.1	17.3	31	S	12.5	5.6	.....	.....	1	.....	NNW	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Geneva	28.67	728.1	30.11	764.9	47.1	8.4	67	NE	.....	.....	3	.....	10	.....	.....	0.835	21.2	Covered	The Observatory.
Zurich	28.48	723.3	30.14	765.5	46.9	8.3	81	NW	.....	.....	2	.....	10	.....	.....	0.020	0.5	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm.; Thermometer,—9.4 Cent.; Relative Humidity, +11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Constantinople	.....	.....	29.92	760.0	66.4	19.1	63	NNE	13	6.0	.....	.....	7	.....	NNE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	96.8	36.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.12	765.1	67.6	19.8	.....	W	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.76	755.9	29.88	758.9	79.0	26.1	69	W	.....	.....	2	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.00	762.0	30.31	769.9	59	15.0	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.20	767.1	30.26	768.6	46	7.8	54	NE	12	5.4	.....	10ck	0	S	.....	0	0	Fair	G. A. Blain.
Charlottetown, P. E. Island	30.08	764.0	30.12	765.0	42	5.6	84	N	20	8.9	.....	.....	10n	.....	NE	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.09	764.3	30.28	769.1	48.2	9.0	69	S	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	30.10	764.5	30.27	768.8	46	7.8	87	W	.....	.....	2	2cs	0	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	30.05	763.3	30.10	764.5	51.3	10.7	86	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.28	769.1	30.30	769.6	42	5.6	83	SW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.19	766.8	30.26	768.6	45.1	7.3	45	NE	18	8.0	.....	9cs	.....	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	29.04	737.6	29.85	758.2	56	13.3	93	W	4	1.8	.....	5k	5ks	W	W	0.040	1.02	Cloudy	James Stewart.
Granton, Ontario	29.14	740.1	30.23	767.8	58	14.4	.....	E	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.86	758.4	30.60	762.0	43	6.1	81	NE	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.96	761.0	30.34	770.6	48.7	9.3	73	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.01	762.2	30.34	770.6	50	10.0	69	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.95	760.7	29.99	761.7	40.2	4.6	98	E	8	3.6	.....	.....	10n	.....	.....	0.93	23.6	Raining	C. H. Rigby.
*Montreal, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Parry Sound, Ontario	30.11	764.8	30.31	769.9	53	11.7	47	S	1	0.4	.....	0	Sm'e	.....	.....	0	0	Clear	C. H. McLeod, C. E.
Peterboro, Ontario	29.58	751.3	30.27	768.8	57	13.9	55	S	11	4.9	.....	2ck	0	NE	.....	0	0	Fair	Rev. R. Mosly.
Port Dover, Ontario	29.56	750.8	30.31	769.9	59.0	15.0	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Hastings, N. S	29.60	751.8	30.29	769.4	51	10.6	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.92	760.0	29.97	761.2	40.5	4.7	.....	N	15	6.7	.....	.....	.....	.....	.....	6	0	Cloudy	Peter Grant.
*Quebec, Quebec	29.63	752.6	30.27	768.8	57	13.9	69	E	10	4.5	.....	.....	0	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	30.00	762.0	30.32	770.1	55	12.8	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
St. Andrews, N. B	29.82	757.4	30.28	769.1	50	10.0	65	E	4	1.8	.....	.....	0	.....	.....	0	0	Smoky	W. H. McIntyre.
St. John, N. B	30.13	765.3	30.19	766.8	43	6.1	51	NE	.....	.....	3	Haze	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	30.02	762.5	30.18	766.6	41	5.0	65	N	14	6.3	.....	9ks	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
Stayner, Ontario	29.51	749.5	30.22	767.6	58	14.4	39	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	29.45	748.0	30.22	767.6	57	13.9	36	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
*Sydney, C. B	28.94	735.1	30.17	766.3	50.4	10.2	63	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.99	761.7	30.03	762.7	40	4.4	98	N	11	4.9	.....	.....	10n	.....	.....	0.75	19.1	Heavy rain	T. C. Hill.
Windsor, N. S	29.97	761.2	30.07	763.8	41.5	5.3	96	N	21	9.4	.....	2cs	0	Calm	.....	0	0	Clear	Magnetic Observatory.
Sub-Series.																			
St. Johns, Newfoundland	30.21	767.3	30.46	773.7	43.0	6.1	100	E	.....	.....	.....	Fog	Fog	.....	.....	0	0	Misty	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.22	5.6	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.13	765.3	30.36	771.1	50	10.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.49	749.0	30.14	765.5	56	13.3	51	S	13	5.8	.....	0	Haze	.....	.....	0	0	Clear	
Atlanta, Georgia	29.20	741.7	30.34	770.6	63	17.2	61	E	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	30.40	772.1	30.41	772.4	55	12.8	62	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.22	767.6	30.40	772.1	64	17.8	57	NE	8	8.6	.....	0	0	.....	.....	0	0	Clear	
Baltimore, Maryland	30.34	770.6	30.39	771.9	54	12.2	67	E	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.35	770.9	30.37	771.4	58	14.4	58	W	8	3.6	.....	2c	0	.....	Calm	0	0	Clear	
Bismarck, Dakota	28.17	715.5	30.02	762.5	57	13.9	81	Calm	0	0	.....	0	0	.....	.....	0.26	6.6	Clear	
Boerne, Texas	28.63	727.2	29.90	759.4	72	22.2	90	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.21	691.1	30.17	766.3	48	8.9	85	S	1	0.4	.....	.....	10s	.....	W	0.18	4.6	Cloudy	
Boston, Massachusetts	30.11	764.8	30.27	768.8	52	11.1	47	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	28.93	734.8	29.92	760.0	78	25.6	73	SE	4	1.8	.....	0	8ks	.....	SE	0	0	Fair	
Breckenridge, Minnesota	28.89	733.8	29.86	758.4	58	14.4	88	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.94	760.5	29.98	761.5	77	25.0	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.58	751.3	30.29	769.4	54	12.2	43	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Burkes, Arizona	.....	.....	.....	.....	66	18.9	28	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.04	763.0	30.34	770.6	44	6.7	76	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Cairo, Illinois	29.82	757.4	30.20	767.1	76	24.4	73	S	8	3.6	.....	2ck	Sm'e	Calm	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.21	640.3	30.01	762.2	63	17.2	15	NE	8	3.6	.....	5k	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	.....	.....	.....	.....	49	9.4	37	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	28	— 2.2	66	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	57	13.9	58	NE	20	8.9	.....	0	1ks	.....	NE	0	0	Clear	
Cape Henry, Virginia	30.41	772.4	30.43	772.9	56	13.3	51	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	60	15.6	34	NE	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.33	770.4	30.36	771.1	54	12.2	67	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.29	744.0	29.97	761.2	77	25.0	73	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Charleston, South Carolina	30.31	769.9	30.36	771.1	62	16.7	72	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	44	6.7	52	Calm	0	0	.....	8cs	0	SW	.....	0	0	Cloudy	
Chicago, Illinois	29.41	747.0	30.09	764.3	63	17.2	67	S	12	5.4	.....	2cs	0	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.61	752.1	30.26	768.6	61	16.1	50	E	3	1.3	.....	8k	0	W	.....	0	0	Cloudy	
Cleveland, Ohio	29.51	749.5	30.24	768.1	56	13.3	40	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.24	717.3	29.24	742.7	72	22.2	71	SE	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.41	747.0	30.24	768.1	60	15.6	49	SE	6	2.7	.....	2ck	Haze	S	Calm	0	0	Fair	
Concho, Texas	28.09	713.5	29.71	754.6	71	21.7	58	S	15	6.7	.....	5cs	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.60	751.8	30.06	763.5	70	21.1	90	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.44	747.8	30.06	763.5	65	18.3	58	S	2	0.9	.....	10cs	0	W	.....	0	0	Cloudy	
Deadwood, Dakota	25.44	646.2	.....	.....	42	5.6	83	Calm	0	0	.....	5cs	0	Calm	.....	0.03	0.8	Fair	
Decatur, Texas	28.85	732.8	29.97	761.2	74	23.3	81	S	12	5.4	.....	.....	8s	.....	S	0	0	Cloudy	
Denison, Texas	29.23	742.4	29.99	761.7	74	23.3	72	S	7	3.1	.....	0	5ks	.....	S	0	0	Fair	
Denver, Colorado	24.83	630.7	30.05	763.3	48	8.9	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Detroit, Michigan	29.54	750.3	30.20	767.1	58	14.4	58	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.31	693.7	29.46	748.3	73	22.8	55	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.06	763.5	62	16.7	77	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.15	740.4	29.82	757.4	50	10.0	79	NE	2	0.9	.....	5c	5s	NW	Calm	Inap.	Inap.	Cloudy	
Eagle Pass, Texa	29.51	744.5	30.01	762.2	77	25.0	73	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.12	765.0	30.19	766.8	42	5.6	54	N	17	7.6	.....	5c	5s	NE	NE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	86	NE	.....	.....	4	.....	8s	.....	E	0	0	Cloudy	
El Paso, Texas	26.23	666.2	.....	.....	58	14.4	57	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.56	750.8	30.27	768.8	59	15.0	48	S	8	3.6	.....	2c	Haze	Calm	Calm	0	0	Fair	
Escanaba, Michigan	29.32	744.7	29.96	761.0	55	12.8	62	S	15	6.7	.....	8ck	0	SW	.....	0	0	Cloudy	
Florence, Arizona	28.41	722.4	30.04	763.0	68	20.0	18	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.90	708.6	.....	.....	51	10.6	86	SW	7	3.1	.....	0	0	.....	.....	0.02	0.5	Clear	
Fort Craig, New Mexico	25.48	647.2	29.55	750.6	56	13.3	39	Calm	0	0	.....	.....	8s	.....	Calm	0	0	Cloudy	
Fort Davis, Texas	25.25	641.3	30.21	767.3	71	21.7	45	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.48	748.8	29.99	761.7	78	25.6	65	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.74	730.0	29.96	761.0	77	25.0	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.46	697.5	.....	.....	50	10.0	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.65	753.1	70	21.1	75	S	12	5.4	.....	5ck	2s	S	Calm	0	0	Fair	
Fort St. Michael, Alaska	30.07	763.8	30.10	764.5	26	— 3.3	100	S	5	2.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort Sill, Indian Territory	28.77	730.7	29.82	757.4	76	24.4	60	S	10	4.5	.....	5k	0	Calm	.....	0	0	Fair	
Fort Stevenson, Dakota	28.12	714.2	.....	.....	53	11.7	79	SW	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Fredericksburg, Texas	28.35	720.1	29.87	758.7	69	20.6	56	S	2	0.9	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.05	763.3	30.09	764.3	79	26.1	74	SE	10	4.5	.....	1ck	5ks	Calm	S	0	0	Fair	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.46	748.3	30.09	764.3	68	20.0	34	SW	15	6.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Indianapolis, Indiana	29.34	745.2	30.10	764.5	68	20.0	42	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.07	763.8	30.10	764.5	78	25.6	86	SE	10	4.5	.....	2c	8ks	Calm	SE	0	0	Cloudy	
Jacksboro, Texas	28.89	733.8	29.97	761.2	74	23.3	63	S	18	8.0	.....	5ck	2n	S	S	0	0	Cloudy	
Jacksonville, Florida	30.25	768.3	30.27	768.8	73	22.8	55	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.40	746.8	30.00	762.0	64	17.8	73	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	29.99	761.7	30.03	762.7	75	23.9	86	NE	16	7.2	.....	5k	0	NE	.....	1.08	27.4	Fair	
Kittyhawk, North Carolina	30.39	771.9	30.42	772.6	56	13.3	63	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.34	745.2	30.34	770.6	66	18.9	59	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.22	742.2	29.93	760.2	68	20.0	70	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	52	11.1	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.63	752.6	29.96	761.0	80	26.7	66	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.07	738.4	29.87	758.7	72	22.2	80	S	12	5.4	.....	8cs	0	SW	.....	0.03	0.8	Cloudy	
Los Angeles, California	29.67	753.6	30.02	762.5	47.0	8.3	74	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.67	753.6	30.22	767.6	67	19.4	46	SE	3	1.3	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.71	754.6	30.40	772.4	59	15.0	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.02	737.1	29.97	761.2	64	17.8	53	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Marquette, Michigan	29.18	741.2	29.86	758.4	57	13.9	58	S	8	3.6	.....	5k	0	SE	.....	Inap.	Inap.	Fair	
Mason, Texas	28.43	722.1	30.14	765.5	71	21.7	80	SE	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Memphis, Tennessee	29.88	758.9	30.21	767.3	74	23.3	68	SE	8	3.6	.....	8ck	0	Calm	.....	0	0	Fair	
Milwaukee, Wisconsin	29.30	744.2	30.01	762.2	62	16.7	46	SW	21	9.4	.....	10ck	0	SW	.....	0	0	Cloudy	
Mobile, Alabama	30.22	767.6	30.27	768.8	71	21.7	71	E	11	4.9	.....	.....	10s	.....	SE	0.68	17.3	Cloudy	
Montgomery, Alabama	30.09	764.3	30.32	770.1	70	21.1	52	SE	8	3.1	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia*	29.31	744.5	30.32	770.1	52	11.1	66	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.92	607.6	30.28	769.1	25	— 3.9	75	N	16	7.2	.....	0	2s	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.75	755.6	30.27	768.8	76	24.4	49	Calm	0	0	.....	2cs	0	W	.....	0	0	Fair	
New Haven, Connecticut	30.21	767.3	30.33	770.4	58	14.4	53	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.30	769.6	30.34	770.6	55	12.8	45	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	78	25.6	73	E	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair	
Newport, Rhode Island	30.26	768.6	30.30	769.6	53.5	11.9	42	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.18	766.6	30.36	771.1	51	10.6	65	NW	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.38	771.6	30.44	773.2	60	15.6	55	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.99	685.5	29.45	748.0	64	17.8	83	NE	32	14.3		0	2s		NE	0	0	Clear	
Olympia, Washington Ter.	30.14	765.5	30.18	766.6	50.0	10.0	93	Calm	0	0			10s		Calm	0.01	0.3	Cloudy	
Omaha, Nebraska	28.76	730.5	29.81	757.2	68	20.0	84	SE	9	4.0			10s		S	0.37	9.4	Cloudy	
Oswego, New York	30.02	762.5	30.35	770.9	47	8.3	77	SE	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	29.03	737.3	29.84	757.9	54	12.2	100	Calm	0	0		0	Fog			0.53	13.5	Clear	
Philadelphia, Pa	30.32	770.1	30.38	771.6	53	11.7	73	SW	12	5.4		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28.76	730.5	30.55	776.0	57	13.9	25	NE	1	0.4		2c	0	W		0	0	Fair	
Pike's Peak, Colorado	17.88	454.1	30.08	764.0	25	— 3.9	26	SW	34	15.2		0	0			0	0	Clear	
Pioche, Nevada					44	6.7	23	NW	2	0.9			10s		Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.49	749.0	30.31	769.9	51	10.6	59	E	4	1.8		5ck	Sm'e	Calm	Calm	0	0	Fair	
Port Huron, Michigan	29.54	750.3	30.20	767.1	58	14.4	42	S	12	5.4		0	0			0	0	Clear	
Portland, Maine	30.20	767.1	30.24	768.1	52	11.1	47	N	16	7.2		0	0			0	0	Clear	
Portland, Oregon	30.14	765.5	30.22	767.6	52.0	11.1	90	N	1	0.4			10s		S	0.07	1.8	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	45	7.2	18	SW	1	0.4		0	0			0	0	Clear	
Pilot Point, Texas	29.26	743.2	30.06	763.5	72	22.2	75	SE	2	0.9		8ck	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.09	764.3	30.11	764.8	73	22.8	63	NE	22	9.8		2ck	0	NE		Inap.	Inap.	Clear	
Red Bluff, California	29.74	755.4	30.10	764.5	54	12.2	83	N	3	1.3		0	0			0	0	Clear	
Rio Grande City, Texas	29.86	758.4	30.07	763.8	76	24.4	82	NE	5	2.2		5c	0	Calm		0	0	Fair	
Rochester, New York	29.68	753.9	30.31	769.9	59	10.0	52	SW	4	1.8		0	0			0	0	Clear	
Roseburg, Oregon	29.65	753.1	30.23	767.8	48.5	9.2	96	NW	2	0.9			10s		Calm	0	0	Cloudy	
Sacramento, California	30.02	762.5	30.11	764.8	52	11.1	86	S	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.53	750.0	30.09	764.3	67	19.4	74	S	6	2.7		1k	0	W		0	0	Clear	
St. Marks, Florida	30.25	768.3	30.27	768.8	66	18.9	64	NE	13	5.8		0	0			0	0	Clear	
St. Paul, Minnesota	29.02	737.1	29.81	757.2	66	18.9	73	SW	2	0.9			10ks		SW	0.19	4.8	Cloudy	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	50	10.0	32	N	7	3.1		0	0			0	0	Clear	
San Antonio, Texas	29.39	746.5	29.95	760.7	77	25.0	77	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.97	761.2	30.05	763.3	48	8.9	93	NE	4	1.8		0	0			0	0	Clear	
Sandusky, Ohio	29.56	750.8	30.22	767.6	59	15.0	48	S	12	5.4		0	Sm'e		Calm	0	0	Clear	
Sandy Hook, New Jersey	30.33	770.4	30.36	771.1	58	14.4	58	SW	11	4.9		0	0			0	0	Clear	
San Francisco, California	30.06	763.5	30.13	765.3	52	11.1	86	W	8	3.6		0	0			0	0	Clear	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	55	12.8	17	E	4	1.8		2ck	5s	SW	SW	0	0	Cloudy	
Savannah, Georgia	30.26	768.6	30.35	770.9	69	20.6	61	NE	12	5.4		Haze	0	Calm		0	0	Clear	
Shreveport, Louisiana	29.94	760.5	30.15	765.8	76	24.4	77	SE	4	1.8		5ck	2ks	S	S	0	0	Fair	
Silver City, New Mexico	24.30	617.2	30.52	775.2	46	7.8	26	Calm	0	0		2c	0	Calm		0	0	Fair	
Smithville, North Carolina	30.37	771.4	30.40	772.1	60	15.6	60	N	12	5.4		0	0			0	0	Clear	
Springfield, Massachusetts	30.19	766.8	30.33	770.4	52	11.1	60	SW	2	0.9		0	Haze			0	0	Hazy	
Stockton, Texas	26.94	684.3	29.94	760.5	68	20.0	18	SE	8	3.6		2c	0	S		0.01	0.3	Fair	
Thatcher's Island, Mass	30.22	767.6	30.27	768.8	51	10.6	79	N	14	6.3		0	Haze			0	0	Clear	
Toledo, Ohio	29.52	749.8	30.20	767.1	62	16.7	46	S	4	1.8		0	0			0	0	Clear	
Tucson, Arizona	27.51	698.7	30.06	763.5	57	13.9	30	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.78	756.4	30.28	769.1	52.0	11.1	86	Calm	0	0			10n		W	0.12	3.0	Light rain	
Uvalde, Texas	29.17	740.9	29.96	761.0	74	23.3	76	S	4	1.8		0	0			0	0	Clear	
Vicksburg, Mississippi	29.98	761.5	30.24	768.1	71	21.7	80	SE	6	2.7		1c	0	Calm		1.42	36.1	Clear	
Virginia City, Montana	24.28	616.7	29.76	755.9	38	3.3	66	SE	4	1.8		0	0			0.09	2.3	Clear	
Visalia, California	29.72	754.9	30.10	764.5	49	9.4	78	Calm	0	0		0	0			0	0	Clear	
Washington, D. C	30.29	769.4	30.39	771.9	57	13.9	69	S	5	2.2		0	0			0	0	Clear	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.31	769.9	30.40	772.1	57	13.9	41	NE	8	3.6		0	0			0	0	Clear	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	37	2.8	81	E	3	1.3		1k	0	Calm		0	0	Clear	
Wood's Holl, Mass	30.24	768.1	29.28	769.1	52	11.1	44	NW	22	9.8		Haze	0			0	0	Clear	
Yankton, Dakota	28.64	727.4	29.87	758.7	68	20.0	79	NE	4	1.8		8k	0	SW		0	0	Cloudy	
Yuma, Arizona	29.78	756.4	29.94	760.5	66	18.9	26	N	4	1.8		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.51	724.1	29.81	757.2	72	22.2	75											Clear	
Havana, Cuba, W. I	29.93	760.2	29.98	761.5	79	26.1	82	E	2.4	1.1			10n		E	0.21	5.3	Light rain	J. B. Gordon.
Kingston, Jamaica, W. I																			Chas. Hasselbrink.
Medellin, Colombia, S. A	25.17	639.3			68.5	20.3	78	Calm			0	4cs	2ks			0	0		James Gall.
Navassa, W. I	29.84	757.9	29.92	760.0	79	26.1	78	E								0.10	2.5	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	83	28.3	83	E			2	2c	6k	E		0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I																			C. J. Hering.
St. Thomas, W. I																			Robert Mason.
York Factory, B. A	30.06	763.5	30.11	764.8	32.0	0.0	94	SE	16	7.2		3k	5s	NE	E	0.30	7.6	Cloudy	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.9 ft. or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches: Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in., Santa Fé, 6.54 in.; Stockton, 3.40 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.16‡	766.1‡			53	11.7	86	SW	8	3.6					SW	0	0			Clear	
Navy Yard, Pensacola, Fla.	30.26‡	768.6‡			72	22.2	76	E	20	8.9			10d			0.76	19.3			Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.98‡	761.5‡			70.5	21.4	87	SW			1		0			0	0			Clear	
Adams, Callao, Peru	29.93‡	760.2‡			63	17.2	100	Calm			0		10							Foggy	
Alaska, Sitka, Alaska	30.07‡	763.8‡			51	10.6	86	Calm			0		10			0	0			Overcast	
Alliance, Tangier, Africa	30.03‡	762.7‡			65	18.3	68	NE			4		10					Light	E	Cloudy	
Colorado, New York, N. Y.	30.37‡	771.4‡			52	11.1	66	SW	1	0.4			2			0	0			Hazy	
Constitution, N. 40° 39′, W. 73° 52′	30.28‡	769.1‡			53	11.7	73	WSW			5		0					Smooth	WNW	Clear	
Despatch, N. 34° 45′, W. 10° 02′	30.01‡	762.2‡			64	17.8	94	N			4		10		Calm	0	0	Long	N	Cloudy	
Enterprise, Havre, France	30.19‡	766.8‡			55	12.8	74	N			3		7		N					D. clouds	
Franklin, Norfolk, Va.	30.41‡	772.4‡			57	13.9	75	NW	7.2	3.2			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.76‡	755.9‡			56	13.3	94	SSE			6		10		SSE	0	0	Mod'ate	S	Cloudy	
Marion, Key West, Fla	30.04‡	763.0‡			77	25.0	100	NE			5		8		N;E			Mod'ate	N;E	Fair	
Michigan, Erie, Pa.					57	13.9	58	S			4		0							Hazy	
Monocacy, Shanghai, China	29.59‡	751.6‡			75	23.9	86	WSW			2–3		5		WSW					Fair	
Monongahela, Yokohama, Japan	30.00‡	762.0‡			73	22.8	81	SSW			1–2		0			0	0			Hazy	
New Hampshire, Port Royal, S. C.	30.32‡	770.1‡			69	20.6	75	ENE	18	8.0			2		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.07‡	763.8‡			61	16.1	88	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.61‡	752.1‡			72	22.2	95	SW			3		8							Cloudy	
Passaic, Washington, D. C.					65	18.3	53	SW			3		0							Clear	
Pensacola, Callao, Peru	29.92‡	760.0‡			62	16.7	94	NW	2	0.9			10			0	0	Smooth	W	Misty	
Portsmouth, N. 32° 00′, W. 80° 24′	30.33‡	770.4‡			67	19.4	64	ENE			6		2		E	0	0	Mod'ate	NE	Clear	
Powhatan, N. 33° 50′, W. 76° 44′	30.32‡	770.1‡			66	18.9	50	NE			5		2		Calm	0	0	Mod'ate	NE	Clear	
Quinnebaug, Jaffa, Syria	29.93‡	760.2‡			73	22.8	90	WNW			2		0							Clear	
Ranger, Amoy, China	29.78‡	756.4‡			83	28.3	83	SSE			2		5		Calm			Smooth		D. clouds	
Richmond, Near mouth of Yangtse-Kiang, China	29.53‡	750.0‡			68	20.0	95	SSE			4		10		SSE	0.1	3.	Mod'ate	SSE	Cloudy	
Rio Bravo, Brownsville, Texas	29.99‡	761.7‡			76	24.4	95	E			1		2		Calm					Fair	
Santee, Annapolis, Md.	30.39‡	771.9‡			57	13.9	63	SW			1		0			0	0			Clear	
Saratoga, Funchal, Madeira	30.19‡	776.8‡			70	21.1	75	WSW			1		2		SE	0	0	Smooth		Blue sky	
St. Louis, League Island, Pa	30.34‡	770.6‡			54	12.2	80	SW	11	4.9			0			0	0			Clear	
Trenton, Marseilles, France	29.96‡	761.0‡			70	21.1	36	NNW			3–5		5		NNW	0.80	20.3	Heavy	S	Hazy	
Tuscarora, N. 15° 40′, W. 96° 24′	29.85‡	758.2‡			80	26.7	78	Calm			0		1		Calm	0	0	Smooth		Hazy	
Vandalia, N. 20° 33′, W. 84° 47′	29.74‡	755.4‡			81	27.2	83	NNE			4		5		NE	0	0	Long	N	Cloudy	
Wabash, Boston, Mass.	30.31‡	769.9‡			50	10.0	100	N			4		0			0	0			Clear	
Wyoming, Leghorn, Italy	30.00‡	762.0‡			64	17.8	89	S			4		2		S			Smooth	S	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S. S. City of Tokio, Capt. Maury, N. 33° 40′, E. 136° 45′		29.91‡	759.7‡	75	23.9		SW			5		3ck		SW	0	Mod'ate	SW	Misty	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†.		30.13‡	765.3‡	59	15.0	70	Calm			0		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. C[illegible]
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 33° 50′, E. 164° 11′		29.77‡	756.1‡				S							SW		Rough	SSW	Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be in error one day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.77‡	756.1‡	84	28.9	83	SW			4		5n			Blank			Squally	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalfe, N. 48° 26′, E. 179° 39′		29.58‡	751.3‡	40	4.4	100	SSE			5		10		SSE		3	E	Raining	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		30.21‡	767.3‡				SW			2		2		SW				Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 33. W. 29° 37'		30.56‡	777.0‡	67	19.4	89	W			6		9		NW	0	Mod'ate	NW	Cloudy	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 24° 17,' W. 82° 50'		30.04‡	763.0‡	79	26.1	82	ENE	16	7.2			5ks		NE	0.36 in. or 9.1 mm	Rough	NE	Cloudy	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax",																			
Schooner Charley Buck, N 36° 43, W. 73 36 ....†.		30.36‡	771.1‡	59	15.0		N			6		0				Heavy; cross		Clear	N. B. Foss.
Schooner Harry and Fred, Mannabo, Porto Rico, W.I.		29.61‡	752.1‡				NE			4		8		NE	3.25 in. or 82 5mm	Rough	SE	Drizzling	Capt. George Gardner.
Schooner Henry Whitney, N. 38° 05', W. 74° 39'....†.		30.36‡	771.1‡	60	15.6		Calm			0		0			0	Large	E	Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

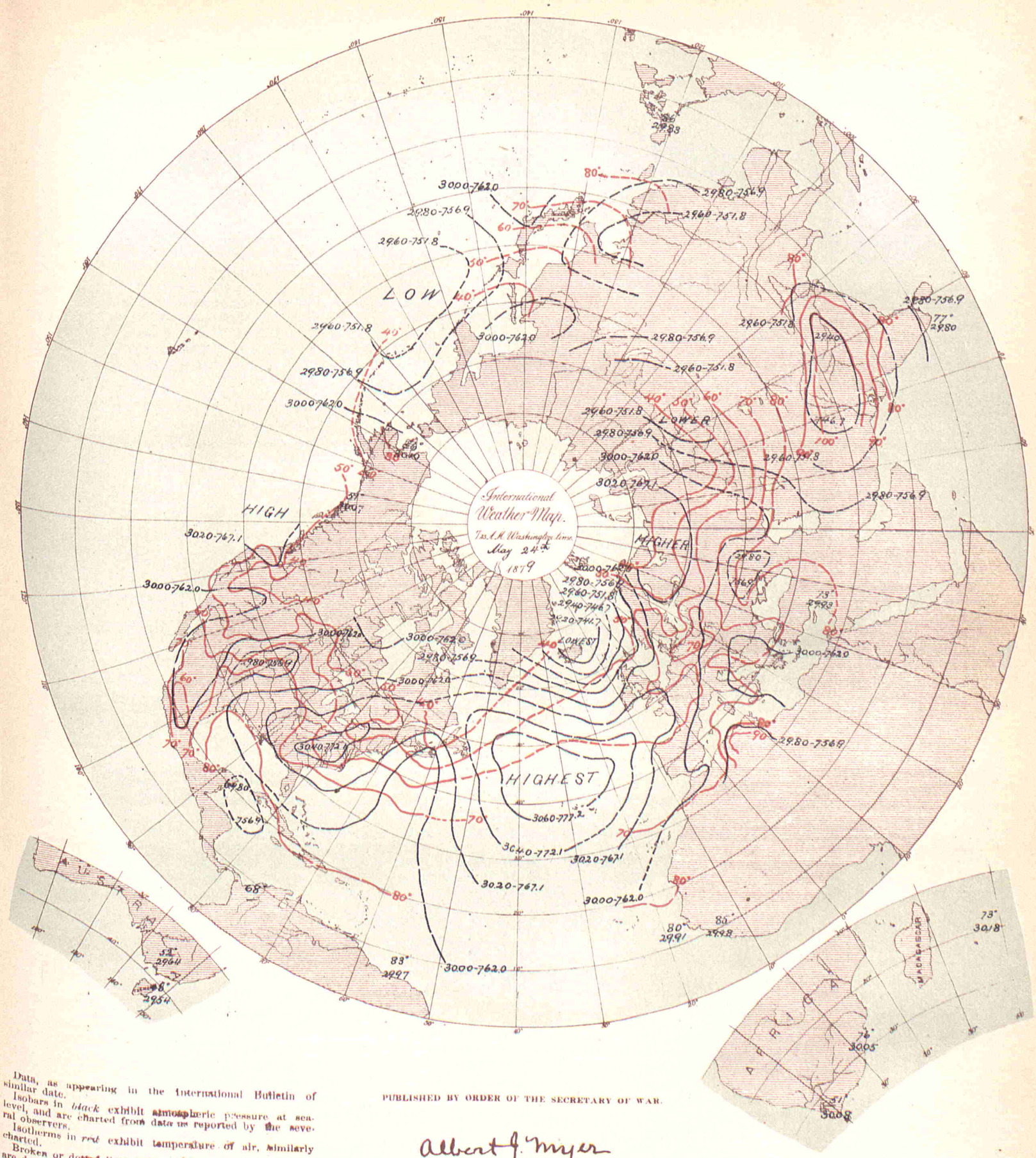
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours																			
Algiers			29.96	761.0	73.8	23.2	58	NNW			3		5			0.03	1.6	Cloudy	Kesxuche.
La Calle			29.87	758.7	62.6	17.0	56	NW			1		10			0.161	4.1	Covered	Tourillere.
Tunis			29.84	757.9	62.1	16.7	80	WNW			5		10			0.472	12.0	Covered	Foufrede.
Sfax																			Jacques.
Saida			29.82	757.5															Gau.
Tebessa			29.95	760.8	64.8	18.2	22	NW			4		8			0	0	Very cloudy	Herbin.
Geriville			29.83	757.6	61.2	16.2	71	W			6		10			0	0	Covered	Watrin.
Laghouat			29.93	760.2	65.1	18.4	50	NW			1		5			0	0	Cloudy	Brugniaux.
Biskra			29.85	758.3	68.4	20.2	55	NW			5		5			0	0	Cloudy	Bertrand.
			29.78	756.4	81.5	27.5	45	NW			5		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.33	744.9	29.85	758.3	74.3	23.5	44	W			4		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.4	29.85	758.1	73.0	22.8	59	NNE			1		9			0.087	2.2		Dr. Wierzbiski.
Eperies	29.00	736.5	29.85	758.3	62.6	17.0	78	S			3		10k		E	0.004	0.10		Julius Mikolik.
Gratz	28.60	726.5	29.80	757.0	69.3	20.7	54	SW			3		5			0	0		Andreas Rospini.
Hermannstadt	28.47	723.2	29.84	758.0	72.0	22.2	47	WSW			3		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.45	722.5	29.72	754.9	73.0	22.8	67	ENE			3		6			0	0		Prof. C. Wagner.
Lemberg	28.85	732.9	29.81	757.2	66.4	19.1	72	NW			2		6			0	0		Dr. T. Stanecki.
Pola	29.61	757.2	29.92	760.0	65.5	18.6	70	SE			3		10			0	0		I.R.Hydrographic Office.
Szathmar	29.48	748.8	29.93	760.2	70.9	21.6	61	W			2		6			0	0		Julius Csics, S. J.
Szegedin	29.71	755.3	30.01	762.2	71.1	21.7	54	E			1		8			0	0		Karl Stancel.
Trieste	29.86	758.4	29.96	761.0	69.8	21.0	70	W			1		7			0	0	Almost cl'dy	P. Busin.
Vienna	29.17	740.8	29.85	758.3	69.1	20.6	63	ESE			2		4			0.020	0.5		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.1 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	29.59	751.6	29.69	754.1	49.0	9.4		S	9	4.0			6						
Ardrossan																0.170	4.32	Showery	W. Boswell.
Armagh, Observatory			29.86	758.4	54.1	12.3		W	12	5.4									William McNeil.
Bidston (Liverpool Obs)			29.92	760.0	51.4	10.8		W	21	9.4			1						S. Call.
Bolton (Sharples)			29.88	758.9	50.2	10.1		W	30	13.4			5					Blue sky	John Hartnup.
Bradford, Yorkshire																		D. clouds	Thomas Mackereth.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	85	29.4		NE			2		3			0.07	1.8		J. McLandsborough.
Cambridge, Observatory	29.78	756.4	29.87	758.7	54	12.2		N			1		7					D. clouds	Pvt. G. Surgener, A.
Cardington			29.85	758.2	56.0	13.3		N			1		10					D. clouds	H. Todd.
Chatham, School M. E.	30.04	763.0	30.17	766.3	51.6	10.9		Calm			0		9					Overcast	John McLaren.
Donaghadee	29.81	757.2	29.85	758.2	54	12.2		WNW			4		4					Raining	J. Carmell, Sapper, R. E.
Dover	29.83	757.7	29.85	758.2	51	10.6		NE			2		10					D. clouds	J. Mac Gowan.
Falmouth, Observatory	29.83	757.7	30.06	763.5	53.7	12.1		NW			4		4					Drizzling	J. Costello.
Fort Napier (Natal)	27.80	706.1	30.09	764.3	74.0	23.3		E			2		0					Gloomy	The Staff.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4		E			1		4					Blue sky	Pvt. G. Salmon, A.H.C.
Galway, Queen's College			29.89	759.2	53	11.7		W			5		9					D. clouds	
Gibraltar (Mediterranean)	29.88	758.9	29.93	760.2	74.1	23.4		W			2		2					Showery	Prof. A. H. Curtis.
Glasgow, Observatory	29.55	750.6	29.76	755.9	48.9	9.4		SW			6		10					Blue sky	Sergt. Wm. Allen, A. H.
Great Yarmouth	29.85	758.2	29.85	758.2	48	8.9		N			1		8					Threatening	D. G. Maclean. [C.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	54.4	12.4		N			1		10					Raining	G. T. Watson.
Guernsey	29.74	755.4	29.96	761.0	56	13.3		NW			3		0					Overcast	The Staff, for G.B.Airy.
Helston	30.03	762.7	30.15	765.8	58	14.4		NW			4		2c			0	0	Blue sky	Dr. S.E.Hoskins, F.R.S.
Holyhead	29.89	759.2	29.92	760.0	53	11.7		SSW			4		4					Fine	M. P. Moyle.
Jersey	29.68	753.9	29.97	761.2	56.0	13.3		NNW			5		2					D. clouds	John Tilston.
Kew, Observatory	29.84	757.9	29.87	758.7	54.3	12.4		NNW	11	4.9			10					D. clouds	J. Fisher.
Leicester, Museum.	29.61	752.1	29.87	758.7	57.3	14.1		N			1		1					Threatening	The Meteorological Of.
Malta, Mediterranean	29.76	755.9	29.83	757.7	67	19.4		SE			5		6ks			0.06	1.5	Blue sky	Wm, J. Harrison, F.G.S.
Nairn	29.57	751.1	29.66	753.4	52	11.1		W			3		0					Blue sky	Sergt. H. J. Beckett, A. H. C.
Nassau (Bahamas)			30.04	763.0	74.8	23.8		NE			3		10					Clear	W. D. Penny.
Nottingham, Observatory	29.68	753.9	29.87	758.7	59.7	15.4		WNW			4		3k;ks		WNW	0.213	5.41	Overcast	C. S. Duncombe.
Oscott, St. Mary's College	29.36	745.7	29.88	758.9	51.0	12.2		WNW			3–4		7					D. clouds	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y			29.88	758.9	55	12.8		NNW			1		10					D. clouds	Rev. Stephen J. Whitty.
Plymouth	29.93	760.2	30.00	762.0	59	15.0		NW			4		1					Overcast	H. E. Bellamy.
Prince Town	28.55	725.2	30.02	762.5	49.2	9.6		N			3		2					Blue sky	John Merrifield.
*Roche's Point	29.98	761.5	30.08	764.0	50	10.0		NW			6		8					Fine	W. H. Tooker.
Saint Ann's Head																		¾ clouded	Wm. Kennedy.
Sandwick Manse (Orkneys)			29.64	752.8	47.8	8.8		SW	14	6.3			0			0	0	Blue sky	John C. Walker.
Scutari, Cemetery (Turkey)	29.83	757.7	29.90	759.4	72.8	22.7		SW			1		1					Blue sky	Rev C.Clouston, L.L.D.
Sheffield	29.60	751.8	29.87	758.7	59.9	15.5		SW			5		2			0.01	0.3	D. clouds	Serg't W. H.Lyne.
Silloth Rectory	29.80	756.9	29.83	757.7	53 4	11.9	60	SW			4		0			0.182	4.62	Blue sky	W. F. Cooper.
Stonyhurst, Observatory	29.48	748.8	29.88	758.9	51.8	11.0		WSW			4		8					D. clouds	Francis Redford, A. M.
Stratfield, Turgiss	29.67	753.6	29.89	759.2	58.9	14.9		N			2		8					D. clouds	Rev. S. J. Perry.
Truro, Royal Institution	30.02	762.5	30.04	763.0	57	13.9		NW			7		5					D. clouds	Rev. C.H.Griffith, F.M.S.
Valencia, Observatory	30.05	763.3	30.07	763.8	52.7	11.5		WNW	23	10.3			6			Blank	Blank	Raining	W. Newcombe.
SUB-SERIES.																		D. clouds	The Meteorological Of.
Cape of Good Hope Obs'y	30.03	762.7	30.07	763.8	63.6	17.6	75	NW	8	3.6		8	9			0.80	20.3	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania).			29.72	754.9	43.0	6.1	94	S			2		10kn			0.01	0.3	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.75	755.6	29.76	755.9	55.0	12.8		W			4		5k			0.03	0.8		Andrew Gibb.
Mauritius, Observatory	30.01	762.2	30.20	767.1	71.8	22.1	63	SE	12.0	5.4		1	2			0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.88	758.9	50.2	10.1	91	W	5	2.2			10			0.08	2.03	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.61	752 1	50	10.0		W			4	0	0			0.3	8.		J. Youngclause.
North Unst (Shetland Is.)			29.53	750.0	46	7.8		SW			6	0	0					Clear	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation: the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier. 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0–9	Direction from—		
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 38° 15′, W. 48° 57′	30.31‡	769.9‡	69.5	20.8
S. S. Amanda.	SSE	5	4	Misty
Barque Belle-Isle				Capt. W. Scott.
Ship British Commodore.				Capt. B. Boyes.
—— City of Agra.				Capt. A. J. Brown.
Barque Commewyne				Capt. J. W. Thorne.
Barque Fedalma, N. 17° 40′, W. 62° 00′	30.02	762.5	82	27.8
Barque Mertole	ENE	5	2	2 ENE Blue sky
S. S. Nizam, N. 11° 20′, E. 75° 07′	29.77‡	756.1‡	79	26.1
S. S. Royal Alexandra, N. 45° 40′, W. 34° 55′	Var.	1	10k	Raining
S. S. Strathleven	30.72	780.3	62	16.7
S. S. Wyberton	WNW	1	10	4 NW Misty

Capt. C. W. Pearson.
Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.16	664.4	29.88	758.9	68.4	20 2	91	NE			1	2c;s				1.2	30.5		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Copenhagen	29.82	757.3	29.86	758.5	67.5	19.7	55	SW			2		1						
Fanöe	29.77	756.1	29.79	756.6	56.7	13.7	82	WSW			2		7						
Godthaab (Greenland)																			
Stykkisholm (Iceland)																			
Thorshavn (Faröe)																			
Vestervig	29.32	744.7	29.36	745.6	47.7	8.7	72	SW			5		9						
	29.57	751.0	29.74	755.3	60.8	16.0	61	SW			4		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Alençon, Normal School	29.42	747.3	29.97	761.3	57.9	14.4	67	SW			1		10			0.031	0.8	Covered	Collignon, Director.
Amiens, Normal School	29.76	756.0	29.87	758.7	63.3	17.4	57	W			3		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School																			Klein, Commandant.
Avignon, Normal School	29.77	756.2	29.85	758.2	57.7	14.3	74	NNW			2		10					Rainy	Giraud, Director.
Bar-sur-Seine	29.37	746.0	29.92	760.0	57.7	14 3	65	NE			1		10			Inap	Inap.	Covered	C. Saillard, Director.
Beauvais, Normal School	29.66	753.4	29.92	760.0	63.0	17.2	53	WSW			2		10		W	0	0	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	29.08	7 8.6	29.97	761.3	55.6	13.1	69	SW			2		8		SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.10	739.2	30.02	762.5	58.1	14.5	67	N			1		5n	N	N	0	0	Cloudy	Marlot, Director.
Bourges, Normal School	29.36	745.7	29.90	759.5	60.1	15.6	75	SE			1		2	S	S	0	0	Slightly cl'dy	A. Waquet, Director.
Brest, Naval Observatory	29.75	755.7	30.00	761.9	55.4	13.0	63	NW			2		6		N	0.069	1.75		De Rermaree, Director.
Carcassonne, Normal School	29.52	749.8	29.93	760.3	56.1	13.4	57	W			2		10	W	W	0	0	Covered	September, Director.
Caen, Normal School	29.85	758.1	29.92	760.0	56.5	13.6	89	W			2		10					Covered	Lair, Director.
Chartres, Normal School	29.36	745.6	29.91	759.6	63.5	17.5	88	SSW			1		10		SE			Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.62	752.4	29.94	760.4	57.7	14.3	76	N			2		10			0	0	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.58	725.9	29.95	760.8	59.2	15.1	52	NE			1		10		NE	0	0		Alluard, Director.
Commercy, Normal School	29.07	738.3	29.93	760.1	55.6	13.1	77	N			1		8kn		N	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.72	729.6	29.87	758.6	54.1	12.3	90	NW			1		10		SE	0.488	12.4	Raining	L. Kina, Director.
Grenoble, Normal School	29.17	740.5	29.91	759.7	59.4	15.2	56	WNW			2		10n			0	0	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.79	756.7	30.01	762.2	56.5	13.6	84	W			1		10			0	0	Covered	Mouillot, Director
Le Mans, Normal School	29.65	753.0	29.95	760.7	58.3	14.6	72	W			1		5	N	NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.0	30.01	762.2	59.9	15.5	68	ENE			2		10n		NE	0	0	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.88	759.0	29.98	761.5	61.9	16.6	67	NNW			2			NW	N	0.012	0.3		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			29.81	757.1	60.8	16.0	88	WNW			1–2		10			0.594	12 80	Rainy	E. Stephan, Director.
Mirecourt, Normal School	28.95	735.3	29.98	761.5	58.6	14.8	74	SE			3		10kn		NW	0.12	3.	Covered	Barbier, Director.
Nismes, Normal School	29.54	750.2	29.74	755.3	57.6	14.2	78	N			2		10n			0.069	1.75	Covered	Boyer, Director.
Privas, Normal School	28.86	733.0	29.92	760.0	57.2	14	67	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	29.01	736.8			41.4	5.2	93	NE			1		10			0.201	5.1	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.96	760.9	29.99	761.7	67.3	19.6	65	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.84	757.9	29.93	760.1	57.2	14.0	67	W			3		10		SW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.92	760.0	29.95	760.7	54.9	12.7	92	NW			4		10	NW	NW	0.102	2.58	Misty	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.75	755.6	29.91	759.8	62.6	17.0	60	SW			2				WSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.96	735.6	30.05	763.2	51.8	11	63	W			4		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.28	743.7	30.00	762.0	56.3	13.5	66	W			3		8			0	0		Mercadier Julier.
Versailles, Observatory	29.42	747.3	29.91	759.8	61.5	16.4	49	WSW			2					0.008	0.20		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S	29.28	743.8	29.99	761.7	59.0	15	89	E			1		10		N	0.331	8.40	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	81.3	27.4										0.55	14.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.31	744.5	29.92	760.0	58.3	14.6	57	NNE			1		10			0	0	Covered	Mr. Jays.
Mont-Louis	24.70	627.4	30.02	762.4	35.2	1.8	74	E	18.6	8.3			10			0.224	5.7	Snowing	M. Cave.
Nice			29.81	757.1	63.7	17.6	72	NNW			1		10			0.276	7.0	Raining	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.63	752.6			61.9	16.6	60	SW			2		10		WSW	0	0		Marié Davy, Director.
Perpignan	29.81	757.2	29.92	759.9	55.0	12.8	62	NW	20.6	9.2			10			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.38	568.4			34.0	1.1		SW			1		10			0.071	1.8	Covered	Gen'l de Nansouty.
Tours	29.75	755.6	29.95	760.6	62.6	17.0	50	W			1		7		W	0.047	1.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.89	759.1	29.91	759.8	66.7	19.3	91	ENE	5.8	2.6			10			0	0	Covered	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–12	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.00	736.7	29.84	758.0	68.2	20.1	62	SW			4		4	SW		0	0		Prof. Dr. Hoh.
Berlin	29.67	753.5	29.83	757.7	75.4	24.1	46	SE			1		4			0	0		Prof. Arndt.
Breslau	29.36	745.8	29.89	759.2	72.7	22.6	49	SE			3		8			0	0		Royal University Obs'y.
Carlsruhe	29.45	748.0	29.87	758.7	59.0	15.0	79	SW			2		10	SW		0	0		Albert Senz.
Cassel	29.24	742.6	29.84	758.0	72.3	22.4	61	SW			2		7	S		0	0		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	62.6	17.0	68	NW			2		9			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.50	749.2	29.86	758.4	64.0	17.8		SW			2		10			0.102	2.6		Physical Society.
Freienwalde on the Oder	29.80	757.0	29.84	758.0	77.7	25.4	43	E			3		6k;cs	E		0	0		Assmann., M. D.
Friedrichshaten	28.47	723.1	29.88	758.9	59.7	15.4	65	WSW			2		10	WNW		0	0		M. Wilhelm.
Hamburg	29.74	755.5	29.81	757.2	66.7	19.3	77	NW			2		10n			0.157	4.0	Thunder-storm.	Captain F. Hegeman.
Kiel	29.80	756.9	29.82	757.3	66.7	19.3	74	WSW			2		10			0.016	0.41		Prof. G. Karsten.
Königsberg (Prussia)	29.87	758.6	29.95	760.6	73.9	23.3	41	NE			3		2			0	0		Prof. E Luther.
Köslin			29.87	758.7	74.8	23.8		E			2		0			0	0		H. Müller.
Leipsic Observatory	29.39	746.5	29.79	756.7	77.2	25.1	50	SSE			2		7	SE		0	0		Prof. Bruhns, Privy Counselor.
Memel	29.94	760.4	29.98	761.6	66.7	19.3	45	NW			3		1cs						Skalweit.
Munich (München)	28.04	712.3	29.9[illegible]	759.4	61.3	16.3	66	W			1		5			0	0	Hazy	Dr. C. Lang.
Neufahrwasser	29.96	760.9	29.97	761.3	58.6	14.8	72	N			2		4			0	0		A. Lothes.
Posen	29.62	752.3	29.89	759.3	75.0	23.9	39	E			5		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.38	746.2	29.92	760.0	59.7	15.4	76	S			2		10	SW		0.014	0.35		Imp. University Observatory.
Stuttgart	28.93	734.8	29.85	758.3	59.5	15.3	73	NW					10			0	0		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.35	720.1	29.82	757.4	62.4	16.9	69	Calm	0	0			7ck		SE	0	0	Foggy	Dr. Van Bebber
Wustrow	29.83	757.6	29.85	758.2	77.7	25.4	45	SE			1		9k			0	0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.3	30.00	761.9	77.2	25.1		SW			2.0							Dust	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.40	746.6	29.44	747.9	109.4	43.0	74	N					4			0	0	D. clouds	
Deesa	29.00	736.5	29.44	747.7	110.2	43.4	15	NNW	9.5	4.2						0	0	Blue sky	
Bombay	29.55	750.6	29.59	751.5	77.1	25.1	98	SSE	23.0	10.3			10		WSW	0.74	18.8	Overcast	
Poona	27.62	701.5	29.60	751.8	80.4	26.9	73	WSW					2		WSW	0	0	D. clouds	
Lanore	28.57	725.7	29.26	743.1	110.3	43.5	12	Calm	2.3	1.0			0			0	0	Blue sky	
Belgaum	27.16	689.9	29.70	754.5	71.9	22.2	85	W	16.0	7.2			7	SW	SW	0.02	0.5	Showery	
Roorkee	28.48	723.2	29.32	744.6	105.1	40.6	15	Calm	2.9	1.3			0			0	0	Misty	
Agra	28.80	731.4	29.32	744.7	110.6	43.7	18	S					0			0	0		
Nagpur	28.48	723.4	29.49	749.1	88.7	31.5	54	NE	7.1	3.2			9		SW	1.10	27.9	Gloomy	
Lucknow	29.02	737.1	29.37	746.1	106.2	41.2	33	S	0.6	0.3			0			0	0	Blue sky	
Allahabad	29.10	739.0	29.39	746.4	105.1	40.6	33	Calm	2.1	0.9			2	W		0	0	D clouds	
Patna	29.24	742.5	29.42	747.2	97.6	36.4	49	E	2.6	1.2			6	E	E	0	0	D. clouds	
Hazaribagh	27.50	698.4	29.46	748.2	85.8	29.9	52	S	7.6	3.4			9			0	0		
Cuttack	29.45	748.0	29.53	750.0	86.9	30.5		WNW	5.0	2.2			6			0.02	0.5	Raining	
Calcutta (Alipore)	29.50	749.3	29.52	749.8	85.9	29.9	72	S	3.0	1.3			5	S		0	0	D. clouds	
Goalpara																			
Chittagong	29.57	751.1	29.66	753.4	80.7	27.1	91	SSW	6.0	2.7			8					Raining	
Sibsagar	29.26	743.1	29.59	751.6	80.2	26.8	86	NE	2.1	0.9			10	W	W	0.13	3.3	Overcast	
Jubbulpore	28.15	715.0	29.48	748.8	86.8	30.4	59	Calm	7.0	3.1			10		W	0.03	0.8	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instr'tal error and temperature. Inches.	Barometer. Corrected for instr'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.55	750.5	29.95	760.7	65.8	18.8	61	SW	2.5	1.1			10			0	0		Prof. Giovanni Clodig.
Milan	29.40	746.8	29.91	759.8	60.3	15.7	79	ENE			2		10			0.748	19.0		Prof. Schiaparelli.
Padua	29.82	757.5	29.93	760.2	64.2	17.9	74	ENE	12.5	5.6			10	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.3	29.93	760.1	55.6	13.1	95	NNE	1.8	0.8			10			1.472	37.4		Prof. P. F. Denza.
Genoa	29.66	753.4	29.85	758.3	61.5	16.4	71	N	13.0	5.8			10	SE		0.205	5.2		Prof. G. M. Garibaldi.
Mondovi	28.02	711.8	29.92	759.9	52.5	11.4	90	W			4		10			0.539	13.7		Prof. D. C. Bruno.
Pesaro	29.84	757.9	29.89	759.1	64.0	17.8	88	E	9.4	4.2			10	E		0	0		Prof. Luigi Guidi.
Florence	29.57	751.1	29.83	757.6	71.6	22.0	49	NE			2		10			0.028	0.7		Cav. F. Meucci.
Leghorn	29.68	753.8	29.76	755.9	70.3	21.3	61	ENE			6		6			0.157	4.0		Prof. P. Monte.
Rome	29.60	751.8	29.77	756.2	77.5	25.3	41	S	13.7	6.1			10			0	0		Prof. P. S. Ferrari
Lecce	29.75	755.6	30.00	762.0	70.9	21.6	41	SW	11.2	5.0			10	SW		0	0		Prof. C. De Giorgi.
Cosenza	28.98	736.2	29.85	758.2	68.4	20.2	71	SE	1.3	0.6			10			0.008	0.2		Prof. D. Conti.
Cagliari	29.49	749.0	29.68	753.8	68.0	20.0	75	E			2		10	SE		0.039	1.0		Prof. A. Pacinotti.
Palermo	29.48	748.7	29.72	755.0	84.0	28.9	32	S	16.1	7.2			10			0	0		Prof. G. Cacciatore.
Syracuse	29.86	758.5	29.93	760.3	68.2	20.1	80	NNE	3.8	1.7			10	SE		0.150	3.8		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.7	29.87	758.8	73.4	23.0	53	WSW	3.8	1.7			5			0.496	12.6		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.87	758.7	69.7	20.9	93	SW	8.0	3.6			3s;cs		SW	0.245	6.22	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.92	759.9	68.9	20.5	93	SW	1.4	0.6			3s			0.930	23.62	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.86	758.4	29.93	760.2	69.3	20.7	89	S	17.1	7.6			10s			0.015	0.38	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.0	30.03	762.8	59.0	15.0	45	E			1	0	0			0	0	Hazy	Prof. L. Perez.
Leon	24.44	620.8	30.09	764.4	61.7	16.5	75	WNW			1	0	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.3	30.14	765.5	51.3	10.7	76	NW	2.7	1.2		0	7k		W	0.19	4.8	Cloudy	The Staff.
Pabellon (Aguascalientes)					60.3	15.7	67	SE			1	0	0			0	0	Very clear	M. V. de Leon, M. E.
Tlacotalpam	29.95	760.8	29.97	761.1	70.0	21.2	95	W			2	8	2	NE	W	4.59	116.6	Rainy	M. M. Chazaro.
San Luis Potosi	24.21	615.0	30.18	766.6	57.9	14.4	76	E			1	1	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.2	30.15	765.9	54.7	12.6	25	NE			2	0	0			0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	49.5	9.7	79	N	0.4	0.2		1	0	Calm		0.024	0.6	Clear	Prof. R. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.33	719.5	29.95	760.7	78.1	25.6	64	NE			1	0	0			0	0	Very clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.74	755.4	29.87	758.7	76.6	24.8	89	SE			1	5	1	SE	SE	0	0	½ clouded	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.7	29.87	758.7	56.8	13.8		W								0	0		
Groningen	29.79	756.6	29.84	758.0	58.1	14.5		WSW			1					0.098	2.5		
Helder	29.82	757.4	29.82	757.4	54.7	12.6		SW			4					0	0		
Hellevoetsluis	29.84	757.9	29.84	757.9	59.5	15.3	65	WNW			3					0	0		
Utrecht	29.82	757.4	29.87	758.6	59.5	15.3	78	SW			2		10			0.016	0.4	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	26.63	752.5	29.68	753.9	46.4	8.0	89	Calm	0	0	.....	.....	10	.....	.....	0.551	14.0	Rain & fog	
Brönö	29.67	753.5	29.71	754.5	56.1	13.4	58	SSW	9	4	.....	.....	4	.....	.....	0.094	2.4	.....	
Christiania	29.64	752.9	29.79	756.6	62.4	16.9	52	SSW	9	4	.....	.....	9	.....	.....	0.335	8.5	.....	
Tromsö	29.64	752.8	29.68	753.9	47.8	8.8	66	SW	25	11	.....	.....	9	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.39	771.8	30.58	776.6	65.7	18.7	77	ENE	17.5	7.8	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.99	761.8	75.2	24.0	29	E	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.11	764.9	30.20	767.1	67.8	19.9	61	SW	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.03	762.8	73.8	23.2	42	N	13.7	6.1	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.46	773.7	30.53	775.5	66.9	19.4	68	NE	19.9	8.9	.....	.....	3	.....	.....	0.016	0.4	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Direction from —		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, N. 8° 26′, W. 17° 35′	.....	.....	29.86	758.5	83.3	28.5	.....	ESE	.....	.....	2	.....	3	.....	SW	2	S	Blue sky	C. C. da Fonseca Ferreira, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando	.....	.....	29.85	758.3	81.3	27.4	.....	NW	.....	.....	2	.....	1	.....	WNW	1	NW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia	.....	.....	29.97	761.2	82.4	28.0	.....	S	.....	.....	3	.....	9	.....	.....	0	.....	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo. Hong-Kong, China	.....	.....	29.89	759.1	86.2	30.1	.....	S	.....	.....	4	.....	0	.....	.....	1	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	748.1	29.86	758.4	73.8	23.2	52	E	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.54	750.3	29.94	760.5	72.7	22.6	39	E	2	1	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.83	757.6	30.06	763.6	68.9	20.5	51	ENE	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.10	764.5	30.11	764.9	58.6	14.8	54	NW	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.6	29.80	757.0	72.7	22.6	47	N	7	3	.....	.....	7c;ks;	ck	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.74	755.5	29.82	757.3	71.1	21.7	76	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.80	756.8	29.82	757.3	68.8	20.5	83	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.53	750.1	30.08	763.9	60.3	15.7	68	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.55	750.5	29.74	755.4	85.8	29.9	30	ESE	22	10	.....	.....	5	.....	.....	.....	Light clouds	.....	Meteorological Obs.
Archangel	30.09	764.3	30.11	764.8	55.6	13.1	54	NNW	2	1	.....	.....	2cs	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.50	724.0	29.84	757.9	82.9	28.3	26	SE	4	2	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.02	762.6	29.94	760.5	82.2	27.9	22	SE	13	6	.....	.....	2c	.....	.....	.....	Light clouds	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.73	755.2	30.00	761.9	60.3	15.7	64	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.20	741.7	30.17	766.2	52.5	11.4	41	SE	4	2	.....	.....	7c	.....	.....	.....	Light clouds	.....	Meteorological Obs.
Nukuss	29.56	750.7	29.78	756.3	88.3	31.3	17	NNE	18	8	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.31	719.2	29.82	757.4	74.1	23.4	50	NNE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.49	749.1	30.00	761.9	44.8	7.1	48	NW	4	2	.....	.....	8	.....	.....	.....	Light clouds	.....	Meteorological Obs.
Yeniseisk	29.61	752.1	29.91	759.7	34.7	1.5	57	W	11	5	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.75	755.6	29.89	759.2	63.7	17.6	29	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.71	754.7	29.81	757.2	47.7	8.7	96	Calm	0	0	.....	.....	5k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.65	753.2	29.74	755.4	39.4	4.1	97	E	20	9	.....	.....	10n	.....	.....	.....	Raining	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.79	756.6	29.89	759.3	63.1	17.3	42	WNW	3.8	1.72	.....	.....	1	.....	.....	0.162	4.12	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.99	761.7	30.04	763.1	57.4	14.1	97	NW	4.9	2.18	.....	0	10	.....	.....	1.154	29.3	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.6	.....	.....	55.4	13.1	61	N	10.6	4.73	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.77	705.0	.....	.....	65.1	18.4	45	SW	6.0	2.67	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.92	760.0	70.0	21.1	58	SSW	3.5	1.56	.....	2	7	SE	.....	0.021	0.52	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.22	742.1	30.11	764.7	60.6	15.9	86	N	13.7	6.1	.....	0	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.89	759.2	29.96	760.9	76.4	24.7	86	ENE	13.0	5.8	.....	3ck	4k	.....	E	0.508	12.9	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.78	756.5	29.83	757.8	85.7	29.8	71	E	5.2	2.3	.....	2cs	0	E	.....	0	0	Fair.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.90	759.5	30.00	762.0	69.6	20.9	63	WSW	7.7	3.4	.....	0	3	.....	S	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.85	758.2	29.94	760.5	79.9	26.6	82	SE	2.2	1.00	.....	2s	0	SE	.....	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.93	760.2	29.97	761.2	44.2	6.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.88	759.0	29.93	760.3	48.2	9.0	68	SW	.....	.....	7	.....	8	.....	.....	0	0	.....	
Hernosand	29.80	756.8	29.85	758.1	52.5	11.4	73	S	.....	.....	4	.....	2	.....	.....	0.146	3.7	.....	
Stockholm	29.79	756.6	29.96	761.1	64.8	18.2	37	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.89	759.3	29.95	760.8	56.1	13.4	62	WNW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.84	757.8	29.91	759.7	70.2	21.2	39	S	20.6	9.2	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.47	723.2	29.89	759.2	57.2	14.0	59	N	.....	.....	3	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.30	718.9	29.94	760.4	55.4	13.0	71	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —2.3 mm.; Thermometer,—3.9 Cent.; Relative Humidity, +3 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.96	761.0	74.1	23.4	55	SW	8	3.5	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.00	762.0	100.4	38.0	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.5	75.6	24.2	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.88	758.9	29.99	761.7	79.9	26.6	56	SW	.....	.....	2	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.52	749.8	29.82	757.4	62	16.7	.....	SE	3	1.3	.....	.....	8s	.....	SE	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B	29.79	756.7	29.85	758.2	49	9.4	71	N	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.75	755.6	29.79	756.7	48	8.9	97	SW	3	1.3	.....	.....	10s	.....	.....	0.100	2.54	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.58	751.3	29.77	756.1	59.2	15.1	66	W	.....	.....	1	4cs	0	NW	.....	Inap.	Inap.	Misty	James Smith, M. A.
Dalhousie, N. B	29.66	753.4	29.82	757.4	49.3	9.6	65	N	.....	.....	1	0	9s	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	52.3	11.3	93	Calm	0	0	.....	10cs	0	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	29.80	756.9	29.82	757.4	43	6.1	84	SW	6	2.7	.....	8cs	0	S	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.80	756.9	29.86	758.4	50.0	10.0	62	NE	4	1.8	.....	.....	10s	.....	.....	Inap.	Inap.	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.44	747.8	30.27	768.8	47	8.3	83	E	11	4.9	.....	.....	10ks	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.82	732.0	29.89	759.2	62	16.7	.....	Calm	.....	.....	0	0	0	.....	.....	0.07	1.8	Gloomy	James Grant.
*Halifax, N. S	29.66	753.4	29.79	756.7	48	8.9	96	Calm	0	0	.....	.....	10n	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.88	758.9	65.7	18.7	80	NW	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.82	757.7	54	12.2	70	S	5	2.2	.....	10ck	0	SW	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.76	755.9	29.80	756.9	55.2	12.9	99	S	10	4.5	.....	.....	10n	.....	.....	0	0	Misty	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.63	752.6	29.83	757.7	60	15.6	59	S	5	2.2	.....	5ck	2ks	NW	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.21	741.9	29.89	759.2	53	11.7	83	W	6	2.7	.....	2cs	Sm'e	W	W	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.08	738.6	29.82	757.4	52.7	11.5	67	W	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.89	759.2	61	16.1	94	SW	4	1.8	.....	10c	0	SW	.....	0.12	3.0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.28	743.7	29.91	759.7	61	16.1	83	W	4	1.8	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	M. Payne.
*Quebec, Quebec	29.54	750.3	29.86	758.4	49	9.4	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.38	746.2	29.83	757.7	51	10.6	86	NW	4	1.8	.....	.....	8s	.....	N	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.79	756.7	29.84	757.9	46	7.8	74	NE	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.70	754.4	29.86	758.4	44	6.7	96	NE	2	0.9	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.94	760.5	49	9.4	84	NW	3	1.3	.....	10cs	0	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.65	727.7	29.98	761.5	61.1	16.2	81	W	8	3.6	.....	.....	10s	.....	.....	0.04	1.0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.80	756.9	29.84	757.9	53	11.7	99	SE	14	6.3	.....	.....	10n	.....	Calm	0.80	20.3	Light rain	T. C. Hill.
*Toronto, Ontario	29.52	749.8	29.96	759.4	59	15.0	75	SW	9	4.0	.....	Haze	0	Calm	.....	Inap.	Inap	Clear	Magnetic Observatory.
Windsor, N. S	29.71	754.6	29.80	756.9	42.5	5.8	92	NW	1	0.4	.....	.....	10n;k	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.08	764.0	30.32	770.1	57.0	13.9	94	S	.....	.....	.....	.....	10n	.....	.....	0.01	0.3	Stormy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 366.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, New York	29.70	754.4	29.92	760.0	61	16.1	50	Calm	0	0		8k	0	N		Inap.	Inap.	Fair	
Alpena, Michigan	29.37	746.0	30.01	762.2	55	12.8	68	N	15	6.7			10s		Calm	0.01	0.3	Cloudy	
Atlanta, Georgia	29.06	738.1	30.17	766.3	70	21.1	61	S	7	3.1		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	59	15.0	88	SW	6	2.7			10s		N	0	0	Cloudy	
Augusta, Georgia	30.03	762.7	30.20	767.1	65	18.3	63	SW	4	1.8		0	Haze		Calm	0	0	Clear	
Baltimore, Maryland	29.94	760.5	29.99	761.7	65	18.3	68	W	8	3.6			10s		W	0	0	Cloudy	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	66	18.9	69	W	9	4.0		8cs	0	N		0	0	Fair	
Bismarck, Dakota	28.26	717.8	30.11	764.8	54	12.2	93	NE	16	7.2			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.60	726.4	29.86	758.4	73	22.8	81	S	6	2.7		5k	0	S		0	0	Cloudy	
Boise City, Idaho	27.25	692.1	30.21	767.3	45	7.2	76	N	2	0.9		0	0			0	0	Clear	
Boston, Massachusetts	29.73	755.1	29.85	758.9	56.5	13.6	49	Calm	0	0		2ck	0	N		0	0	Fair	
Brackettville, Texas	28.91	734.3	29.91	759.7	75	23.9	77	SE	11	4.9			10s		SE	0	0	Cloudy	
Breckenridge, Minnesota	29.00	736.6	29.98	761.5	57	13.9	87	E	17	7.6			10ks		E	0	0	Cloudy	
Brownsville, Texas	29.94	760.5	29.98	761.5	74	23.3	90	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.18	741.2	29.85	758.1	60	15.6	77	SW	3	1.3		8c	Haze	W	Calm	0.01	0.3	Fair	
Burkes, Arizona					67	19.4	Inap.	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.58	751.3	29.86	758.4	57	13.9	52	S	9	4.0		10cs	Haze	NE	Calm	Inap	Inap.	Cloudy	
Cairo, Illinois	29.76	755.9	30.13	765.3	79	26.1	66	SW	8	3.6		5c	0	Calm		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	58	14.4	22	E	4	1.8		2ck	0	Calm		0	0	Clear	
Camp Verde, Arizona					47	8.3	34	NW			1	0	0			0	0	Clear	
Campo, California	27.37	695.2	29.94	760.5	33	0.6	79	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.10	764.5	30.10	764.5	67	19.4	64	W	18	8.0		0	0			0	0	Clear	
Cape Henry, Virginia	29.98	761.5	30.00	762.0	62	16.7	61	SW	12	5.4		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.11	764.8	30.12	765.0	68	20.0	65	W	24	10.7		0	0			0	0	Clear	
Cape May, New Jersey	29.88	758.9	29.91	759.7	63	17.2	78	S	16	7.2		5ck	5s	W	W	0	0	Threatening	
Castroville, Texas	29.25	742.9	29.93	760.2	77	25.0	73	S	4	1.8		0	5ks		S	0	0	Fair	
Charleston, South Carolina	30.13	765.3	30.18	766.6	66	18.9	69	W	2	0.9		0	0			0	0	Clear	
Cheyenne, Wyoming	30.13	765.3	30.07	763.8	46	7.8	54	N	11	4.9		0	0			0	0	Clear	
Chicago, Illinois	29.30	744.2	29.98	761.5	60	15.6	88	NW	5	2.2			10s		NE	1.40	35.6	Cloudy	
Cincinnati, Ohio	29.41	747.0	30.03	762.7	75	23.9	72	W	7	3.1		10k	0	N		0	0	Cloudy	
Cleveland, Ohio	29.21	741.9	29.90	759.4	72	22.2	67	SW	9	4.0			10s		W	0	0	Cloudy	
Coleman City, Texas	28.22	716.8	29.88	758.9	71	21.7	80	S	14	6.3		8c	0	Calm		0	0	Fair	
Columbus, Ohio	29.15	740.4	29.94	760.5	74	23.3	72	W	9	4.0			10ks		Calm	0	0	Threatening	
Concho, Texas	28.09	713.5	29.71	754.6	71	21.7	66	SW	9	4.0		0	0			0	0	Clear	
Corsicana, Texas	29.59	751.6	30.05	763.3	73	22.8	90	S	8	3.6			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.31	744.5	29.92	760.0	71	21.7	85	NE	4	1.8			10s		W	0.07	1.8	Cloudy	
Deadwood, Dakota	25.41	645.4			47	8.3	100	Calm	0	0			10n		W	1.02	25.9	Heavy rain	
Decatur, Texas	28.87	733.3	30.00	762.0	70	21.1	80	S	16	7.2			10s		S	0	0	Cloudy	
Denison, Texas	29.25	742.9	30.02	762.5	72	22.2	85	S	12	5.4		10k	0	S		0	0	Cloudy	
Denver, Colorado	24.87	631.7	30.09	764.3	49	9.4	37	SE	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.02	737.1	29.86	758.4	67	19.4	89	NE	2	0.9			10n		SW	0.31	7.9	Light rain	
Detroit, Michigan	29.26	743.2	29.90	759.4	68	20.0	79	NW	8	3.6			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.31	693.7	29.46	748.3	74	23.3	55	SW	12	5.4		5c	0	SW		0	0	Fair	
Dubuque, Iowa	29.28	743.7	29.95	760.7	68	20.0	84	SE	3	1.3			10n		SE	0.32	8.1	Heavy rain	
Duluth, Minnesota	29.52	749.8	30.22	767.6	44	6.7	84	NE	20	8.9			10s		NE	0	0	Cloudy	
Eagle Pass, Texas	29.21	741.9	29.90	759.4	76	24.4	77	SE	8	3.6			8cs		SE	0	0	Cloudy	
Eastport, Maine	29.78	756.4	29.85	758.2	44	6.7	84	N	6	2.7			10s; fg		Calm	0	0	Cloudy	
Edinburg, Texas					73	22.8	85	Calm			0	0	0			0	0	Clear	
El Paso, Texas	26.19	665.2			58	14.4	21	NW	2	0.9		5cs	2s	NW	NW	0	0	Fair	
Erie, Pennsylvania	29.19	741.4	29.87	758.7	70	21.1	75	S	8	3.6		10c	0	NW		0.08	2.0	Cloudy	
Escanaba, Michigan	29.49	749.0	30.16	766.1	45	7.2	68	N	28	12.5			10ks		N	0	0	Cloudy	
Florence, Arizona	28.39	721.1	29.99	761.7	65	18.3	26	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	28.05	712.5			53	11.7	93	E	16	7.2			10s		Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.51	647.9	29.58	751.3	58	14.4	17	Calm	0	0		5c	2s	SW	Calm	0	0	Cloudy	
Fort Davis, Texas	25.19	639.8	30.15	765.8	67	19.4	55	SW	6	2.7		10c	0	Calm		0.03	0.8	Cloudy	
Fort Gibson, Indian Ter	29.46	748.3	29.97	761.2	77	25.0	69	S	8	3.6		0	0			0	0	Clear	
Fort Griffin, Texas	28.73	729.7	29.95	760.7	73	22.8	67	SE	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.48	698.0			51	10.6	100	N	8	3.6			10n		Calm	0.30	7.6	Light rain	
Fort McKavett, Texas	27.78	705.6	29.63	752.6	69	20.6	75	S	8	3.6		0	8s		S	0	0	Fair	
Fort St. Michael, Alaska	30.14	765.5	30.17	766.3	33	0.6	100	N	3	1.3			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.76	730.5	29.82	757.4	74	23.3	68	S	10	4.5		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.26	717.8			54	12.2	86	E	15	6.7			10n		Calm	Inap.	Inap.	Light rain	
Fredericksburg, Texas	28.29	718.6	29.79	756.7	70	21.1	80	S	9	4.0		0	8ks		Calm	0	0	Fair	
Galveston, Texas	30.05	763.3	30.10	764.5	77	25.0	69	SE	6	2.7		0	2ks		SE	0.58	14.7	Clear	
Graham, Texas																			
Grand Haven, Michigan	29.36	745.7	30.00	762.0	54	12.2	80	NW	7	3.1			10s		Calm	0.11	2.8	Cloudy	
Indianapolis, Indiana	29.70	741.7	29.93	760.2	74	23.3	81	SW	7	3.1			10s		SW	Inap.	Inap	Cloudy	
Indianola, Texas	30.04	763.0	30.07	763.8	78	25.6	78	SE	9	4.0		2k	0	S		0	0	Fair	
Jacksboro, Texas	28.76	730.5	29.96	761.0	70	21.1	80	S	14	6.3		2c	0	S		0	0	Clear	
Jacksonville, Florida	30.18	766.6	30.20	767.1	74	23.3	72	NE	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.28	743.7	29.85	758.2	73	22.8	83	SW	12	5.4			10s		W	0.07	1.8	Cloudy	
Key West, Florida	29.99	761.7	30.02	762.5	74	23.3	81	NE	24	10.7		8k	0	E		0	0	Cloudy	
Kittyhawk, North Carolina	30.02	762.5	30.05	763.3	65	18.3	58	W	18	8.0		0	0			0	0	Clear	
Knoxville, Tennessee	29.22	742.2	30.21	767.3	65	18.3	76	SW	3	1.3		2cs	Haze	Calm		0	0	Fair	
La Crosse, Wisconsin	29.20	741.7	29.91	759.7	64	17.8	89	N	4	1.8			10s		Calm	1.59	40.4	Cloudy	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	45	7.2	53	Calm	0	0		5cs	0	W		0	0	Fair	
Laredo, Texas	29.53	750.0	29.86	758.4	80	26.7	62	SE	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.00	736.6	29.79	756.7	74	23.3	68	S	18	8.0		1cs	5ks	W		0	0	Fair	
Los Angeles, California	29.56	750.8	29.90	759.4	49.0	9.4	64	NE	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.52	749.8	30.05	763.3	74	23.3	68	SW	9	4.0		2c	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.36	745.7	30.02	762.5	74	23.3	59	W	4	1.8		0	1ks		W	0	0	Clear	
Madison, Wisconsin	28.97	735.8	29.91	759.7	65	18.3	89	SE	3	1.3			10n		SE	1.16	29.5	Light rain	
Marquette, Michigan	29.48	748.8	30.20	767.1	40	4.4	73	NW	12	5.4			10s		NW	0	0	Cloudy	
Mason, Texas	28.41	721.6	30.11	764.8	72	22.2	76	SE	2	0.9		5cs	2s	Calm	S	0	0	Fair	
Memphis, Tennessee	29.79	756.7	30.13	765.3	72	22.2	71	S	6	2.7		8ck	0	Calm		0	0	Fair	
Milwaukee, Wisconsin	29.20	741.7	29.93	760.2	48	8.9	93	NE	28	12.5			10n		NE	0.69	17.5	Light rain	
Mobile, Alabama	30.14	765.5	30.19	766.8	69	20.6	87	S	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	30.00	762.0	30.23	767.8	70	21.1	56	SE	2	0.9		0	0			0	0	Clear	
Morgantown, West Virginia*	29.01	736.8	29.96	761.0	69	20.6	65	SE	5	2.2			10ks		Calm	0.20	5.1	Cloudy	
Mt. Washington, N. H.	23.70	602.0	30.06	763.5	37	2.8	80	N	19	8.5		0	Smk		Calm	0	0	Clear	
Nashville, Tennessee	29.63	752.6	30.15	765.8	77	25.0	61	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.81	757.2	29.92	760.0	59	15.0	59	N	3	1.3		8ck	Haz	Calm	Calm	0	0	Cloudy	
New London, Connecticut	29.86	758.4	29.91	759.7	57	13.9	69	N	2	0.9		6ck	Haze	N	Calm	0	0	Fair	
New Orleans, Louisiana	30.08	764.0	30.14	765.5	76	24.4	64	E	4	1.8		0	0			Inap.	Inap.	Clear	
Newport, Rhode Island	29.85	758.2	29.90	759.4	57	13.9	58	NW	4	1.8		2cs	Haze	Calm		0	0	Fair	
New York, New York	29.77	756.1	29.94	760.5	65	18.3	48	NW	1	0.4		2ck	5s	SE	Calm	0	0	Fair	
Norfolk, Virginia	29.98	761.5	30.03	762.7	66	18.9	32	SW	16	7.2		0	0			0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.02	686.3	29.50	749.3	61	16.1	79	NW	16	7.2			10s		NW	0	0	Cloudy	
Olympia, Washington Ter.	30.03	762.7	30.08	764.0	44.0	6.7	92	N	1	0.4		2cs	0	Calm		0	0	Fair	
Omaha, Nebraska	28.60	726.4	29.62	752.3	75	23.9	77	S	8	3.6		0	2s		Calm	0.44	11.2	Clear	
Oswego, New York	29.55	750.6	29.86	758.4	60	15.6	55	S	5	2.2		1c	5s	Calm	Calm	0	0	Fair	
Pembina, Dakota	29.33	745.0	30.16	766.1	49	9.4	85	NE	12	5.4			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	29.89	759.2	29.94	760.5	61	16.1	82	W	6	2.7			10s;hz		W;Calm	0	0	Cloudy	
Phœnix, Arizona	28.73	729.7	30.53	775.4	55	12.8	33	Calm	0	0		1c	0	W		0	0	Clear	
Pike's Peak, Colorado	17.86	453.6	30.06	763.5	23	— 5.0	22	SW	32	14.3		0	0			0	0	Clear	
Pioche, Nevada					44	6.7	23	NW	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.18	741.2	29.96	761.0	64	17.8	63	SE	4	1.8			10n		E	Inap.	Inap.	Light rain	
Port Huron, Michigan	29.26	743.2	29.91	759.7	61	16.1	71	N	14	6.3			10n		Calm	Inap	Inap.	Light rain	
Portland, Maine	29.80	756.9	29.85	758.2	55	12.8	68	NW	2	0.9		5k	0	Calm		0	0	Fair	
Portland, Oregon	30.00	762.0	30.08	764.0	45.5	7.5	92	Calm	0	0		0	0			0	0	Clear	
Prescott, Arizona	24.73	628.1	30.09	764.3	37	2.8	15	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.17	740.9	29.96	761.0	73	22.8	63	SE	12	5.4		Haze	Haze			0	0	Hazy	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	70	21.1	61	NE	14	6.3		10k	0	NE		0	0	Cloudy	
Red Bluff, California	29.57	751.1	29.93	760.2	55.4	13.0	78	NW	4	1.8		2c	0	N		0	0	Fair	
Rio Grande City, Texas	29.83	757.7	30.04	763.0	75	23.9	90	SE	8	3.6		0	0			0	0	Clear	
Rochester, New York	29.25	742.9	29.84	757.9	65	18.3	63	W	7	3.1		0	Sm'e			0	0	Clear	
Roseburg, Oregon	29.47	748.5	30.04	763.0	47.5	8.6	92	N	1	0.4		2c	0	Calm		0	0	Clear	
Sacramento, California	29.84	757.9	29.92	760.0	52	11.1	86	S	3	1.3		2c	0	Calm		0	0	Clear*	
St. Louis, Missouri	29.46	748.3	30.01	762.2	74	23.3	81	S	12	5.4		8cs	Haze	Calm		Inap.	Inap.	Fair	
St. Marks, Florida	30.20	767.1	30.22	767.6	64	17.8	73	NE	5	2.2		0	0			0	0	Clear	
St. Paul, Minnesota	29.07	738.4	29.87	758.7	58	14.4	76	NE	22	9.8			10ks		NW	0	0	Cloudy	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	47	8.3	48	Calm	0	0		0	0			0	0	Clear	
San Antonio, Texas	29.36	745.7	29.92	760.0	75	23.9	90	NE	2	0.9		10k	0	SE		0	0	Cloudy	
San Diego, California	29.88	758.9	29.96	761.0	49	9.4	78	Calm	0	0		0	0			0	0	Clear	
Sandusky, Ohio	29.28	743.7	29.92	760.0	72	22.2	71	W	14	6.3		5k	5ks	W	W	0	0	Threatening	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	67	19.4	50	W	7	3.1		5ck	5ks	NW	NW	0	0	Cloudy	
San Francisco, California	29.89	759.2	29.95	760.7	52	11.1	86	W	9	4.0		0	2s; fg		W;Calm	0	0	Fair	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	50	10.0	Inap.	N	3	1.3		2c	0	SW		0	0	Clear	
Savannah, Georgia	30.13	765.3	30.22	767.6	70	21.1	61	W	3	1.3		Haze	0	Calm		0	0	Clear	
Shreveport, Louisiana	29.90	759.4	30.11	764.8	73	22.8	85	S	8	3.6		0	0			0	0	Clear	
Silver City, New Mexico	24.31	617.5	30.39	771.9	54	12.2	14	Calm	0	0		0	8s		Calm	0	0	Fair	
Smithville, North Carolina	30.15	65.8	30.18	766.6	69	20.6	61	SW	12	5.4		0	0			0	0	Clear	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	52	11.1	73	N	2	0.9		Haze	8ks		N	0	0	Cloudy	
Stockton, Texas	26.97	685.0	29.97	761.2	73	22.8	63	SE	20	8.9		10ck	0	Calm		0	0	Cloudy	
Thatcher's Island, Mass	29.83	757.7	29.89	759.2	55	12.8	74	NW	7	3.1			10s		SW	0	0	Cloudy	
Toledo, Ohio	29.30	744.2	29.95	760.7	70	21.1	80	SW	10	4.5			10s		Calm	0	0	Threatening	
Tucson, Arizona	27.48	698.0	30.03	762.8	55	12.8	38	SW	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.74	755.4	30.23	767.8	53.0	11.7	80	E	4	1.8		0	0			0.04	1.0	Clear	
Uvalde, Texas	29.13	739.9	29.92	760.0	74	23.3	81	S	6	2.7			10ks		S	0	0	Cloudy	
Vicksburg, Mississippi	29.94	760.5	30.20	767.1	73	22.8	76	S	2	0.9		0	0			0	0	Clear	
Virginia City, Montana	24.35	618.0	29.81	757.2	40	4.4	56	SE	1	0.4		0	0			0.03	0.8	Clear	
Visalia, California	29.54	750.3	29.92	760.0	51.5	10.8	75	NW	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.90	759.4	30.02	762.5	60	15.6	82	NW	5	2.2			10n		W	0.05	1.3	Light rain	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	67	19.4	50	W	8	3.6		0	0			0	0	Clear	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	41	5.0	57	NE	16	7.2		1c	0	Calm		0	0	Clear	
Wood's Holl, Mass	29.84	757.9	29.88	758.9	55	12.8	68	NW	6	2.7			10ks		NW	0	0	Cloudy	
Yankton, Dakota	28.50	723.9	29.71	754.6	67	19.4	79	E	18	5.0			10n		E	0.12	3.0	Light rain	
Yuma, Arizona	29.68	753.9	29.85	758.2	61	16.1	50	W	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.58	725.9	29.94	760.5	71	21.7	71											Clear	
Havana, Cuba, W. I.	29.90	759.4	29.95	760.7	78	25.6	82	NE	2.4	1.1			10n		NE	0.39	9.9	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I.																			Chas. Hasselbrink.
Medellin, Colombia, S. A.																			James Gall.
Navassa, W. I.	29.80	756.9	29.88	758.9	78	25.6	91	NE								0.25	6.3	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	79	26.1	91	E			2	5k	7ks	E		0.220	5.59	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.																			C. J. Hering.
St. Thomas, W. I.																			Robert Mason.
York Factory, B. A.	30.00	762.0	30.05	763.3	33.0	0.6	95	NE	8	3.6		0	0			0	0	Clear	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 2,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.9 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5.480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in., Santa Fé, 6.54 in.; Stockton, 3.40 in.; Tucson, 2.59 in.; Wickenburg, 2.19 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.98‡	761.5‡			52	11.1	100	WSW	17	7.6			8		SW	0	0			Cloudy	
Navy Yard, Pensacola, Fla.	30.29‡	769.4‡			70	21.1	90	NE	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡			71.5	21.9	85	SW			6		10ks;k		SW	Slight	Slight			Cloudy	
Adams, Callao, Peru	29.90‡	759.4‡			63	17.2	100	Calm			0		10							Foggy	
Alaska, Sitka, Alaska	30.17‡	766.3‡			48	8.9	92	Calm			0		10			0	0			Foggy	
Alliance, Tangier, Morocco	30.01‡	762.2‡			72	22.2	53	WNW			2		1					Light	W	Pleasant	
Colorado, New York, N. Y.	29.90‡	759.4‡			62	16.7	56	N	1	0 4			8		NW	0	0			Hazy	
Constitution, Brooklin, N. Y.	29.86‡	758.4‡			59	15.0	94	NNW			2		6		Calm					Fair	
Despatch, N. 33° 39′, W. 14° 09′	30.19‡	766.8‡			66	18.9	94	NNW			3		9		Calm			Long	N	Cloudy	
Enterprise, Havre, France	29.98‡	761.5‡			55	12.8	93	SW			2		10							Drizzling	
Franklin, Norfolk, Va.	30.03‡	762.7‡			64	17.8	68	SW	13.2	5.9			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	30.16‡	766.1‡			57	13.9	69	S			3		5?		S	0	0			Clear?	
Marion, N. 24° 25′, W. 81° 50′	30.00‡	762.0‡			77	25.0	100	ENE			5		8		N;E			Mod'ate	N;E	Cloudy	
Michigan, Erie, Pa.					71	21.7	85	SW			5		10							Overcast	
Monocacy, Shanghai, China	29.90‡	759.4‡			68	20.0	90	E			3		10		E					Cloudy	
Monongahela, Yokohama, Japan	29.93‡	760.2‡			72	22.2	80	S			3–4		10			Very light	Very light			Overcast	
New Hampshire, Port Royal, S. C.	30.20‡	767.1‡			68	20.0	65	W	8	3.6			2		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.03‡	762.7‡			61	16.1	88	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.88‡	758.9‡			66	18.9	89	ENE			2		8							Cloudy	
Passaic, Washington, D. C.					68	20.0	74	W			2		10							Cloudy	
Pensacola, Callao, Peru	29.90‡	759.4‡			60	15.6	91	Calm	0	0			10			0	0	Smooth	W	Misty	
Portsmouth, Port Royal, S. C.	30.21‡	767.3‡			68	20.0	79	W			2		0			0	0	Smooth		Clear	
Powhatan, N. 36° 01′, W. 75° 11′	30.04‡	763.0‡			60	15.6	76	WSW			5		0			0	0	Mod'ate	NNE	Hazy	
Quinnebaug, Jaffa, Syria	30.00‡	762.0‡			71	21.7	95	NW			3		0							Hazy	
Ranger, Amoy, China	29.90‡	759.4‡			83	28.3	91	S			2		2		N			Smooth		Clear	
Richmond, Near mouth of Yang-tsze-kiang, China.	29.84‡	757.9‡			70	21.1	85	E			2–3		8		E	0	0	Smooth	E	Fair	
Rio Bravo, Brownsville, Texas	30.00‡	762.0‡			74	23.3	95	SE			1		2		Calm					Fair	
Santee, Annapolis, Md.	30.00‡	762.0‡			63	17.2	72	WSW			1		10		NW	0	0			Cloudy	
Saratoga, Funchal, Maderia	30.21‡	767.3‡			70	21.1	75	WSW			1		8		Calm	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa.	29.97‡	761.2‡			52	11.1	??	W	8	3.6			10		NW	0	0			Cloudy	
Trenton, Marseilles, France	29.88‡	758.9‡			58	14.4	88	NNW			1		10		NNW	1.20	30.5	Mod'ate	S	Drizzling	
Tuscarora, Port Angel, Mexico	29.82‡	757.4‡			80	26.7	74	NW			2		10kn			1.	25.	Smooth		Hazy	
Vandalia, N. 22° 42′, W. 84° 31′	29.70‡	754.4‡			80	26.7	78	ENE			6		10		NE	Blank	Blank	Rough	NE	Cloudy	
Wabash, Boston, Mass.	29.99‡	761.7‡			54	12.2	80	NW			3		2			0	0			Fair	
Wyoming, Leghorn, Italy	29.81‡	757.2‡			65	18.3	94	E			3		10		E			Smooth	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Yokohama, Japan		29.74‡	755.4‡				SSW			6		2ck		SW	0	Mod'ate	SE	Misty	L. B Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		29.97‡	761.2‡	55	12.8	74	SW			1		2ck		NW				Cloudy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 34° 18′, E. 169° 37′		29.79‡	756.1‡				NE			6				NE		Long; rough	SW;ENE	Rainy	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.84‡	757.9‡	86	30.0	79	S			3		5k			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt J. Metcalf, N. 48° 35′, W. 174° 04′		29.56‡	750.8‡	43	6.1	100	S			5		10		ESE		3	ESE	Misty	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		29.96‡	761.0‡				WNW			2		8		WNW				Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 49° 46. W. 22° 09'		30.46‡	773.7‡	54	12.2	100	NW			7		3		NW	0	Mod'ate	NW	Fair	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 26° 00,' W. 85° 55'		30.06‡	763.5‡	76	24.4	73	E	13	5.8			8k		E	0	Rough	NE	Cloudy	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N. 36° 00, W. 74 31 †.		30.01‡	763.0‡	62	16.7		SW			2		0				Long	NNE	Clear	N. B. Foss.
Schooner Harry and Fred. Mannabo, Porto Rico, W.I.		29.56‡	750 8‡				NE					2		NE	1. in. or 25 mm	Long	SE	Misty	Capt. George Gardner.
Schooner Henry Whitney, N. 37° 42', W. 75° 24'. †.		29.96‡	761.0‡	63	17.2		SW			4		1		NW	0	Smooth		Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

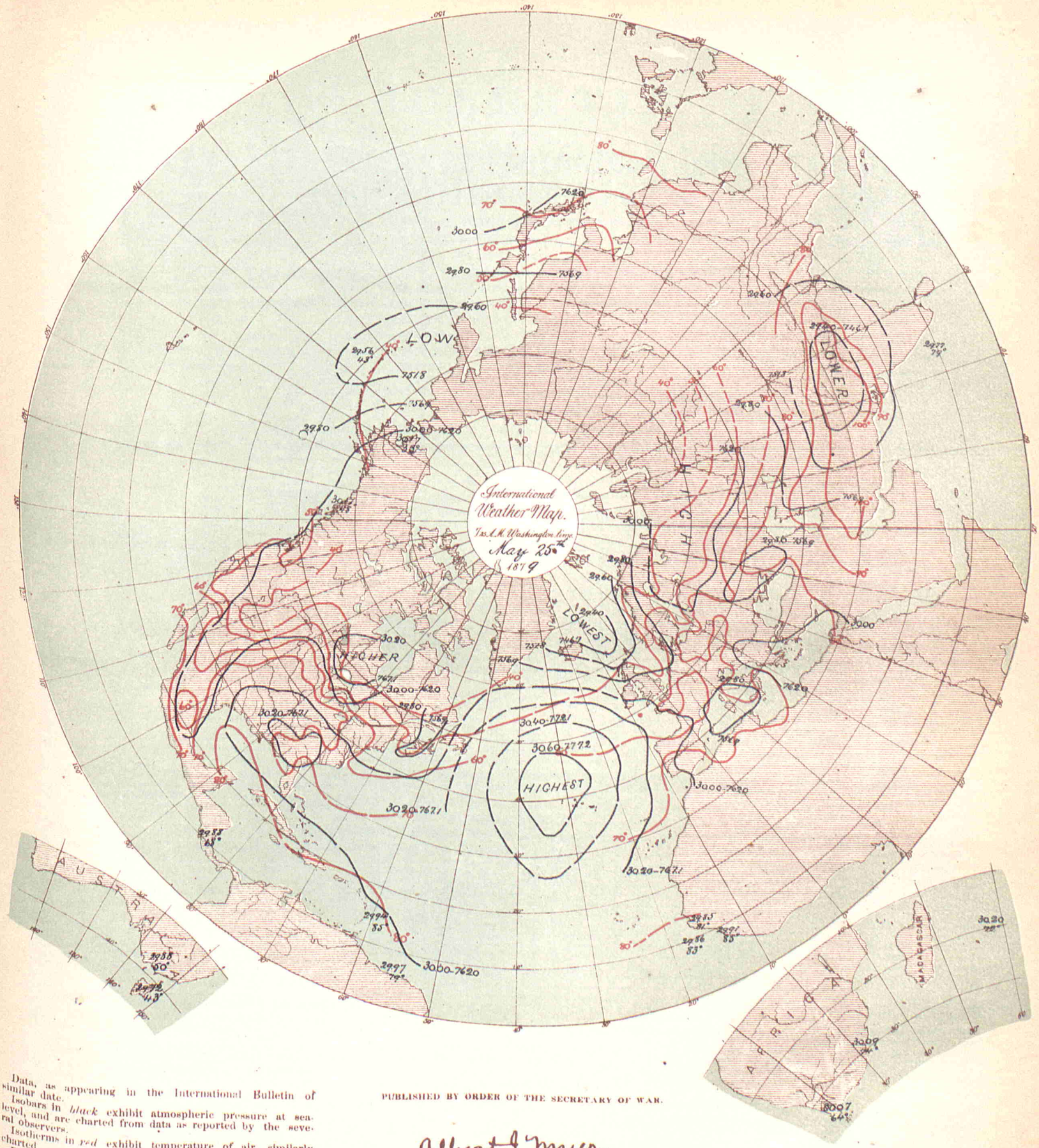
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.94	760.4	71.4	21.9	78	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			29.82	757.5	68.4	20.2	65	WNW			3		0			0	0	Clear	Tourillere.
La Calle			29.59	759.3	64.8	18.2	77	WNW			4		5			0.079	2.0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.96	760.9															Gau.
Saida			29.97	761.1	70.7	21.5	2	NW			4		5			0	0	Cloudy	Herbin.
Tebessa			29.91	759.7	64.0	17.8	39	NNE			4		2			0	0	Fair	Watrin.
Geriville			29.97	761.3	67.8	19.9	12	NW			3		5			0	0	Cloudy	Brugnlaux.
Laghouat			29.93	760.3	76.6	24.8	39	NW			3		2			0	0	Fair	Bertrand.
Biskra			29.90	759.5	80.8	27.1	22	NW			4		0			0	0	Clear.	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.24	742.8	29.77	756.1	74.1	23.4	52	E			2		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.06	738.1	29.79	756.7	75.2	24.0	51	E			1		4			0	0		Dr. Wierzbiski.
Eperies	28.97	735.7	29.81	757.1	72.7	22.6	69	S			2		9ks		N	0.077	1.95		Julius Mikolik.
Gratz	28.58	725.9	29.77	756.2	72.5	22.5	63	SW			3		7			0	0		Andreas Rospini.
Hermannstadt	28.47	723.1	29.82	757.3	78.3	25.7	46	S			2		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.38	720.9	29.66	753.4	71.1	21.7	71	ENE			2		9			0	0		Prof. C. Wagner.
Lemberg	28.86	733.1	29.81	757.2	72.3	22.4	67	W			1		8*			0	0		Dr. T. Stanecki.
Pola	29.65	753.0	29.73	755.2	61.5	16.4	87	ESE			6		10			0.319	8.1		I.R.HydrographicOffice.
Szathmar	29.43	747.5	29.87	758.7	79 9	26.6	45	SW			1		4			0	0		Julius Csics, S. J.
Szegedin	29.73	755.1	29.99	761.8	80.4	26.9	35	SE			1		4			0	0		Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	62.8	17.1	94	Calm			0		10			1.169	29.7	Raining	P. Busin.
Vienna	29.05	737.8	29.73	755.2	74.5	23.6	51	SE			3		3			0	0		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.42	747.2	29.52	749.8	46.8	8.2		S	14	6.3			4			0.115	2.92	Blue sky	W. Boswell.
Ardrossan	29.48	748.8	29.50	749.3	50	10.0		WSW			3		7					D. clouds	William McNeil.
Armagh, Observatory			29.58	751.3	51.5	10.8		NNW	7	3.1			10					Hailing	S. Call.
Bidston (Liverpool Obs)			29.63	752.6	47.0	8.3		WSW	15	6.7			10					Raining	John Hartnup.
Bolton (Sharples)			29.63	752.6	46.8	8.2		WSW	18	8.0			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.22	742.2	29.61	752.1	50.8	10.4		W			5		10			0.03	0.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	30.02	762.5	30.04	763.0	80	26.7		E			1		8					Overcast	Pvt. G. Surgener, A.
Cambridge, Observatory	29.64	752.8	29.73	755.1	56.0	13.3		SW			1		10					Showery	H. Todd.
Cardington			29.69	754.1	59.0	15.0		SW			2		10					Overcast	John McLaren.
Chatham, School M. E.	29.68	753.9	29.81	757.2	54.6	12.6		SE			1		5					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.52	749.8	29.56	750.8	51	10.6		W			3		10					Raining	J. Mac Gowan.
Dover	29.79	756.7	29.80	756.9	55	12.8		SW			3		4					½ clouded	J. Costello.
Falmouth, Observatory	29.60	751.8	29.82	757.4	52.4	11.3		WSW			3		10					Overcast	The Staff.
Fort Napier (Natal)	27.78	705.6	30.08	764.0	76.5	24.7		E			1		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	85	29.4		NE			1		4					D. clouds	
Galway, Queen's College			29.63	752.6	57	13.9		WNW			4		7					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.89	759.2	29.95	760.7	71.7	22.1		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.28	743.7	29.49	749.0	48.8	9.3		WNW			4		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.77	756.1	56	13.3		S			3		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.62	752.3	29.79	756.7	56.2	13.4		SW			2		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.65	753.1	29.87	758.7	53.5	11.9		SW			3		7					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.85	758.2	29.97	761.2	56	13.3		SW			2		8k			0	0		M. P. Moyle.
Holyhead	29.60	751.8	29.64	752.8	49	9.4		WSW			3		10					Raining	John Tilston.
Jersey	29.64	752.8	29.94	760.5	54.1	12.3		WSW			3		9					Gloomy	J. Fisher.
Kew, Observatory	29.75	755.6	29.79	756.7	56.2	13.4		SSW	19	8.5			10					Threatening	The Meteorological Of.
Leicester, Museum	29.42	747.2	29.67	753.6	57.0	13.9		SW			2		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.70	754.4	29.78	756.4	67	19.4		NW			2					0.08	2.0	Blue ske	Sergt. H. J. Beckett, A. H. C.
Nairn	29.39	746.5	29.49	749.0	51	10.6		NNE			3		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	76.5	24.7		NE			3		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.48	748.8	29.67	753.6	58.1	14.5		SSW			6		10k		SSW	0.135	3.43	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.14	740.1	29.66	753.4	52.8	11.6		Var.			6		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.75	755.6	54	12.2		S			3		10					Threatening	H. E. Bellamy.
Plymouth	29.75	755.6	29.82	757.4	53.8	12.1		SW			3		10					Overcast	John Merrifield.
Prince Town	28.35	720.1	29.81	757.2	46.6	8.1		SW			3		10					Gloomy	W. H. Tooker.
*Roche's Point	29.66	753.4	29.76	755.9	53	11.7		NNW			5		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.55	750.6	29.71	754.6	49	9.4		SW			5		10					Raining	John C. Walker.
Sandwick Manse (Orkneys)			29.54	750.3	53	11.7		SE	14	6.3			6			0	0	D. clouds	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.89	759.2	29.95	760.7	73.6	23.1		SW			1		10					Gloomy	Serg't W. H. Lyne.
Sheffield	29.38	746.2	29.66	753.4	53.4	11.9		SW			4		10			0.11	2.8	Showery	W. F. Cooper.
Silloth Rectory	29.51	749.5	29.54	750.3	52.3	11.3	68	NW			5		8			0.020	0.51	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.22	742.2	29.63	752.6	47.4	8.6		SW			2		10					Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	29.59	751.6	29.80	756.9	54.4	12.4		SW			3		10					Raining	Rev. C.H.Griffith, F.M.S.
Truro, Royal Institution	29.80	756.9	29.83	757.7	55	12.8		W			6		10					Raining	W. Newcombe.
Valencia, Observatory	29.75	755.6	29.78	756.4	50.5	10.3		NW	18	8.0			10					Raining	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.37	771.4	30.41	772.4	60.4	15.8	56	SSE	15	6.7		1	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania).			29.45	748.0	43.0	6.1	93	Calm			1		10kn			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.49	749.0	29.51	749.5	46.5	8.1		E			1	1c	10ks	SW		0.08	2.0	Overcast	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.20	767.0	74.0	23.3	62	ESE	14.5	6.5		0	3			0.02	0.5	Fine	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	48.9	9.4	79	NW	13	5.8			10		ESE	0.42	10.67	Raining	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.57	751.1	49	9.4		N			3	3	0	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.68	753.9	46	7.8		S			4	0	3					D. clouds	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 40° 02′, W. 46° 26′				
S. S. Amanda.			Misty	Capt. W. Scott.
Barque Belle-Isle				Capt. B. Boyes.
Ship British Commodore.				Capt. A. J. Brown.
—— City of Agra				Capt. J. W. Thorne.
Barque Commewyne				Capt. Thos. Young.
Barque Fedalma, N. 20° 00′, W. 61° 55′				Capt. A. Buchan.
Barque Mertole	2	ESE	D. clouds	Capt. H. L. Fox.
S. S. Nizam, N. 14° 25′, E. 74° 02′				Capt. E. W. Turner.
S. S. Royal Alexandra, N. 45° 50′, W. 33° 40′			Raining	Capt. Barlow.
S. S. Strathleven	3	W	Misty	W. P. Hughes.
S. S. Wyberton				Capt. C. W. Pearson.
				Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; the weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. ‡Correction

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.20	665.5	29.92	760.0	67.1	19.5	90	SE			1	8cs				0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.75	755.6	29.80	756.8	55.4	13.0	82	N			2		10					Raining	
Fanöe	29.81	757.1	29.83	757.6	52.2	11.2	69	W			4		1						
Godthaab (Greenland)	29.73	755.2	29.78	756.3	38.3	3.5	92	Calm			0		10					Raining	
Stykkisholm (Iceland)	29.71	754.6	29.75	755.7	44.1	6.7	76	W			2		0						
Thorshavn (Faröe)	29.55	750.6	29.59	751.5	48.4	9.1	80	NE			2		5						
Vestervig	29.67	753.6	29.84	757.9	52.5	11.4	70	W			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.37	746.1	29.93	760.1	55.8	13.2	59	W			1		2		W	0.020	0.5	Slightly cld'y	Collignon, Director.
Amiens, Normal School	29.74	755.4	29.85	758.2	64.4	18	42	WNW			3		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School																			Klein, Commandant.
Avignon, Normal School	29.65	753.2	29.73	755.2	56.7	13.7	84	N			2		10			0.370	9.4	Raining	Giraud, Director.
Bar-sur-Seine	29.30	744.2	29.85	758.1	59.9	15.5	63	NNE			1		5kn		NE	0.004	0.1	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.60	751.9	29.86	758.5	63.1	17.3	44	NW			1		8		WSW	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	28.97	735.9	29.85	758.2	59.7	15.4	76	NNW			2		10		NW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.82	732.1	29.74	755.5	60.8	16	56	N			3		8n	N	N	0	0	Very cloudy	Marlot, Director
Bourges, Normal School	29.32	744.8	29.87	758.8	54.7	12.6	91	N			1		2	N	N	0	0	Slightly cl'dy	A. Waquet, Director.
Brest, Naval Observatory	29.66	753.4	29.90	759.5	58.3	14.6	71	W			2		10		W	0.020	0.50		De Rermaree, Director.
Carcassonne, Normal School	29.46	748.2	29.87	758.7	56.8	13.8	68	W			4		10	W	W	0.08	2.	Covered	September, Director.
Caen, Normal School	29.79	756.7	29.86	758.5	62.2	16.8	55	WSW			1		5		WSW	0.08	2.	Cloudy	Lair, Director.
Chartres, Normal School	29.32	744.6	29.87	758.6	69.3	20.7	69	W			1		10		E	0.071	1.8	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.50	749.4	29.89	759.3	61.7	16.5	41	NNW			3		2			0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.50	724.0	29.85	758.1	57.6	14.2	65	WSW			1		10		W	0	0		Allnard, Director.
Commercy, Normal School.	28.99	736.3	29.84	757.9	57.9	14.4	72	WNW			1		8kn		WNW	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.62	727.0	29.72	755.0	56.3	13.5	91	N			2		10		E	1.134	28.8	Raining	L. Kina, Director.
Grenoble, Normal School	28.99	736.3	29.75	755.7	55.4	13.0	77	WNW			2		10n			0.039	1.00	Covered	Ablard, Director.
La Roche-sur-Yon, N. School	29.76	755.9	29.97	761.3	59.7	15.4	68	NW			3		5		NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.62	752.3	29.93	760.1	57.2	14	55	NNW			2		5		NNW	0.014	0.35	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.70	729.0	29.61	752.2	59.9	15.5	86	NE			2		10		NE			Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.91	759.8	30.01	762.3	60.1	15.6	59	SW			2				SW	0.004	0.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory			29.65	753.0	60.6	15.9	68	NNW			1-2		10			1.425	36.20	Rainy	E. Stephan, Director.
Mirecourt, Normal School	28.84	732.5	29.86	758.5	60.3	15.7	64	SE			1		10kn		NW	0	0	Covered	Barbier, Director.
Nismes, Normal School	29.54	750.2	29.74	755.4	57.9	14.4	80	N			2		10		NW	0.453	11.50	Covered	Boyer, Director.
Privas, Normal School	28.78	730.9	29.84	757.8	55.4	13	66	N			3		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	28.95	735.3			37.6	3.1	100	N			3					0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.97	761.3	30.00	762.1	64.0	17.8	57	W			1		2	W	W	0.16	4.	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.81	757.2	29.90	759.4	61.7	16.5	34	SW			1		1		SW	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.87	758.6	29.90	759.4	57.6	14.2	59	NW			1		5	WNW	WNW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.71	754.6	29.87	758.8	61.7	16.5	50	NW			1				WSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.91	734.4	30.03	762.7	48.2	9.	73	WSW			6		10			0.35	9.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.24	742.7	29.97	761.2	55.4	13.0	86	WSW			4		9			0.118	3.0		Mercadier Julier.
Versailles, Observatory	29.38	746.3	29.87	758.8	61.5	16.4	41	WNW			1					0	0		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.17	740.9	29.87	758.7	61.7	16.5	84	N			3		10			0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	756.8	29.82	757.5	81.0	27.2										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.19	741.4	29.80	756.9	60.4	15.8	57	NW			1		10		N			Rainy	Mr. Jays.
Mont-Louis	24.66	626.3	29.97	761.3	45.0	7.2	70	ENE	15.0	6.7			7		N	0.075	1.9	Raining	M. Cave.
Nice			29.66	753.4	62.2	16.8	88	SE			1		10			0.421	10.7	Raining	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.60	751.7			61.2	16.2	55	NW			1		6		W	0.004	0.1		Marié Davy, Director.
Perpignan	29.73	755.2	29.84	757.9	60.1	15.6	65	NW	29.8	13.3			10		NW	0.079	2.0	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.30	566.5			31.6	— 0.2		W			2		10			0.618	15.7	Snowy	Gen'l de Nansouty.
Tours	29.71	754.5	29.90	759.5	63.7	17.6	39	NW			2		5		N	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	30.05	763.3	30.08	763.9	56.8	13.8	96	ESE	2.0	0.9			10n			0.280	7.1	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m, or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.94	735.0	29.78	756.3	69.1	20.6	54	NE			4		4	N		0	0		Prof. Dr. Hoh.
Berlin	29.62	752.3	29.78	756.5	69.1	20.6	67	NW			1		9			0	0		Prof. Arndt.
Breslau	29.26	743.3	29.79	756.7	78.1	25.6	44	S			3		4			0	0		Royal University Obs'y.
Carlsruhe	29.38	746.2	29.80	756.8	61.2	16.2	77	NNE			0		10	NE		0	0		Albert Senz.
Cassel	29.25	743.0	29.85	758.3	61.5	16.4	90	N			4		10	N		0.716	18.17	Raining	Dr. H. Möhl.
Crefeld	29.68	753.9	29.84	758.0	64.9	18.3	42	NE			1		6k			0.04	1.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.45	747.9	29.81	757.1	66.9	19.4		NNE			2		8			0	0		Physical Society.
Freienwalde on the Oder	29.73	755.1	29.77	756.1	61.7	16.5	100	N			2		10ks			0.571	14.5		Assmann., M. D.
Friedrichshafen	28.34	719.9	29.75	755.6	59.9	15.5	69	SE			5		10	SE		0.024	0.6	Raining	M. Wilhelm.
Hamburg	29.78	756.5	29.85	758.3	56.5	13.6	74	NW			2		3k	NW		0.413	10.5	Clear	Captain F. Hegeman.
Kiel	29.83	757.7	29.85	758.1	56.7	13.7	72	N			1		6			0.244	6.19		Prof. G. Karsten.
Königsberg (Prussia)	29.72	754.9	29.80	756.9	76.8	24.9	51	E			4		4			0	0		Prof. E. Luther.
Köslin			29.73	755.2	59.2	15.1		N			4		0			0	0		H. Müller.
Leipsic Observatory	29.39	746.6	29.81	757.2	59.5	15.3	82	NW			3		10			0.583	14.8		Prof. Bruhns, Privy Counselor.
Memel	29.80	756.9	29.85	758.1	70.9	21.6	57	SSE			3		9s;n						Skalweit.
Munich (München)	27.98	710.6	29.82	757.4	60.8	16.0	64	N			4		10	NE		0	0		Dr. C. Lang.
Neufahrwasser	29.75	755.7	29.77	756.1	69.1	20.6	73	E			4		3			0	0		A. Lothes.
Posen	29.51	749.5	29.78	756.4	78.1	25.6	42	ESE			1		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.31	744.5	29.85	758.2	62.8	17.1	70	NE			2		10	SE				Light rain	Imp. University Observatory.
Stuttgart	28.84	732.5	29.76	755.9	60.4	15.8	71	N					10			0.083	2.1		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.22	716.8	29.68	753.8	63.0	17.2	63	NE	2	1			10		NW	0	0	Foggy	Dr. Van Bebber
Wustrow	29.81	757.1	29.83	757.7	52.7	11.5	89	WNW			2		10s			0.413	10.5		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.2 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4. and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.64	752.8	30.02	762.5	73.2	22.9		SW			2.0							Dust	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.40	746.8	29.45	748.0	110.3	43.5	22	NW					2			0	0	D. clouds	
Deesa	29.04	737.5	29.48	748.8	105.4	40.8	18	Calm	10.9	4.9			3			0	0	D. clouds	
Bombay	29.54	750.3	29.58	751.2	80.4	26.9	93	S	19.0	8.5			10		S	1.65	41.9	Overcast	
Poona	27.61	701.4	29.58	751.4	82.3	27.9	68	W					9	W		0	0	D. clouds	
Lahore	28.66	728.0	29.36	745.7	104.6	40.3	19	W	2.8	1.2			0			0	0	Blue sky	
Belgaum	27.14	689.4	29.66	753.4	75.7	24.3	78	SW	10.0	4.5			8	SW	SW	0.03	0.8	Showery	
Roorkee	28.51	724.2	29.35	745.5	106.9	41.6	17	Calm	1.4	0.6			0			0	0	Misty	
Agra	28.83	732.4	29.36	745.6	110.6	43.7	14	NW					0			0	0		
Nagpur	28.47	723.1	29.49	749.0	85.7	29.8	64	NE	3.6	1.6			9		W			Thunder-storm	
Lucknow	29.03	737.4	29.39	746.4	105.2	40.7	37	ENE	2.9	1.3			0			0	0	Blue sky	
Allahabad	29.14	740.1	29.43	747.6	102.6	39.2	35	NE	3.0	1.3			4			0	0	D. clouds	
Patna	29.34	745.1	29.51	749.5	94.1	34.5	48	ESE	3.5	1.6			10	SE	SE	0	0	Overcast	
Hazaribagh	27.60	701.0	29.61	752.0	74.8	23.8	88	E	7.3	3.3			5			0.47	11.9		
Cuttack	29.49	749.0	29.57	751.0	86.6	30.3		NNE	2.0	0.9			7			0.01	0.3	D. clouds	
Calcutta (Alipore)	29.55	750.6	29.57	751.1	88.8	31.6	64	S	8.0	3.6			6	S		0	0	D. clouds	
Goalpara	29.21	741.8	29.59	751.6	82.3	27.9	85	Calm	1.5	0.7			8	W		0.39	9.9	D. clouds	
Chittagong	29.58	751.4	29.67	753.7	91.8	27.7	93	Calm	4.3	1.9			8			0.52	13.2	Misty	
Sibsagar	29.30	744.3	29.64	752.7	82.2	27.9	86	SW	2.1	0.9			10	W	W	0.07	1.8	D. clouds	
Jubbulpore	28.12	714.2	29.42	747.2	100.7	38.2	28	Calm	2.7	1.2			5		W	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.43	747.5	29.83	757.7	59.7	15.4	89	N	3.8	1.7			10			0.343	8.7		Prof. Giovanni Clodig.
Milan	29.21	742.0	29.72	754.9	58.5	14.7	89	WNW			2		10	E		1.110	28.2		Prof. Schiaparelli.
Padua	29.65	753.1	29.76	755.8	57.7	14.3	94	NE	18.6	8.3			10			1.445	36.7		Prof. Dott. Lorenzoni.
Moncalieri	28.83	732.2	29.72	755.0	52.7	11.5	96	NNW	2.5	1.1			10			1.909	48.5		Prof. P. F. Denza.
Genoa	29.49	749.1	29.68	753.9	63.9	17.7	79	NE	4.9	2.2			10	SE		0.591	15.0		Prof. G. M. Garibaldi.
Mondovi	27.83	706.8	29.72	755.0	49.5	9.7	100	WNW			2		10			3.378	85.8		Prof. D. C. Bruno.
Pesaro	29.65	753.0	29.70	754.3	65.8	18.8	82	E	11.2	5.0			10	E		0.283	7.2		Prof. Luigi Guidi.
Florence	29.43	747.4	29.68	753.9	63.5	17.5	88	N			2		10			0.429	10.9		Cav. F. Meucci.
Leghorn	29.56	750.9	29.65	753.0	64.8	18.2	76	S			6		7	S		0.335	8.5		Prof. P. Monte.
Rome	29.55	750.5	29.72	754.9	57.0	13.9	89	SSW	9.8	4.4			10			0.630	16.0		Prof. P. S. Ferrari
Lecce	29.62	752.4	29.87	758.7	76.5	24.7	53	S	24.8	11.1			6	S		0	0		Prof. C. De Giorgi.
Cosenza	28.92	734.5	29.78	756.5	72.0	22.2	72	NNW	3.1	1.4			5			0.016	0.4		Prof. D. Conti.
Cagliari	29.49	749.0	29.68	753.8	58.6	14.8	86	S			4		10	W		0.197	5.0		Prof. A. Pacinotti.
Palermo	29.56	750.7	29.80	757.0	62.2	16.8	68	NNE	4.9	2.2			6			0.087	2.2		Prof. G. Cacciatore.
Syracuse	29.69	754.2	29.76	756.0	64.4	18.0	72	NNE	15.0	6.7			5	SW		0.260	6.6		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.24	742.7	29.80	756.8	63.5	17.5	58	WSW	4.9	2.2			10			0.248	6.3		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.82	757.4	29.84	757.9	64.0	17.8	78	NNE	15.2	6.8			10s;ok		W	1.137	28.88		K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	61.6	16.4	93	N	2.4	1.1			10n			1.190	30.22	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.65	753.1	29.72	754.9	74.8	23.8	79	SSW	18.6	8.3			5ck;s			0.015	0.38	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.8	30.02	762.6	59.0	15.0	57	SE			1	1	0	Calm		0	0	Clear	Prof. L. Perez.
Leon	24.41	620.1	30.08	764.0	66.3	17.5	73	NW			1	1c	0			0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.8	30.11	764.7	51.8	11.0	75	Calm	0	0		0	6k		NW	0	0	Fair	The Staff.
Pabellon (Aguascalientes)					60.6	15.9	65	SSE			1	0	0			0	0	Very clear	M. V. de Leon, M. E.
Tlacotalpam	29.93	760.2	29.94	760.5	75.6	24.2	85	SSW			1	1	1	S	NW	0.41	10.5	Clear	M. M. Cházaro.
San Luis Potosi	24.17	614.0	30.16	766.0	55.9	13.3	28	SE			1	3	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.2	30.21	767.3	56.3	13.5	61	Calm			0	0	2s			0	0	Blue sky	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.9	30.15	765.7	46.0	7.8	77	E	0.2	0.1		0	0			0	0	Very clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.34	719.9	29.96	761.0	79.3	26.3	70	NE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.76	755.9	30.05	763.3	75.9	24.4	91	SE			1	5	4	E	E	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.6	29.87	758.6	57.4	14.1		W								0.024	0.6		
Groningen	29.79	756.6	29.84	758.0	59.0	15.0										0	0		
Helder	29.83	757.6	29.83	757.6	55.6	13.1		SW			4					0	0		
Hellevoetsluis	29.84	758.0	29.84	758.0	65.3	18.5	54	WSW			3					0	0		
Utrecht	29.77	756.1	29.82	757.3	63.1	17.3	47	SW			2		5			0.008	0.2	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.67	753.6	29.72	755.0	56.1	13.4	56	S	14.1	6.3	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.64	752.8	29.68	753.8	48.4	9.2	84	N	22	10	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.55	750.6	29.70	754.3	52.5	11.4	92	SSW	2	1	.....	.....	10	.....	.....	0.417	10.6	Raining	
Tromsö	29.77	756.2	29.89	757.3	55.9	13.3	56	NE	7	3	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.33	770.4	30.52	775.2	65.5	18.6	72	ENE	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.0	29.97	761.3	74.3	23.5	21	NNW	15.0	6.7	.....	.....	9	NNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.16	766.1	30.25	768.3	69.6	20.9	58	SW	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.1	30.08	764.1	66.0	18.9	35	N	16.1	7.2	.....	.....	3	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.44	773.2	30.51	775.0	65.1	18.4	57	NE	16.1	7.2	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M. de Sande, Com'd't.
Duque da Terceira, N. 6° 29′, W. 16° 17′	.....	.....	29.98	761.4	85.1	29.5	.....	SE	.....	.....	1	.....	1	.....	.....	1	.....	Blue sky	C. C. da Fonseca Ferreira, Comd't
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando	.....	.....	29.85	758.3	81.3	27.4	.....	WNW	.....	.....	2	.....	1	.....	WNW	1	WNW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Porto de Bulama, Senegambia	.....	.....	30.01	762.2	86.0	30.0	.....	NE	.....	.....	1	.....	4	.....	NE	3	.....	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Hong-Kong, China	.....	.....	29.89	759.1	86.4	30.2	.....	S	.....	.....	3	.....	0	.....	.....	1	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.41	747.0	29.81	757.2	74.5	23.6	59	SE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.50	749.2	29.89	759.3	74.8	23.8	56	SE	4	2	.....	.....	8	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.80	756.8	30.03	762.8	68.2	20.1	47	ESE	11	5	.....	.....	5k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.10	764.5	30.11	764.9	68.0	20.0	47	ESE	9	4	.....	.....	2ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.6	29.81	757.1	68.2	20.1	82	NNW	7	3	.....	.....	10ks;n	.....	.....	.....	.....	Thunder-storm.	Physical Cabinet.
Nikolaiev	29.80	756.8	29.87	758.6	73.6	23.1	70	SSE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.94	760.5	29.96	761.0	70.9	21.6	81	S	7	3	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.58	751.2	30.11	764.7	66.0	18.9	36	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.56	750.9	29.76	755.8	84.0	28.9	52	SSW	9	4	.....	.....	7n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.10	764.4	30.11	764.9	57.4	14.1	58	WNW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.58	725.9	29.96	761.0	68.4	20.2	56	N	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.95	760.8	29.87	758.7	85.5	29.7	30	SE	2	1	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.68	753.9	29.95	760.7	54.3	12.4	83	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.88	733.6	29.83	757.6	57.4	14.1	67	Calm	0	0	.....	.....	6ks;c;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.43	747.4	29.64	752.9	93.0	33.9	23	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.34	719.8	29.82	757.3	81.5	27.5	45	E	4	2	.....	.....	10	.....	.....	.....	.....	Light clouds	Teich, A. M.
Barnaul	29.50	749.3	30.00	762.0	49.8	9.9	38	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.65	753.2	29.95	760.7	41.4	5.2	61	W	11	5	.....	.....	10	.....	.....	.....	.....	Snow & sleet	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.55	750.6	29.69	764.2	76.8	24.9	17	SW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.44	747.8	29.54	750.3	46.4	8.0	79	Calm	0	0	5c	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.04	737.7	29.13	739.9	42.3	5.7	94	E	2	1	.....	.....	10n	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.69	754.1	29.80	756.8	65.5	18.6	59	WNW	2.1	0.94	.....	.....	4cs;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.0	30.10	764.4	62.2	16.8	78	NW	6.1	2.74	.....	1	7	NE	.....	0.728	18.5	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.6	.....	.....	56.5	13.6	40	NE	12.3	5.50	.....	.....	0?	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.66	702.6	.....	.....	72.1	22.3	26	W	6.7	3.06	.....	2	0	W	.....	Inap.	Inap.	Light clouds	The Staff.
Murcia, Met. Obs'y	29.66	753.3	29.86	757.0	81.0	27.2	36	NW	5.7	2.53	.....	2	5	SE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.20	741.6	30.09	764.3	59.5	15.3	52	N	9.4	4.2	.....	0	6	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.90	759.5	29.97	761.2	77.7	25.4	87	ENE	5.6	2.5	.....	7ck	1k	.....	E	0.750	19.2	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.82	757.5	29.87	758.8	85.7	29.8	64	SE	7.4	3.3	.....	.....	2cs	E	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.04	762.9	69.4	20.8	74	SW	9.8	4.4	.....	0	9	.....	SSW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	83.5	28.6	77	SE	4.5	2.01	.....	3c	2k	SE	SE	0.591	15.00	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Haparanda	30.04	762.9	30.08	763.9	57.9	14.4	.....	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Umea	29.95	760.8	30.00	762.1	62.6	17.0	46	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.92	760.0	29.97	761.3	58.3	14.6	66	E	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.66	753.4	29.84	757.9	66.9	19.4	49	SSW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	29.77	756.2	29.83	757.7	71.2	21.8	51	SSE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.1	29.80	757.0	68.2	20.1	53	SE	17.0	7.6	.....	.....	9	S	SSE	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.35	720.0	29.76	755.9	57.7	14.3	63	E	.....	.....	3	.....	10	.....	.....	0	0	Raining	The Observatory.
Zurich	28.17	715.4	29.80	756.8	56.7	13.7	84	NE	.....	.....	2	.....	10	.....	.....	0.630	16.0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.6 mm.; Thermometer,—3.8 Cent.; Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.1	77.0	25.0	50	SW	4	2.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.97	761.2	77.4	25.2	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.94	760.5	30.06	763.5	75 2	24.0	68	NW	.....	.....	2	2c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.87	758.7	30.18	766.6	41	5.0	.....	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.56	750.8	29.62	752.3	42	5.6	74	NW	15	6.7	.....	.....	10ks	.....	NW	0.64	1.0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.080	2.03	.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.91	759.7	30.11	764.8	42.0	5.6	55	NW	.....	.....	3	0	1s	.....	.....	0.04	1.0	Fine	James Smith, M. A.
Dalhousie, N. B	29.45	748.0	29.62	752.3	41.0	5.0	91	W	.....	.....	4	.....	10ks	.....	.....	0.07	1.8	Overcast	H. A. Johnson.
Esquimault, B. C	29.71	754.6	29.76	755.9	50.3	10.2	93	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.76	755.9	29.78	756.4	36	2.2	59	NW	42	18.8	.....	.....	10n	.....	N	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.63	752.6	29.70	754.4	47.0	8.3	48	NW	20	8.9	.....	7ks	0	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	29.40	746.7	30.24	768.1	47	8.3	73	E	4	1.8	.....	5k	5n	SW	SW	0	0	Cloudy.	James Stewart.
Granton, Ontario	29.09	738.9	30.23	767.8	41	5.0	.....	E	.....	.....	2	1cs	0	.....	.....	0	0	Fine	James Grant.
*Halifax, N. S	29.47	748.5	29.60	751.8	45	7.2	82	S	10	4.5	.....	.....	10n	.....	S	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.89	759.2	30.27	768.8	44.5	6.9	64	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.83	757.7	30.17	766.3	43	6.1	58	NW	17	7.6	.....	2c	0	Ualm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.61	752.1	29.65	753.1	54.0	12.2	98	SW	12	5.4	.....	4ck	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.86	758.4	30.06	763.5	41	5.0	50	NW	10	4.5	.....	0	2ks	.....	N	Inap.	Inap.	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.66	753.4	30.37	771.4	42	5.6	74	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.46	748.3	30.22	767.6	47.7	8.7	77	N	.....	.....	4	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.49	749.0	30.20	767.1	43	6.1	67	NE	14	6.3	.....	0	0	.....	.....	0.15	3.8	Clear	H. Morgan.
Port Hastings, N. S	29.60	751.8	29.65	753.1	48.1	8.9	.....	S	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.50	749.3	30.16	766.1	46	7.8	69	E	12	5.4	.....	5ck	0	NW	.....	0.01	0.3	Fair	M. Payne.
*Quebec, Quebec	29.63	752.6	29.96	761.0	40	4.4	43	N	.....	.....	6	0	2s	.....	N	0.02	0.5	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.73	755.1	30.20	767.1	42	5.6	58	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.63	752.6	29.69	754.1	48	8.9	56	NW	.....	.....	3	2k	2ks	N	.....	0.06	1.5	Clear	Dr. Gove.
St. John, N. B	29.50	749.3	29.66	753.4	47	8.3	70	W	17	7.6	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.54	750.3	30.27	768.8	46	7.8	47	NE	13	5.8	.....	2cs	0	SW	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.46	748.3	30.26	768.6	44	6.7	52	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.90	734.0	30.21	767.3	41.6	5.3	56	SE	11	4.9	.....	3cs;ck	0	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.63	752.6	29.67	753.6	57	13.9	66	SW	13	5.8	.....	1ck	0	SW	.....	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.88	758.9	30.28	769.1	43	6.1	46	N	14	6.3	.....	2ck	0	W	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.55	750.6	29.64	752.8	45.0	7.2	84	SW	7	3.1	.....	.....	10n;k	.....	.....	0.01	0.3	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.91	759.6	51.0	10.6	100	SE	.....	.....	.....	.....	10n	.....	.....	0.72	18.3	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.82	757.4	30.05	763.3	46	7.8	54	N	12	5.4		0	0			0	0	Clear	
Alpena, Michigan	29.66	753.4	30.33	770.4	43	6.1	43	E	6	2.7		5c	0	Calm		0	0	Fair	
Atlanta, Georgia	28.96	735.6	30.06	763.5	73	22.8	50	SW	6	2.7		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	29.93	760.2	29.94	760.5	64	17.8	68	N	13	5.8		0	Haze		Calm	0.04	1.0	Hazy	
Augusta, Georgia	29.93	760.2	30.11	764.8	70	21.1	61	SW	4	1.8		0	Haze		Calm	0	0	Hazy	
Baltimore, Maryland	29.95	760.7	30.00	762.0	67	19.4	60	N	7	3.1		8c	Haze	W	Calm	0.01	0.3	Fair	
Barnegat, New Jersey	29.91	759.7	29.93	760.2	62	16.7	72	N	18	8.0		8c	0	Calm		0.01	0.3	Fair	
Bismarck, Dakota	28.36	720.3	30.21	767.3	48	8.9	85	E	6	2.7			10s		NE	0.21	5.3	Cloudy	
Boerne, Texas	28.62	726.9	29.89	759.2	71	21.7	80	SE	3	1.3		5k	0	SE		0	0	Cloudy	
Boise City, Idaho	26.87	682.5	29.83	757.7	50	10.0	58	SW	3	1.3		5k	0	SW		0	0	Fair	
Boston, Massachusetts	29.73	755.1	29.88	758.9	54	12.2	49	NW	18	8.0		0	0			Inap.	Inap.	Clear	
Brackettville, Texas	28.88	733.5	29.87	758.7	75	23.9	72	E	9	4.0			10ks		SE	0	0	Cloudy	
Breckenridge, Minnesota	29.14	740.1	30.16	766.1	42	5.6	91	E	14	6.3			10n		E	0.57	14.5	Light rain	
Brownsville, Texas	29.91	759.7	29.95	760.7	80	26.7	70	SE	2	0.9		0	0			0	0	Clear	
Buffalo, New York	29.48	748.8	30.20	767.1	42	5.6	50	E	14	6.3		2c	0	Calm		0.02	0.5	Clear	
Burkes, Arizona					68	20.0	27	Calm			0	2c	0	Calm		0	0	Clear	
Burlington, Vermont	29.78	756.4	30.08	764.0	37	2.8	45	N	16	7.2		2k	2ks	NW	NW	0	0	Fair	
Cairo, Illinois	29.70	754.4	30.07	763.8	77	25.0	69	W	16	7.2		2ck	0	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.19	639.8	29.99	761.7	64	17.8	12	NW	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona					48	8.9	43	W			1	5k	0	NW		0	0	Fair	
Campo, California	27.37	695.2	29.94	760.5	29	—1.7	67	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.97	761.2	29.98	761.5	73	22.8	67	SW	14	6.3		1cs	Haze	Calm		0	0	Hazy	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	69	20.6	80	NW	11	4.9		5k	2s	W	W	0	0	Cloudy	
Cape Lookout, N. Carolina	30.00	762.0	30.01	762.2	70	21.1	75	W	24	10.7		2ck	0	W		0	0	Fair	
Cape May, New Jersey	29.87	758.7	29.90	759.4	65	18.3	68	N	20	8.9		5c	Haze	NW		0.02	0.5	Fair	
Castroville, Texas	29.28	743.7	29.95	760.7	79	26.1	66	S	4	1.8		0	2ks		S	0	0	Fair	
Charleston, South Carolina	30.05	763.3	30.11	764.8	71	21.7	66	W	6	2.7		0	0			0	0	Clear	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	50	10.0	65	S	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.36	745.7	30.06	763.5	50	10.0	65	NE	21	9.4		10cs	0	Calm		1.51	38.4	Cloudy	
Cincinnati, Ohio	29.39	746.5	30.02	762.5	67	19.4	89	SW	4	1.8			10n		NW	2.73	69.3	Light rain	
Cleveland, Ohio	29.38	746.2	30.10	764.5	50	10.0	65	NE	10	4.5			10s		NE	0.20	5.1	Cloudy	
Coleman City, Texas	28.26	717.8	29.87	758.7	69	20.6	61	SE	8	3.6		5c	0	W		0	0	Fair	
Columbus, Ohio	29.22	742.2	30.05	763.3	57	13.9	81	NE	7	3.1			10s		N	0.63	16.0	Cloudy	
Concho, Texas	28.16	715.3	29.77	756.1	71	21.7	71	E	5	2.2		0	0			0	0	Clear	
Corsicana, Texas	29.63	752.6	30.09	764.3	69	20.6	85	S	1	0.4		2cs	0	Calm		0	0	Fair	
Davenport, Iowa	29.32	744.7	29.95	760.7	56	13.3	81	E	9	4.0			10s		Calm	0.70	17.8	Cloudy	
Deadwood, Dakota	25.51	647.9			44	6.7	60	Calm	0	0		0	0			0.11	2.8	Clear	
Decatur, Texas	28.91	734.3	30.04	763.0	72	22.2	80	S	10	4.5		2c	0	Calm		0	0	Clear	
Denison, Texas	29.28	743.7	30.05	763.3	72	22.2	80	S	6	2.7		2cs	0	Calm		0	0	Fair	
Denver, Colorado	24.91	632.7	30.13	765.3	47	8.3	62	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.14	740.1	30.01	762.2	57	13.9	87	NE	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Detroit, Michigan	29.50	749.3	30.18	766.6	46	7.8	62	NE	10	4.5			10s		Calm	0.07	1.8	Cloudy	
Dodge City, Kansas	27.48	698.0	29.69	754.1	65	18.3	73	NE	20	8.9			10s		Calm	0	0	Cloudy	
Dubuque, Iowa	29.33	745.0	30.02	762.5	52	11.1	73	E	1	0.4			10s		Calm	0.58	14.7	Cloudy	
Duluth, Minnesota	29.56	750.8	30.25	768.3	44	6.7	70	NE	20	8.9			10s		NE	0	0	Cloudy	
Eagle Pass, Texa	29.26	743.2	29.96	761.0	75	23.9	77	SE	9	4.0		4cs	0	SE		0	0	Fair	
Eastport, Maine	29.62	752.3	29.69	754.1	50	10.0	65	NW	15	6.7		8k	0	NW		0.05	1.3	Fair	
Edinburg, Texas					79	26.1	74	E			1	2c	0	Calm		0	0	Fair	
El Paso, Texas	26.16	664.4			71	21.7	32	N	4	1.8		0	2s		W	0	0	Fair	
Erie, Pennsylvania	29.42	747.2	30.14	765.5	45	7.2	68	NE	23	10.3		2c	0	Calm		0	0	Fair	
Escanaba, Michigan	29.65	753.1	30.31	769.9	48	8.9	49	E	10	4.5		0	0			0	0	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	75	23.9	4	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	28.11	714.0			50	10.0	93	SE	7	3.1			10s		SE	0.85	21.6	Cloudy	
Fort Craig, New Mexico	25.48	647.2	29.55	750.6	56	13.3	39	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.19	639.8	30.15	765.8	65	18.3	54	SW	4	1.8			10s		Calm	0	0	Cloudy	
Fort Gibson, Indian Ter	29.53	750.0	30.04	763.0	76	24.4	73	S	4	1.8		Haze	0	Calm		0	0	Clear	
Fort Griffin, Texas	28.79	731.3	30.02	762.5	71	21.7	75	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.55	699.8			53	11.7	79	N	2	0.9			10s		Calm	0.60	15.2	Cloudy	
Fort McKavett, Texas	27.80	706.1	29.65	753.1	70	21.1	70	SE	4	1.8		2c	0	Calm		0	0	Clear	
Fort St. Michael, Alaska	29.84	757.9	29.87	758.7	33	0.6	100	NW	4	1.8		0	0			0	0	Clear	
Fort Sill, Indian Territory	28.85	732.8	29.91	759.7	74	23.3	68	Calm	0	0		10ck	0	Calm		0	0	Cloudy	
Fort Stevenson, Dakota	28.24	717.3			52	11.1	79	E	6	2.7			10s		E	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.30	718.8	29.82	757.4	70	21.1	75	S	4	1.8		5k	0	Calm		0	0	Fair	
Galveston, Texas	30.04	763.0	30.08	764.0	76	24.4	52	SE	10	4.5		0	0			0	0	Clear	
Graham, Texas	28.98	736.1	30.00	762.0	73	22.8	81	S	7	3.1		4cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.47	748.5	30.13	765.3	48	8.9	56	E	16	7.2		0	5s		E	0.14	3.6	Fair	
Indianapolis, Indiana	29.20	741.7	29.95	760.7	65	18.3	94	NE	9	4.0			10n		Calm	2.05	52.1	Heavy rain	
Indianola, Texas	30.05	763.3	30.07	763.8	76	24.4	82	SE	4	1.8		0	5ks		SE	0	0	Fair	
Jacksboro, Texas	28.93	734.8	29.94	760.5	75	23.9	72	S	6	2.7		5c	0	SW		0	0	Fair	
Jacksonville, Florida	30.13	765.3	30.15	765.8	72	22.2	67	SE	3	1.3		2cs	0	W		0	0	Clear	
Keokuk, Iowa	29.30	744.2	29.90	759.4	62	16.7	77	N	6	2.7		5c	0	W		Inap.	Inap.	Fair	
Key West, Florida	30.00	762.0	30.04	763.0	76	24.4	82	NE	12	5.4			10ks		NE	0	0	Threatening	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	74	23.3	68	NW	12	5.4		2ck	Haze	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.12	739.6	30.09	764.3	70.5	21.4	75	SW	8	3.6		0	2ks		SW	0	0	Fair	
La Crosse, Wisconsin	29.33	745.0	30.08	764.0	47	8.3	85	NE	7	3.1			10s		Calm	0.08	2.0	Cloudy	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	57	13.9	31	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.56	750.8	29.89	759.2	78	25.6	54	E	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	29.16	740.7	29.98	761.5	68	20.0	84	NW	8	3.6		8cs	1ks	W		0.05	1.3	Cloudy	
Los Angeles, California	29.62	752.3	29.97	761.2	47.5	8.6	81	E	3	1.3		0	1s		Calm	0	0	Clear	
Louisville, Kentucky	29.43	747.5	29.96	761.0	75	23.9	68	SW	10	4.5		2c	5s	SW	Calm	0	0	Fair	
Lynchburg, Virginia	29.33	745.0	29.98	761.5	74	23.3	68	W	3	1.3		0	8ks		Calm	0.28	7.1	Cloudy	
Madison, Wisconsin	29.07	738.4	30.06	763.5	51	10.6	72	SE	19	8.5			10s		SE	0.31	7.9	Cloudy	
Marquette, Michigan	29.59	751.6	30.32	770.1	43	6.1	67	SE	4	1.8		5c	0	SE		0	0	Fair	
Mason, Texas	28.44	722.4	30.14	765.5	71	21.7	75	SE	1	0.4		0	0			0	0	Clear	
Memphis, Tennessee	29.78	756.4	30.11	764.8	75	23.9	68	W	4	1.8		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.39	746.5	30.13	765.3	46	7.8	77	E	17	7.6		8ck	1s	E	Calm	0.17	4.3	Cloudy	
Mobile, Alabama	30.10	764.5	30.14	765.5	69	20.6	85	NW	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	29.94	760.5	30.17	766.3	69	20.6	75	W	4	1.8		0	0			0	0	Clear	
Morgantown, West Virginia*	29.05	737.9	30.02	762.5	61	16.1	82	NE	4	1.8			10s		Calm	0.29	7.4	Cloudy	
Mt. Washington, N. H.	23.42	594.9	29.78	756.4	13	—10.6	100	NW	15	6.7			Fog		NW	0.19	4.8	Foggy	
Nashville, Tennessee	29.57	751.1	30.08	764.0	79	26.1	62	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.81	757.2	29.93	760.2	58	14.4	53	NW	13	5.8		2c	0	Calm		0.03	0.8	Clear	
New London, Connecticut	29.85	758.2	29.90	759.4	61	16.1	66	NW	10	4.5		Haze	Haze	Calm	Calm	0.02	0.5	Dense haze	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	77	25.0	69	SE	4	1.8		0	0			0	0	Clear	
Newport, Rhode Island	29.84	757.9	29.88	758.9	58.5	14.7	56	NW	12	5.4		2cs	Haze	Calm		Inap.	Inap.	Fair	
New York, New York	29.79	756.7	29.96	761.0	65	18.3	44	N	9	4.0		2ck	5ks	SE	SE	0.21	5.3	Fair	
Norfolk, Virginia	29.92	760.0	29.97	761.2	73	22.8	67	N	10	4.5		0	5ks		SW	Inap.	Inap.	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.23	691.6	29.78	756.4	55	12.8	87	NE	5	2.2	.....	2c	2ks	Calm	Calm	0	0	Fair	
Olympia, Washington Ter.	29.68	753.9	29.72	754.9	49.0	9.4	89	NE	1	0.4	.....	5cs	0	SE	.....	0	0	Fair	
Omaha, Nebraska	28.89	733.8	29.95	760.7	65	18.3	84	NW	4	1.8	.....	5cs;k	2s	W;N	Calm	0	0	Fair	
Oswego, New York	29.88	758.9	30.22	767.6	40	4.4	56	N	20	8.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pembina, Dakota	29.36	745.7	30.19	766.8	47	8.3	85	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	29.92	760.0	29.97	761.2	60	15.6	71	NW	25	11.2	.....	10cs	Haze	NW	Calm	0.16	4.1	Cloudy	
Phœnix, Arizona	28.68	728.5	30.45	773.4	60	15.6	20	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.94	455.7	30.15	765.8	24	— 4.4	24	SW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	53	11.7	8	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Pittsburg, Pennsylvania	29.25	742.9	30.06	763.5	54	12.2	74	NW	4	1.8	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Port Huron, Michigan	29.51	749.5	30.19	766.8	43	6.1	67	NE	17	7.6	.....	10cs	0	W	.....	0	0	Cloudy	
Portland, Maine	29.80	756.9	29.85	758.2	50	10.0	52	N	15	6.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Portland, Oregon	29.68	753.9	29.75	755.6	58.0	14.4	85	S	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Prescott, Arizona	24.69	627.1	30.05	763.3	41	5.0	25	W	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.20	741.7	30.00	762.0	70	21.1	79	SE	5	2.2	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	72	22.2	67	NE	13	5.8	.....	5cs;ck	0	SW	.....	0	0	Fair	
Red Bluff, California	29.58	751.3	29.93	760.2	56	13.3	63	SE	20	8.9	.....	.....	10ks	.....	SE	0	0	Cloudy	
Rio Grande City, Texas	29.82	757.4	30.03	762.7	76	24.4	77	SE	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Rochester, New York	29.60	751.8	30.24	768.1	41	5.0	49	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.26	743.2	29.81	757.2	54	12.2	93	S	1	0.4	.....	0	10n	.....	Calm	0.05	1.3	Light rain	
Sacramento, California	29.92	760.0	30.00	762.0	52	11.1	79	S	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.39	746.5	29.94	760.5	75	23.9	68	W	17	7.6	.....	2k	0	SW	.....	0	0	Fair	
St. Marks, Florida	30.13	765.3	30.15	765.8	69	20.6	85	N	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.27	743.4	30.11	764.8	45	7.2	76	NE	5	2.2	.....	.....	10s	.....	NE	0.67	17.0	Cloudy	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	56	13.3	29	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.37	746.0	29.94	760.5	72	22.2	80	NE	4	1.8	.....	0	2ks	.....	SE	0	0	Clear	
San Diego, California	29.91	759.7	29.99	761.7	55	12.8	93	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.46	748.3	30.14	765.5	52	11.1	66	E	33	14.8	.....	.....	10s	.....	E	0.09	2.3	Cloudy	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	59	15.0	70	N	21	9.4	.....	5cs	Haze	NW	Calm	0.23	5.8	Hazy	
San Francisco, California	29.93	760.2	29.99	761.7	54	12.2	87	SW	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	56	13.3	19	NW	4	1.8	.....	2k	Haze	SW	Calm	0	0	Clear	
Savannah, Georgia	30.07	763.8	30.16	766.1	77	25.0	53	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.92	760.0	30.14	765.5	73	22.8	76	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.30	617.2	30.49	774.4	45	7.2	24	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.04	763.0	30.07	763.8	71	21.7	75	W	12	5.4	.....	1cs	Haze	NW	Calm	0	0	Clear	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	57	13.9	52	N	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Stockton, Texas	26.95	684.5	29.95	760.7	71	21.7	49	SE	20	8.9	.....	8c	0	SE	.....	0	0	Fair	
Thatcher's Island, Mass	29.83	757.7	29.89	759.2	52	11.1	60	NW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.46	748.3	30.15	765.8	51	10.6	65	E	24	10.7	.....	.....	10s	.....	E	0.21	5.3	Cloudy	
Tucson, Arizona	27.45	697.2	30.00	762.0	53	11.7	19	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.37	746.0	29.84	757.9	52.0	11.1	82	E	4	1.8	.....	0	5ks	.....	SW	0	0	Fair	
Uvalde, Texas	29.13	739.9	29.92	760.0	74	23.3	72	E	5	2.2	.....	1c	0	W	.....	0	0	Clear	
Vicksburg, Mississippi	29.93	760.2	30.18	766.6	75	23.9	68	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.23	615.4	29.71	754.6	46	7.8	54	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Visalia, California	29.62	752.3	30.00	762.0	52	11.1	67	NW	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Washington, D. C.	29.89	759.2	30.00	762.0	67	19.4	79	NW	7	3.1	.....	2ck;hz	Haze	W	NW	0.16	4.1	Hazy	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.97	761.2	30.04	763.0	74	23.3	59	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.45	646.4	29.81	757.2	49	9.4	44	W	16	7.2	.....	2k	Haze	SE	Calm	0	0	Fair	
Wood's Holl, Mass	29.80	756.9	29.84	757.9	59	15.0	54	NW	14	6.3	.....	Haze	5ks	.....	NW	0	0	Fair	
Yankton, Dakota	28.83	732.3	30.10	764.5	57	13.9	81	NW	13	5.8	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Yuma, Arizona	29.63	752.6	29.80	756.9	65	18.3	40	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.52	724.4	29.88	758.9	70	21.1	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	78	25.6	86	SE	1.2	0.5	.....	4ck	4n	SE	SE	0.75	19.1	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.86	758.4	29.94	760.5	79	26.1	86	NE	.....	.....	.....	.....	.....	.....	.....	3.44	87.4	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	80	26.7	87	E	.....	.....	3	5k	7ks	E	.....	0.630	16.00	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	29.90	759.4	29.95	760.7	35.0	1.7	100	N	5	2.2	.....	5k	4s	E	E	0	0	Threatening	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer
Navy Yard, Mare Island, Cal.	30.03‡	762.7‡			53	11.7	86	SE	1	0.4			10		SW	0	0			Overcast	
Navy Yard, Pensacola, Fla.	30.14‡	765.5‡			70	21.1	85	NNW	2	0.9			0			0.22	5.6			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.76‡	755.9‡			72.5	22.5	88	SW			6		3k		SW	Slight	Slight			Fair	
Adams, Callao, Peru	29.91‡	759.7‡			63	17.2	94	NW			2		0?		NW					Foggy	
Alaska, Sitka, Alaska	29.93‡	760.2‡			49	9.4	93	Calm			0		10			0	0			Overcast	
Alliance. N. 36° 01′, W. 6° 02′	30.04‡	763.0‡			69	20.6	75	WSW			4		1							Pleasant	
Colorado, New York, N. Y.	29.97‡	761.2‡			58	14.4	70	N	17	7.6			8		N	0.22*	5.6			Pleasant	
Constitution, Brooklin, N. Y.	29.86‡	758.4‡			63	17.2	78	N			3		7		N					Cloudy	
Despatch, Off Fuchal, Madeira	30.25‡	768.3‡			67	19.4	95	NNE			5		7		Calm	0	0	Long	NNE	Fair	
Enterprise, Havre, France	29.97‡	761.2‡			55	12.8	80	WNW			3–4		3		W					D. clouds	
Franklin, Norfolk, Va.	29.96‡	761.0‡			73	22.8	72	NNW	13.2	5.9			10		WNW	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	30.17‡	766.3‡			51	10.6	79	NW			5		5?		NW	0	0			Clear?	
Kearsarge, Portsmouth, N. H.	29.85‡	758.2‡			52	11.1	60	NW			4		0							Clear	
Marion, N. 23° 30′, W. 84° 30′	29.95‡	760.7‡			78	25.6	100	ENE			5		10		N;E			Mod'ate	N;E	Heavy rain.	
Michigan, Erie, Pa.					46	7.8	69	NE			6		2							Clear	
Monocacy, Shanghai, China	30.07‡	763.8‡			59	15.0	88	NW			2		10		NW					Rainy	
Monongahela, Yokohama, Japan	29.71‡	754.6‡			76	24.4	73	S			5–6		cs			Very light	Very light			D. clouds	
New Hampshire, Port Royal, S. C.	30.12‡	765.0‡			68	20.0	84	S	15	6.7			2		S	0	0			Clear	
Onward, Callao, Peru †*	30.03‡	762.7‡			61	16.1	94	NW			3		10					Long	W	Foggy	
Palos, Shanghai, China	30.03‡	762.7‡			57	13.9	94	SW			1		10							Light rain	
Passaic, Washington, D. C.					73	22.8	67	N			2		2							Clear	
Pensacola, Callao, Peru	29.92‡	760.0‡			61	16.1	94	NNW	4	1.8			10			0	0	Smooth		Misty	
Portsmouth, Port Royal, S. C.	30.15‡	765.8‡			68	20.0	70	WSW			4		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	29.92‡	760.0‡			70	21.1	52	N			3		8		Calm	0	0	Smooth		Cloudy	
Quinnebaug, N. 32° 21′, E. 34° 14′	30.04‡	763.0‡			73	22.8	76	NNW			2		0					Smooth		Clear	
Ranger, Amoy, China	29.90‡	759.4‡			84	28.9	92	SE			1		2		Calm			Smooth		Clear	
Richmond, Shanghai, China	29.96‡	761.0‡			60	15.6	94	NNE			2		10		NNE	0.2	5.			Cloudy	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡			74	23.3	95	SE			1		0							Clear	
Santee, Annapolis, Md.	29.95‡	760.7‡			68	20.0	74	N			2		8		W	0.04	1.0			Hazy	
Saratoga, Funchal, Madeira	30.27‡	768.8‡			69	20.6	75	SW			1		5		NE	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa.	29.99‡	761.7‡			62	16.7	83	N	19	8.5			5		N	0.3	8.			Fair	
Trenton, Marseilles, France	29.66‡	753.4‡			64	17.8	78	NNE			2–4		10		NNW			Smooth		Drizzling	
Tuscarora, Port Angel, Mexico	29.86‡	758.4‡			78	25.6	73	NNW			1		0			0	0			Hazy	
Vandalia, N. 24° 06′, W. 85° 42′	29.61‡	752.1‡			77	25.0	95	ESE			4		10		N	Blank	Blank	Rough	NE	Cloudy	
Wabash, Boston, Mass.	29.82‡	757.4‡			56	13.3	14	NW			4		5			0	0			Hazy	
Wyoming, Leghorn, Italy	29.67‡	753.6‡			62	16.7		S			2		10		S			Smooth	S	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Yokohama, Japan		30.02‡	762.5‡				NE			5		2k		NW	0	Smooth		Blue sky	L. B Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		29.98‡	761.5‡	57	13.9	69	SW			1		2		NW				Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 35° 55′, E. 175° 00′		29.82‡	757.4‡				ENE			8				ENE		Mod'ate	SE	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.88‡	758.9‡	82	27 8	87	NW			3		4k			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 48° 05′, W. 166° 46′		29.87‡	758.7‡	41	5.0	91	W			5		10n				2	WSW	Drizzling	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressed.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		30.00‡	762.0‡				N			2		8		N				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True Course Toward.	Barometer Reduced to Sea-Level. Inches.	Barometer Reduced to Sea-Level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 51', W. 14° 12'		29.99‡	761.7‡	54	12.2	93	NW			8		9		NW	Mod'ate	Heavy	NW	Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 27° 30', W. 87° 43'		30.09‡	764.3‡	77	25.0	77	E	12	5.4			5k		E	0	Rough	E	Cloudy	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N 36° 10', W. 75° 00'....†		30.01‡	762.2‡	63	17.2		WNW			2		2		NW		Sharp cross.	S	Fair	N. B. Foss.
Schooner Harry and Fred, Mannabo, Porto Rico, W.I.		29.58?‡	751 37‡				NE	5	2.2			2		E		Long	SE	Fair	Capt. George Gardner.
B. Nordenskiold of Sundsvall, Sweden, N. 37° 42', W. 70° 13'....†		29.66‡	753.4‡	62	16.7	94	N			2		10		NW		Mod'ate	E	Cloudy	Capt. P. Sandelin.
Schooner Henry Whitney, N. 35° 45', W. 75° 12'....†		29.93‡	760.2‡	68	20.0		W			4		5		NW	0	Small	S	Cloudy	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

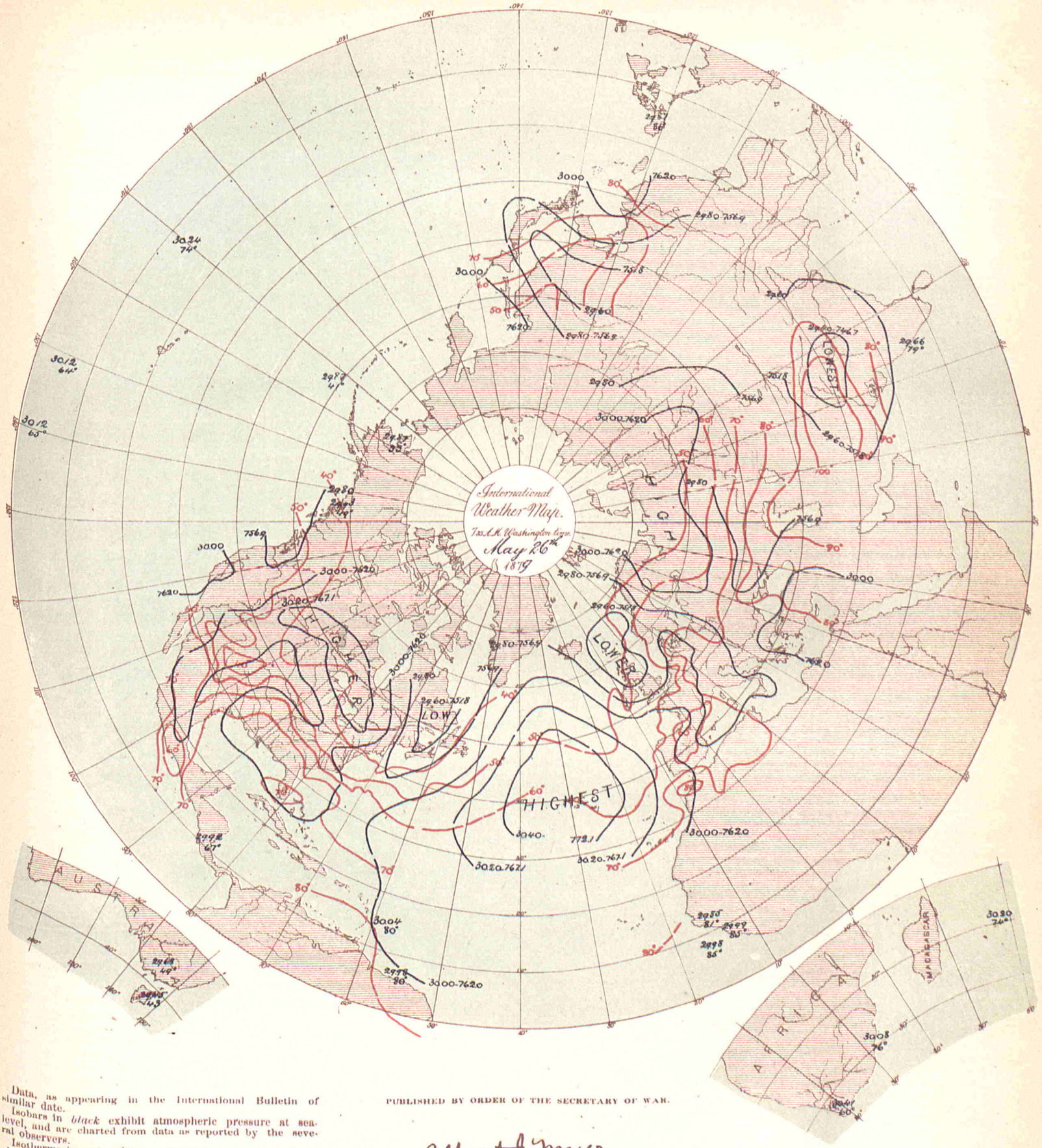
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.91	759.8	72.7	22.6	93	WNW			2		2			0	0	Fair	Kesxuche.
Algiers			29.76	756.0	72.7	22.6	63	W			5		0			Inap.	Inap.	Clear	Tourilliere.
La Calle			29.86	758.5	72.0	22.2	66	NE			1		2			0	0	Fair	Foufrede.
Tunis																			Jacqres.
Sfax			30.02	762.4															Gau.
Saida			29.94	760.5	75.6	24.2	3	NW			3		0			0	0	Clear	Herbin.
Tebessa			29.93	760.1	74.8	23.8	19	W			4		2			0	0	Fair	Watrin.
Geriville			29.97	761.2	68.4	20.2	24	WNW			2		2			0	0	Fair	Brugniaux.
Laghouat			29.91	759.8	79.9	26.6	32	SW			4		2			0	0	Fair	Bertrand.
Biskra			29.88	758.9	86.0	30.0	21	SW			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.11	739.4	29.63	752.7	72.9	22.7	45	SW			6		4			0	0		Prof. Ivan Stozir.
Eperies	28.97	735.8	29.69	754.2	79.5	26.4	49	ESE			3		7			0	0		Dr. Wierzbiski.
Gratz	28.89	733.9	29.72	755.0	78.1	25.6	53	S			2		3ks			0	0		Julius Mikolik.
Hermannstadt	28.42	721.8	29.61	752.1	69.4	20.8	70	NE			3		3			0.071	1.8		Andreas Rospini.
Kremsmünster	28.41	721.5	29.75	755.6	78.4	25.8	51	SE			2		8			0.167	4.25		Prof. A. Gottschling.
Lemberg	28.16	715.3	29.43	747.5	71.8	22.1	46	E			3		5			0	0		Prof. C. Wagner.
Pola	28.81	731.8	29.74	755.4	76.8	24.9	54	SE			2		4			0	0		Dr. T. Stanecki.
Szathmar	29.05	738.1	29.76	755.9	60.8	15.7	84	SE			1		10			0.283	7.2		I.R.HydrographicOffice.
Szegedin	29.33	745.0	29.76	756.0	84.2	29.0	40	E			2		2			0	0		Julius Osics, S. J.
Trieste	29.37	746.1	29.64	752.8	79.2	26.2	44	S			3		3			0.350	8.90		Karl Stancel.
Vienna	29.66	753.4	29.76	756 0	62.2	16.8	87	SW			1		8			0.055	1 4	Raining	P. Busin.
	28.93	734.7	29.61	752.1	71.6	22.0	64	SE			3		7			0.051	1.3		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.65	753.1	29.74	755.4	49.6	9.8		SE	6	2.7			2			0	0	Blue sky	W. Boswell.
Ardrossan	29.69	754.1	29.71	754.6	50	10.0		NW			3		8					Raining	William McNeil.
Armagh, Observatory			29.74	755.4	51.1	10.6		NNE	6	2.7			7					Showery	S. Call.
Bidston (Liverpool Obs)			29.69	754.1	53.8	12.1		WNW	14	6.3			2					Blue sky	John Hartnup.
Bolton (Sharples)			29.63	752.6	53.1	11.7		NE	12	5.4			7					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.27	743.4	29.66	753.4	55.1	12.8		NE			4		3			0.04	1.0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	84	28.9		E			1		3					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.53	750.0	29.62	752.3	55.0	12.8		N			1		10					Raining	H. Todd.
Cardington			29.60	751.8	54.0	12.2		E			2		10					Overcast	John McLaren.
Chatham, School M. E.	29.48	748.8	29.60	751.8	54.7	12.6		NE			2		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.70	754.4	29.74	755.4	57	13.9		NNE			4		0					Blue sky	J. Mac Gowan.
Dover	29.56	750.8	29.58	751.3	53	11.7		E			2		5					Gloomy	J. Costello.
Falmouth, Observatory	29.43	747.5	29.66	753.4	50.5	10.3		NNW			6		9					Gloomy	The Staff.
Fort Napier (Natal)	27.88	708.1	30.18	766.6	66.4	19.1		E			3		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	86	30.0		E			0		3					D. clouds	
Galway, Queen's College			29.72	754.9	55	12.8		NNW			4		6					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.95	760.7	67.6	19.8		W			4		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.52	749.8	29.72	754.9	47.1	8.4		NNW			2		10					Threatening	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	54	12.2		E			2		1					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.42	747.2	29.59	751.6	57.1	13.9		E			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.27	743.4	29.49	749.0	48.5	9.2		NNW			2		10					Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.70	754.4	29.82	757.4	53	11.7		NW			6		3c			0.17	4.3		M. P. Moyle.
Holyhead	29.70	754.4	29.73	755.1	50	10.0		N			4		1					Blue sky	John Tilston.
Jersey	29.16	740.7	29.45	748.0	48.3	9.1		N			4		10					Raining	J. Fisher.
Kew, Observatory	29.55	750.6	29.59	751.6	56.3	13.5		ESE	15	6.7			10					Raining	The Meteorological Of.
Leicester, Museum	29.39	746.5	29.65	753.1	52.0	11.1		NE			1		10					Drizzling	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.85	758.2	29.93	760.2	69	20.6		NW			2	1c				0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.62	752.3	29.71	754.6	55	12.8		NNE			1		2					¼ clouded	W. D. Penny.
Nassau (Bahamas)			30.10	764.5	74.5	23.6		NE			1		10			Blank	Blank	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.48	748.8	29.66	753.4	54.3	12.4		NE			3		10k;d		NNE	0.005	0.13	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.64	752.8	52.4	11.5		NNE			3		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.63	752.6	50	10.0		E			2		10					Raining	H. E. Bellamy.
Plymouth	29.53	750.0	29.60	751.8	53.8	12.1		NW			3		10					Overcast	John Merrifield.
Prince Town	28.17	715.5	29.64	752.8	45.6	7.6		N			5		6					Raining	W. H. Tooker.
*Roche's Point	29.70	754.4	29.80	756.9	54	12.2		N			4		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.53	750.0	29.69	754.1	51	10.6		WNW			4		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			29.69	754.1	48	8.9		WNW	12	5.4			7			0.60	15.2	D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.82	757.4	29.89	759.2	77.2	25.1		Calm			0		5					D. clouds	Serg't W. H.Lyne.
Sheffield	29.40	746.7	29.68	753.9	56.3	13.5		NNE			2		10			0.01	0.3	Overcast	W. F. Cooper.
Silloth Rectory	29.67	753.6	29.70	754.4	60.0	15.6	55	W			1		0			0.034	0.86	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.28	743.7	29.69	754.1	56.9	13.8		WSW			3		5					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.38	746.2	29.59	751.6	52.9	11.6		NE			2		10					Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.63	752.6	29.66	753.4	52	11.1		NE			9		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.81	757.2	29.83	757.7	52.5	11.4		NNW	25	11.2			6			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.26	768.6	30.30	769.6	63.7	17.6	58	SSW	14	6.3		0	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.82	757.4	41.0	5.0	87	SW			1		10ks			0.04	1.0	Covered	Francis Abbott,F.R.A.S.
Leith, Restalrig Park	29.74	755.4	29.75	755.6	53.8	12.1		E			2	3ck				0	0	Fine	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.3	71.7	22.1	77	ESE	20.0	8.9		1	4		ESE	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	29.70	754.4	29.79	756.6	44.0	6.7	85	NE	5	2.2			2			0.01	0.25	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.79	756.7	50	10.0		N			4	5	3	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.78	756.4	47	8.3		SE			4		10					Hazy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 42° 05′, W. 43° 29′			30.29‡	769.4‡	68.4	20.2		SSW			5		10					Misty	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
—— City of Agra																			Capt. Thos. Young.
Barque Comnewyne																			Capt. A. Buchan.
Barque Fedalma, N. 22° 15′, W. 61° 15′			30.16	766.6	80	26.7		E			4		4			4	NNW;SE	D. clouds	Capt. H. L. Fox.
Barque Mertole																			Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Royal Alexandra, N. 46° 10′, W. 32° 20′			30.61	777.5	65	18.3		WSW			2		10			2	NW	Overcast	W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	68.9	20.5	91	NE			1	8s				Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.59	751.6	29.64	752.8	65.1	18.4	73	ESE			4		5						
Fanöe	29.64	752.8	29.66	753.3	49.5	9.7	98	NE			6		10					Raining	
Godthaab (Greenland)	29.49	749.4	29.54	750.2	42.6	5.9	96	S			7		10					Raining	
Stykkisholm (Iceland)	30.24	768.0	30.28	769.1	42.1	5.6	73	NE			7		8						
Thorshavn (Faröe)	29.79	756.6	29.82	757.5	45.1	7.3	69	N			4		3						
Vestervig	29.51	749.6	29.68	753.9	46.8	8.2	87	SW			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.99	736.3	29.54	750.3	59.0	15	84	SE			1		8		S			Raining	Collignon, Director.
Amiens, Normal School	29.44	747.8	29.54	750.4	66.2	19	46	E			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.33	745.0	29.58	751.3	63.3	17.4	40	E			3				S	0	0		Klein, Commandant.
Avignon, Normal School	29.61	752.0	29.69	754.0	64.4	18	62	N			1		5		W	0.24	6.	Cloudy	Giraud, Director.
Bar-sur-Seine	29.07	738.4	29.62	752.3	57.4	14.1	53	S			1		10			0.016	0.4	Sprinkling	C. Saillard, Director.
Beauvais, Normal School	29.30	744.1	29.55	750.6	64.9	18.3	50	SSE			1		8		SSE	0	0	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	28.80	731.4	29.69	754.0	54.7	12.6	85	S			2		10		SW	0.59	15.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.86	733.0	29.77	756.2	53.8	12.1	83	SE			1		10n	W	W	0.024	0.6	Covered	Marlot, Director
Bourges, Normal School	29.10	739.1	29.64	752.8	61.9	16.6	67	SW			1		5	N	S	0	0	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.35	745.5	29.59	751.6	54.0	12.2	59	N			3		8		N	0.276	7.00		De Rermaree, Director.
Carcassonne, Normal School	29.38	746.2	29.79	756.6	60.1	15.6	56	W			2		10	W	W	0.12	3.	Covered	September, Director.
Caen, Normal School	29.40	746.8	29.48	748.7	56.8	13.8	76	SSW			2		10			0.047	1.2	Covered	Lair, Director.
Chartres, Normal School	29.03	737.4	29.59	751.5	57.7	14.3	84	SE			3		9		NNW			Light rain	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.31	744.4	29.62	752.3	58.5	14.7	64	Calm			0		8			0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.28	718.3	29.60	751.9	61.5	16.4	47	E			1		10			0	0		Alluard, Director.
Commercy, Normal School	28.75	730.3	29.60	751.9	54.3	12.4	93	NW			1		10			0.059	1.5	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.62	726.9	29.76	755.9	61.3	16.3	58	SW			2		8	SW	S	0.098	2.5		L. Kina, Director.
Grenoble, Normal School	28.92	734.5	29.68	753.8	53.2	11.8	80	W			1		10n			0.035	0.90	Raining	Ablard, Director
La Roche-sur-Yon, N. School	29.41	746.9	29.61	752.2	59.0	15.0	61	WSW			1		5		WNW	0.370	9.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.22	742.2	29.52	749.9	52.9	11.6	93	S			2		8		S	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.76	730.6	29.67	753.6	54.5	12.5	88	SW			2		10		NE	0.299	7.60	Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.50	749.4	29.60	751.9	52.9	11.6	69	NW			2			N	NW	1.220	31.0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			29.71	754.6	63.3	17.4	60	WSW			2		4			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.57	725.7	29.60	751.8	56.1	13.4	88	SSE			4		10kn		NW	0	0	Covered	Barbier, Director.
Nismes, Normal School	29.45	748.1	29.65	753.1	66.6	19.2	64	SW			2		10		N	0	0	Covered	Boyer, Director.
Privas, Normal School	29.01	736.9	29.67	753.6	57.2	14	67	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.82	636.3			36.7	2.6	89	SSW			3		9		S	0	0	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.61	752.2	29.65	753.0	58.5	14.7	74	W			2		8	W	W	0.20	5.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.46	748.2	29.54	750.4	62.6	17.0	43	SSE			2		8		SE	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.54	750.3	29.57	751.1	50.5	10.3	94	WSW			3		10	WSW	WSW	1.242	31.55	Rainy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.41	747.1	29.58	751.3	64.4	18.0	45	SSE			2				SSE	0	0		E. Renou, Director.
Tarbes, Normal School	28.84	732.6	29.93	760.3	48.2	9	61	NW			6		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.07	738.3	29.78	756.5	56.8	13.8	84	WSW			3		9			0.130	3.3		Mercadier Julier.
Versailles, Observatory	29.09	738.8	29.58	751.2	61.5	16.4	44	SSW			3					0.009	0.24		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.09	738.9	29.79	756.7	58.6	14.8	98	NE			1		10			0.12	3.	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	82.4	28										0.71	18.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.09	738.8	29.70	754.3	54.3	12.4	81	ESE			1		10			0.031	0.8	Rainy	Mr. Jays.
Mont-Louis	24.58	624.3	29.89	759.3	45.0	7.2	63	SE	18.6	8.3			8		N	0	0		M. Cave.
Nice			29.74	755.4	62.6	17.0	80	SW			1		10			1.417	36.0	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.30	744.1			69.8	16.0	46	S			3		9		SSW	0	0		Marié Davy, Director.
Perpignan	29.63	752.5	29.73	755.2	63.1	17.3	46	N	9.4	4.2			3		W	0.634	16.1	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.24	564.9			32.4	0.2		SW			1		10			0.689	17.5	Snowy	Gen'l de Nansouty.
Tours	29.36	745.8	29.56	750.8	56.7	13.7	73	S			4		10		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	30.01	762.3	30.04	762.9	56.7	13.7	96	ESE	4.0	1.8			10n			0.374	9.5	Raining	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.62	727.0	29.45	748.1	67.8	19.9	65	SE			5		7	SE		0.039	1.0	Thunder-storm.	Prof. Dr. Hoh.
Berlin	29.39	746.5	29.56	750.7	77.9	25.5	49	SE			4		3			0	0		Prof. Arndt.
Breslau	29.18	741.1	29.70	754.4	79.3	26.3	44	SE			5		7			0	0		Royal University Obs'y.
Carlsruhe	29.10	739.2	29.52	749.7	61.2	16.2	80	SW			2		9	SW		0.394	10.0		Albert Senz.
Cassel	28.91	734.3	29.51	749.6	60.4	15.8	87	NNE			2		10	N		0.054	1.38		Dr. H. Möhl.
Crefeld	29.40	746.7	29.56	750.8	53.2	11.8	91	N			5		10			0.08	2.	Raining	Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.14	740.1	29.50	749.2	59.9	15.5		WNW			2		10			0.520	13.2		Physical Society.
Freienwalde on the Oder	29.52	749.8	29.56	750.8	79.9	26.6	47	SE			5		9cs	SE		0.031	0.8		Assmann., M. D.
Friedrichshafen	28.13	714.4	29.51	749.5	63.9	17.7	62	SW			4		8	SW		0.169	4.3	Thunder-storm.	M. Wilhelm.
Hamburg	29.50	749.3	29.57	751.1	55.9	13.3	98	NE			3		10			0.409	10.4	Cloudy	Captain F. Hegeman.
Kiel	29.65	753.2	29.67	753.6	56.3	13.5	92	NE			3		10			0.559	14.21		Prof. G. Karsten.
Königsberg (Prussia)	29.76	755.8	29.84	757.8	82.6	28.1	37	SE			5		2			0	0		Prof. E. Luther.
Köslin			29.66	753.3	80.8	27.1		SE			4		1			0.291	7.4		H. Müller.
Leipsic Observatory	29.07	738.4	29.47	748.5	78.4	25.8	52	SE			4		6	SE		0.043	1.1		Prof. Bruhns, Privy Counselor.
Memel	29.85	758.1	29.89	759.3	81.3	27.4	39	SSE			2		2s						Skalweit.
Munich (München)	27.70	703.6	29.53	750.1	69.3	20.7	55	NW			4		8			0	0		Dr. C. Lang.
Neufahrwasser	29.81	757.1	29.82	757.5	82.0	27.8	35	SE			4		4			0	0		A. Lothes.
Posen	29.53	750.0	29.80	756.9	81.5	27.5	43	E			6		5					Light rain	Dr. Magener.
Strassburg (in Alsace)	29.03	737.3	29.57	751.0	55.2	12.9	93	NW			2		10	WNW		0.426	10.82	Raining	Imp. University Observatory
Stuttgart	28.56	725.3	29.45	748.0	67.6	19.8	57	W					4	W		0.134	3.4		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.02	711.7	29.44	747.8	71.4	21.9	52	W	2	1			8ck			0	0		Dr. Van Bebber
Wustrow	29.55	750.6	29.58	751.2	73.9	23.2	71	ESE			3		7			0	0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.94	760.4	77.2	25.1		SW			1.5							Dust	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.50	749.2	29.54	750.4	96.7	35.9	36	NW					7			0	0	D. clouds	
Deesa	29.04	737.5	29.48	748.9	106.0	41.1	18	ENE					3	SSW		0	0	Misty	
Bombay	29.49	749.0	29.53	749.9	85.5	29.7	78	W	11.0	4.9			2		SSW	0.30	7.6	D. clouds	
Poona	28.69	728.6	29.38	746.1	110.3	43.5	12	E	1.2	0.5			0			0	0	Blue sky	
Lahore	27.55	699.8	29.51	749.5	85.2	29.6	56	E					5	E		0.07	1.8	D clouds	
Belgaum	27.10	688.2	29.62	752.3	74.2	23.4	89	SSW	15.0	6.7			10	S	S	0.07	1.8	Raining	
Roorkee	28.56	725.5	29.41	747.0	103.7	39.8	23	Calm	2.4	1.1			0			0	0	Misty	
Agra	28.87	733.2	29.40	746.7	104.6	40.3	29	S					0			0	0		
Nagpur	28.50	723.8	29.53	750.0	83.4	28.6	64	NE	4.5	2.0			10		SW	0.11	2.8	Thunder-storm	
Lucknow	29.10	739.1	29.46	748.2	97.1	36.2	51	E	8.1	3.6			0			0.05	1.3	Misty	
Allahabad	29.16	740.7	29.46	748.3	101.1	38.4	37	Calm	5.6	2.5			2			0	0	D. clouds	
Patna	29.37	745.9	29.54	750.4	91.1	32.8	55	ESE	3.8	1.7			4	SE	SE	0.02	0.5	D. clouds	
Hazaribagh	27.60	700.9	29.60	751.8	76.0	24.4	82	SE	8.2	3.7			9			0.09	2.3		
Cuttack	29.44	747.7	29.52	749.7	89.3	31.8		ESE	3.0	1.3			4			0.05	1.3	D. clouds	
Calcutta (Alipore)	29.58	751.4	29.60	752.0	82.7	28.2	87	SSE	5.0	2.2			6	S		0	0		
Goalpara	29.23	742.5	29.62	752.2	82.1	27.8	85	Calm	1.8	0.8			8			0.23	5.8	D. clouds	
Chittagong	29.60	751.9	29.69	754.2	82.7	28.2	83	SE	5.8	2.6			9			0	0	Gloomy	
Sibsagar	29.30	744.3	29.64	752.8	82.8	28.2	84	NE	2.5	1.1			3	W	W	0.03	0.8	D. clouds	
Jubbulpore	28.12	714.4	29.44	747.6	95.4	35.2	34	E	6.1	2.7			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or under-water error and temperature. Inches.	Barometer. Corrected or under-water error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.35	745.5	29.75	755.7	62.4	16.9	79	SW	6.9	3.1			9			0.665	16.9		Prof. Giovanni Clodig.
Milan	29.18	741.1	29.69	754.0	59.5	15.3	81	E			4		10	ESE		0.169	4.3		Prof. Schiaparelli.
Padua	29.62	752.3	29.72	755.0	57.7	14.3	83	N	10.5	4.7			10	SW		1.079	27.4		Prof. Dott. Lorenzoni.
Moncalieri	28.78	731.0	29.68	753.8	56.5	13.6	84	NW	3.8	1.7			10	SSE		0.295	7.5		Prof. P. F. Denza.
Genoa	29.54	750.4	29.73	755.2	61.2	16.2	73	S	4.9	2.2			8	SW		1.307	33.2		Prof. G. M. Garibaldi.
Mondovi	27.79	705.9	29.69	754.1	57.6	14.2	67	N			2		9			2.091	53.1		Prof. D. C. Bruno.
Pesaro	29.67	753.6	29.72	754.8	63.0	17.2	74	SE	12.5	5.6			10	S		0.181	4.6		Prof. Luigi Guidi.
Florence	29.48	748.9	29.74	755.4	62.6	17.0	77	N			2		10			0.752	19.1		Cav. F. Meucci.
Leghorn	29.63	752.5	29.71	754.6	61.7	16.5	70	WSW			6		6	S		0.268	6.8		Prof. P. Monte.
Rome	29.65	753.2	29.83	757.6	62.6	17.0	75	SSW	16.8	7.5			10			0.366	9.3		Prof. P. S. Ferrari.
Lecce	29.64	752.8	29.89	759.1	70.7	21.5	42	WSW	1.8	0.8			1			0	0		Prof. C. De Giorgi.
Cosenza	29.06	738.1	29.93	760.1	72.0	22.2	67	NW	6.9	3.1			1			0	0		Prof. D. Conti.
Cagliari	29.65	753.0	29.84	757.8	65.5	18.6	62	S			2		3	W		0.059	1.5		Prof. A. Facinotti.
Palermo	29.68	753.8	29.93	760.2	64.8	18.2	54	NE	8.1	3.6			3			0	0		Prof. G. Cacciatore.
Syracuse	29.85	758.1	29.92	760.0	65.3	18.5	74	NE	4.9	2.2			4	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.1	29.93	760.2	60.1	15.6	87	WSW	12.5	5.6			10			0.008	0.2		Prof. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.97	761.2	63.3	17.4	88	SW	1.5	0.7			10s;cs		N	0.005	0.13	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.95	760.7	60.7	15.9	90	NE	0.9	0.4			9s			0.030	0.76	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.96	761.0	30.02	762.5	57.8	14.3	94	NE	2.5	1.1			10n			0.940	23.87	Light rain	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.11	637.9	30.11	764.8	59.9	15.5	62	E			1	5	0	SW		0.004	0.1	½ clouded	Prof. L. Perez.
Leon	24.46	621.4	30.07	763.7	66.2	19.0	73	E			1	4c	0	E		0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.4	30.15	765.8	54.0	12.2	76	Calm	0	0		3c;k	0			0	0	Hazy	The Staff.
Pabellon (Aguascalientes)					62.6	17.0	65	N			1	2c	4k	NE	NE	0	0	½ clouded	M. V. de Leon, M. E.
Tlacotalpam	29.98	761.5	29.99	761.8	75.6	24.2	90	W			1	1	1	S	W	0.008	0.2	Clear	M. M. Chàzaro.
San Luis Potosi	24.21	615.0	30.15	765.8	60.1	15.6	48	E			1	2	2	W	E	0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.56	573.1	30.12	765.0	57.7	14.3	69	E			1	6c	3s	Calm	Calm	Inap.	Inap	Very cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	59.7	15.4	83	Calm	0	0		1ck	0	W		0.24	6.0		Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.42	721.9	30.05	763.3	78.1	25.6	69	NE			1	0	8		NW	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.84	757.8	30.14	765.5	76.1	24.5	72	NW			3	0	2		E	0	0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,182.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.62	752.3	29.62	752.3	61.0	16.2		NNE								0	0		
Groningen	29.57	751.1	29.63	752.5	52.7	11.5										0	0		
Helder	29.63	752.7	29.63	752.7	57.2	14.0		N			4					0.382	9.7		
Hellevoetsluis	29.61	752.2	29.61	752.2	62.2	16.8	57	NNE			3					0	0		
Utrecht	29.52	749.9	29.57	751.1	60.8	16.0	54	ENE			2		8			0.173	4.4	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.81	757.1	29.86	758.5	61.2	16.2	36	SSE	2.9	1.3			0			0	0		
Brönø	29.95	760.8	29.99	761.8	57.4	14.0	47	N	18	8			2			0	0		
Christiania	29.75	755.6	29.89	759.3	59.2	15.1	57	NNE	2	1			10			1.339	8.6		
Tromsö	30.03	762.8	30.08	763.9	52.3	11.3	67	NE	20	9			8			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.33	770.4	30.52	775.2	66.6	19.2	64	NE	10.5	4.7			5			0	0		Dr. J. A. Sampaio.
Campo Major	28.93	734.8	29.94	760.5	67.5	19.7	44	WNW	15.5	6.9			3	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.17	766.3	30.26	768.5	66.9	19.4	60	SW	10.5	4.7			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.06	763.4	60.8	16.0	53	N	17.5	7.8			7			0	0		The Staff.
Ponta Delgada (Azores)	30.41	772.5	30.48	774.3	67.6	19.8	65	NE	13.0	5.8			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Sea or swell. Height scale 0—[illegible]	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 5° 53′, W. 14° 13′			29.96	760.9	83.3	28.5		Calm			0		0			0		Blue sky	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.8	78.4	25.8		NW			2		2		WNW	1	NW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Rio Geba, Senegambia			30.02	762.5	83.1	28.4		Var.			3		4		NW	0		D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.85	758.1	84.6	29.2		SW			2		0			1		Blue sky	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.38	746.3	29.78	756.4	81.1	27.3	39	SE	15.7	7			4k;ks						Astronomical Obs.
Wilna	29.54	750.3	29.94	760.4	78.4	25.8	52	E	2	1			4						Astronomical Obs.
Dorpat	29.85	758.2	30.09	764.2	67.3	19.6	66	ESE	11	5			10k						Prof. Dr. Weihrauch.
St. Petersburg	30.16	766.0	30.17	766.4	67.3	19.6	46	SE	9	4			5c;ck;	ks]					Central Physical Obs.
Kieff	29.23	742.4	29.84	757.8	73.2	22.9	69	ENE	4	2			6k;ks;n					Thunder-storm	Physical Cabinet.
Nikolaiev	29.85	758.3	29.93	760.1	74.3	23.5	69	S	4	2			4k;n						Kurdakof.
Kertch	29.98	761.6	30.00	762.1	68.9	20.5	90	S	9	4			3						Lagorio.
Moscow	29.61	752.2	30.15	765.7	70.7	21.5	46	N	7	3			1k						Meteorological Obs.
Lugan	29.68	753.8	29.87	758.8	77.5	25.3	29	NE	18	8			0						Meteorological Obs.
Archangel	30.37	771.4	30.39	771.9	53.4	11.9	41	ENE	9	4			10						Capt. Sseliwerstow.
Tiflis	28.50	723.9	29.85	758.3	74.8	23.8	36	NW	45	20			4cs						Physical Observatory.
Astrakhan	29.79	756.7	29.71	754.6	84.9	29.4	41	S	11	5			9s			Blank	Blank		Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.70	754.3	29.96	760.9	66.0	18.9	38	N	13	6			1						Physical Cabinet.
Ekaterinburg	28.82	731.9	29.80	756.9	34.2	1.2	89	N	18	8			10						Meteorological Obs.
Nukuss	29.50	749.2	29.72	754.9	77.5	25.3	59	NNE	7	3									
Tashkend	28.24	717.3	29.71	754.7	82.4	28.0	56	Calm	0	0			2					Misty	Teich, A. M.
Barnaul	29.10	739.0	29.58	751.3	57.7	14.3	30	S	4	2			10						Meteorological Obs.
Yeniseisk	29.38	746.3	29.67	753.5	53.8	12.1	45	S	9	4			7						Marks.
Irkutsk																			
Peking (China)	29.56	750.8	29.70	754.4	79.9	26.6	27	S	11	5			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.58	751.4	29.68	753.9	51.4	10.8	70	E	9	4			0						
Nikolaievsk, on the Amoor	29.34	745.1	29.42	747.3	37.9	3.3	93	Calm	0	0			5ks						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.63	752.6	29.73	755.2	62.6	17	52	SSE	2.6	1.17			3			0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.78	756.3	29.84	757.8	56.5	13.6	73	NW	3.8	1.70		1	8	E		0.043	1.1	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.81	681.0			58.6	14.8	41	SW	6.0	2.70			8			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.58	700.4			69.8	21.0	35	W	17.2	7.67		2	5	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.57	751.1	29.72	754.8	83.5	28.6	31	NNW	3.0	1.36		4	5	SE		0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.00	736.6	29.89	759.2	56.5	13.6	68	NW	15.0	6.7		0	9			0.150	3.8	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.2	30.03	762.9	76.1	24.5	92	E	3.6	1.6			10n			1.579	40.1	Raining	Benito Vines, S. J.
Manilla, Philippine Islands.	29.82	757.5	29.87	758.8	84.6	29.2	71	ENE	2.7	1.2			4cs	E		0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.3	30.03	762.8	65.3	18.5	59	W	20.4	9.1		0	7		W	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.93	760.2	30.02	762.5	83.1	28.4	80	SE	5.9	2.63		4k	3k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.11	764.7	30.15	765.7	67.3	19.6		SE			2		10			0	0		
Umea	30.06	763.5	30.11	764.8	66.2	19.0	61	SSE			2		2			0	0		
Hernosand	30.00	762.1	30.06	763.4	59.0	15.0	74	ENE			2		2			0	0		
Stockholm	29.79	756.7	29.97	761.2	69.4	20.8	63	SE			4		3			0	0		
Wisby	29.78	756.4	29.83	757.7	73.4	23.0	58	SSE			6		0			0	0		
Sub-Series.																			
Upsala	29.86	758.5	29.94	760.4	72.7	22.6	56	ESE	12.1	5.4			4		S	0	0		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.24	717.3	29.67	753.6	53.6	12.0	79	SSW			3		10			0.150	3.8	Raining	The Observatory.
Zurich	27.97	710.5	29.59	751.6	59.9	15.5	74	NW			1		8			0.020	0.5	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —8.3 mm.; Thermometer,—6.2 Cent.; Relative Humidity, +23 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.94	760.4	78.3	25.7	48	SSW	2	1.0			7		SW	0	0		The Observatory.
Fao, Persian Gulf			30.00	762.0	95.0	35.0		NW			4		0						
Valona			29.99	761.8	75.6	24.2		S			3		5			0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.86	758.4	29.98	761.4	77.9	25.5	59	NW			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.92	760.0	30.22	767.6	56	13.3		SW	4	1.8		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.99	761.7	30.05	763.3	42	5.6	47	W	10	4.5		8c	0	W		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.97	761.2	30.02	762.5	40	4.4	54	NW	13	5.8		0	5s		NW	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.96	761.0	30.15	765.8	52.5	11.4	59	W			2	5cs	0			0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.82	757.4	29.99	761.7	43.0	6.1	67	W			4	0	0			0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.76	755.9	29.81	757.2	52.3	11.3	100	W	3	1.3			10			0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.02	762.5	30.04	763.0	39	3.9	69	W	25	11.2		5k	5s	NW	NW	Inap.	Inap.	Light snow.	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.16	766.1	44.1	6.7	37	NW	12	5.4		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.26	743.2	30.08	764.0	50	10.0	82	SW	4	1.8		0	0			0	0	Clear	James Stewart.
Granton, Ontario	28.99	736.6	30.09	764.3	47	8.3		E			2		10n			Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	29.91	759.7	30.05	763.3	44	6.7	49	NW	16	7.2		0	0			0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.78	756.4	30.16	766.1	48.3	9.1	77	NE			2	10cs	0	NE		6	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.88	758.9	30.22	767.6	49	9.4	76	SE	3	1.3		0	Sm'e		SE	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	40.0	4.4	64	N	12	5.4			10n					Snowy	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.98	761.5	30.18	766.6	51	10.6	56	W	16	7.2		2c	0	NW		0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.47	748.5	30.17	766.3	43	6.1	86	E	2	0.9		5ck	5ks	S	S	0	0	Cloudy	Rev. R. Mosly.
Peterboro, Ontario	29.41	747.0	30.16	766.1	53.7	12.1	77	SW			1		10ks			0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.10	764.5	51	10.6	79	E	6	2.7			10n		S	0	0	Threatening	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.01	762.2	50.5	10.3		NW	12	5.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.09	764.3	47	8.3	93	E	5	2.2			10n		S	0.07	1.8	Light rain	M. Payne.
*Quebec, Quebec	29.81	757.2	30.14	765.5	45	7.2	53	W			1	0	0			0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.70	754.4	30.17	766.3	43	6.1	72	E	4	1.8		8cs	0	NW		0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.10	764.5	30.15	765.8	48	8.9	29	NW			2	0	0			0	0	Clear	Dr. Gove.
St. John, N. B	29.99	761.7	30.16	766.1	40	4.4	37	NW	19	8.5		0	0			0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.40	746.7	30.12	765.0	47	8.3	65	E	5	2.2			10ks			Inap.	Inap.	Cloudy	K. Stewart.
Stayner, Ontario	29.29	744.0	30.08	764.0	45	7.2	61	Calm	0	0			10n		S	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.11	764.8	47.2	8.4	56	E	6	2.7			10s			0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.87	758.7	29.92	760.0	42	5.6	66	W	18	8.0			10ks		W	0.06	1.5	Cloudy	T. C. Hill.
*Toronto, Ontario	29.76	755.9	30.15	765.8	49	9.4	50	E	9	4.0			10ks		W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.00	762.0	30.10	764.5	41.5	5.3	57	NW	11	4.9		0	0			0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.60	751.8	29.85	758.2	43.0	6.1	92	SW					10n			0.22	5.6	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.09	764.3	30.32	770.1	53	11.7	54	E	2	0.9		0	Sm'e			0	0	Clear	
Alpena, Michigan	29.46	748.3	30.11	764.8	48	8.9	49	W	4	1.8			10s		Calm	0	0	Cloudy	
Atlanta, Georgia	29.02	737.1	30.12	765.0	73	22.8	67	W	6	2.7		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	30.32	770.1	30.33	770.4	63	17.2	67	S	3	1.3		0	0			0	0	Clear	
Augusta, Georgia	29.98	761.5	30.15	765.8	75	23.9	44	SW	4	1.8		0	Haze		Calm	0	0	Hazy	
Baltimore, Maryland	30.26	768.6	30.31	769.9	56	13.3	57	NE	5	2.2			10s		NE	0	0	Cloudy	
Barnegat, New Jersey	30.29	769.4	30.31	769.9	63	17 2	62	E	8	3.6		0	0			0	0	Clear	
Bismarck, Dakota	28.22	716.8	30.07	763.8	52	11.1	86	E	10	4.5		5c	1s	Calm	SE	0	0	Fair	
Boerne, Texas	28.66	728.0	29.97	761.2	62	16.7	88	NW	1	0.4		5cs	0	Calm		0	0	Fair	
Boise City, Idaho	27.14	689.3	30.10	764.5	43	6.1	67	SE	2	0.9		5cs	0	W		0	0	Fair	
Boston, Massachusetts	30.16	766.1	30.31	769.9	57	13.9	41	W	4	1.8		0	0			0	0	Clear	
Brackettville, Texas	28.94	735.1	29.94	760.5	74	23.3	81	NE	8	3.6		5cs	0	Calm		0	0	Fair	
Breckenridge, Minnesota	29.12	739.6	30.13	765.3	47	8.3	92	E	6	2.7			10ks		Calm	0.05	1.3	Cloudy	
Brownsville, Texas	30.00	762.0	30.05	763.3	73	22.8	85	NE	2	0.9		0	0			0	0	Clear	
Buffalo, New York	29.38	746.2	30.07	763.8	55	12.8	33	SE	4	1.8		0	5s		SW	0	0	Fair	
Burkes, Arizona					62	16.7	46	Calm			0	5c	0	N		0	0	Fair	
Burlington, Vermont	29.96	761.0	30.26	768.6	50	10.0	45	S	12	5.4		1c	Sm'e	Calm		0	0	Smoky	
Cairo, Illinois	29.78	756.4	30.16	766.1	73	22.8	76	W	6	2.7		5ck	0	W		0.90	23.9	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.25	641.3	30.05	763.3	60	15.6	44	NE	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					51	10.6	28	W			1	10cs	0	NW		0	0	Cloudy	
Campo, California	27.43	696.7	30.00	762.0	35	1.7	80	E	4	1.8		8c	0	Calm		0	0	Cloudy	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	65	18.3	89	NE	1	0.4			10s		SW	0.52	13.2	Cloudy	
Cape Henry, Virginia	30.23	767.8	30.25	768.3	62	16.7	72	E	16	7.2			10s		E	0.02	0.5	Cloudy	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	71	21.7	95	NE	8	3.6		5ck	2ks	W	NE	0.36	9.1	Cloudy	
Cape May, New Jersey	30.23	767.8	30.26	768.6	61	16.1	50	E	8	3.6		5c	2s	W	E	0	0	Fair	
Castroville, Texas	29.32	744.7	30.01	762.2	66	18.9	84	S	2	0.9		5c	0	Calm		0	0	Fair	
Charleston, South Carolina	30.13	765.3	30.18	766.6	75	23.9	72	SW	4	1.8		2k	0	S		0	0	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	50	10.0	72	NW	2	0.9		5cs	0	Calm		0	0	Fair	
Chicago, Illinois	29.45	748.0	30.14	765.5	51	10.6	86	W	2	0.9			10s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.48	748.8	30.11	764.8	67	19.4	86	W	4	1.8			10ks		NW	0.59	15.0	Threatening	
Cleveland, Ohio	29.32	744.7	30.04	763.0	52	11.1	73	SE	11	4.9			10n		SW	0.06	1.5	Light rain	
Coleman City, Texas	28.31	719.1	29.94	760.5	67	19.4	74	S	4	1.8		10cs	0	Calm		0	0	Cloudy	
Columbus, Ohio	29.24	742.7	30.06	763.5	63	17.2	83	W	4	1.8			8ks;fg		W;C	0.01	0.3	Cloudy	
Concho, Texas	28.17	715.5	29.80	756.9	70	21.1	61	Calm	0	0		8ck	0	Calm		0	0	Fair	
Corsicana, Texas	29.68	753.9	30.14	765.5	67	19.4	84	SE	2	0.9		0	0			0	0	Clear	
Davenport, Iowa	29.54	750.3	30.19	766.8	53	11.7	86	NW	2	0.9		8cs	0	W		0.01	0.3	Fair	
Deadwood, Dakota	25.28	642.1			61	16.1	55	SW	8	3.6		2cs	0	SW		0	0	Fair	
Decatur, Texas	28.93	734.8	30.07	763.8	72	22.2	71	S	8	3.6		2c	0			0	0	Clear	
Denison, Texas	29.32	744.7	30.10	764.5	70	21.1	80	S	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.81	630.2	30.03	762.7	53	11.7	67	W	3	1.3		8ck	Sm'e	Calm		0	0	Fair	
Des Moines, Iowa	29.27	743.4	30.15	765.8	56	13.3	87	S	2	0.9			10s		S	0	0	Cloudy	
Detroit, Michigan	29.40	746.7	30.07	763.8	49	9.4	93	NE	4	1.8			10s		NE	0.11	2.8	Cloudy	
Dodge City, Kansas	27.46	697.5	29.67	753.6	66	18.9	89	SE	4	1.8			8s		Calm	0.04	1.0	Cloudy	
Dubuque, Iowa	29.46	748.3	30.16	766.1	54	12.2	74	Calm	0	0		2k	5ks	W	S	0	0	Fair	
Duluth, Minnesota	29.45	748.0	30.13	765.3	51	10.6	59	NW	12	5.4		0	0			Inap.	Inap.	Clear	
Eagle Pass, Texa	29.33	745.0	30.03	762.7	73	22.8	81	E	8	3.6		0	0			0	0	Clear	
Eastport, Maine	30.11	764.8	30.17	766.3	48	8.9	36	W	8	3.6		0	0			0	0	Clear	
Edinburg, Texas					77	25.0	77	E			1	5cs	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.26	667.0			66	18.9	45	E	3	1.3		0	0			0	0	Clear	
Erie, Pennsylvania	29.34	745.2	30.04	763.0	55	12.8	56	S	17	7.6			10n		SW	0	0	Light rain	
Escanaba, Michigan	29.45	748.0	30.10	764.5	51	10.6	59	Calm	0	0			10s		NW	0	0	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	75	23.9	19	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota																			
Fort Craig, New Mexico	25.57	649.5	29.64	752.8	57	13.9	40	Calm	0	0		2c	0			0	0	Fair	
Fort Davis, Texas	25.30	642.6	30.26	768.6	59	15.0	76	SW	4	1.8		0	0			0.20	5.1	Clear	
Fort Gibson, Indian Ter	29.58	751.3	30.10	764.5	75	23.9	72	NE	3	1.3		0	0			0	0	Clear	
Fort Griffin, Texas	28.84	732.5	30.08	764.0	69	20.6	70	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.26	692.4			60	15.6	82	SW	4	1.8		5c	0			0	0	Fair	
Fort McKavett, Texas	27.86	707.6	29.72	754.9	70	21.1	66	SE	4	1.8		0	8s		Calm	0	0	Fair	
Fort St. Michael, Alaska	29.89	759.2	29.92	760.0	30	— 1.1	100	SW	14	6.3			Fog		SW	0	0	Foggy	
Fort Sill, Indian Territory	28.88	733.5	29.96	761.0	72	22.2	62	SE	6	2.7		10ck	0	Calm		0	0	Cloudy	
Fort Stevenson, Dakota	28.18	715.8			53	11.7	79	E	8	3.6		1c	5s	Calm	E	0	0	Cloudy	
Fredericksburg, Texas	28.38	720.8	29.89	759.2	75	23.9	44	E	4	1.8		5cs	0	Calm		0	0	Fair	
Galveston, Texas	30.10	764.5	30.15	765.8	75	23.9	90	NE	5	2.2		0	0			0	0	Clear	
Graham, Texas	29.02	737.1	30.04	763.0	70	21.1	70	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.44	747.8	30.08	764.0	59	15.0	54	NW	4	1.8		0	0			0	0	Clear	
Indianapolis, Indiana	29.35	745.5	30.12	765.0	60	15.6	88	NW	7	3.1			10s		Calm	0.28	7.1	Cloudy	
Indianola, Texas	30.11	764.8	30.13	765.3	74	23.3	81	E	9	4.0		0	0			0	0	Clear	
Jacksboro, Texas	28.93	734.8	30.02	762.5	72	22.2	85	SW	8	3.6		0	0			0	0	Clear	
Jacksonville, Florida	30.18	766.6	30.21	767.3	73	22.8	72	SE	2	0.9		2cs	0	Calm		0	0	Clear	
Keokuk, Iowa	29.54	750.3	30.15	765.8	57	13.9	81	NE	3	1.3			10s		NW	0	0	Cloudy	
Key West, Florida	30.04	763.0	30.07	763.8	76	24.4	91	E	8	3.6			10n		E	0.20	5.1	Light rain	
Kittyhawk, North Carolina	30.22	767.6	30.24	768.1	60	15.6	94	E	7	3.1			10s		Calm	0.37	9.4	Cloudy	
Knoxville, Tennessee	29.17	740.9	30.15	765.8	68	20.0	79	N	5	2.2		8cs	2s	NW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.40	746.7	30.13	765.3	56	13.3	75	NW	2	0.9			10s		NW	0.02	0.5	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	60	15.6	44	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.67	753.6	30.00	762.0	80	26.7	51	E	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.24	742.7	30.06	763.5	66	18.9	79	SE	14	6.3		8cs;k	0	W		0	0	Cloudy	
Los Angeles, California	29.66	753.4	30.00	762.0	48.0	8.9	78	NE	2	0.9		0	5s		SW	0	0	Fair	
Louisville, Kentucky	29.54	750.3	30.08	764.0	69	20.6	85	W	8	3.6			10s		Calm	0.79	20.1	Cloudy	
Lynchburg, Virginia	29.55	750.6	30.22	767.6	64	17.8	62	NE	2	0.9		0	8ks		Calm	0	0	Cloudy	
Madison, Wisconsin	29.16	740.7	30.15	765.8	52	11.1	79	NW	4	1.8		0	5ks		NW	0	0	Fair	
Marquette, Michigan	29.37	746.0	30.07	763.8	50	10.0	65	NW	4	1.8			10s		NW	0	0	Cloudy	
Mason, Texas	28.49	723.6	30.23	767.8	65	18.3	73	Calm	0	0		Haze	0	Calm		0	0	Hazy	
Memphis, Tennessee	29.85	758.2	30.18	766.6	76	24.4	64	NE	4	1.8		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.39	746.5	30.12	765.0	51	10.6	72	N	2	0.9			10s		Calm	Inap	Inap	Cloudy	
Mobile, Alabama	30.15	765.8	30.19	766.8	73	22.8	72	N	4	1.8		0	0			0	0	Clear	
Montgomery, Alabama	29.96	761.0	30.19	766.8	76	24.4	69	N	1	0.4		1k	0	E		0	0	Clear	
Morgantown, West Virginia*	29.10	739.1	30.07	763.8	64	17.8	83	Calm	0	0			10s		Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.94	608.1	30.30	769.6	30	— 1.1	59	NE	27	12.1		0	0			0	0	Clear	
Nashville, Tennessee	29.63	752.6	30.14	765.5	73	22.8	72	N	4	1.8		5cs	0	Calm		0	0	Fair	
New Haven, Connecticut	30.21	767.3	30.33	770.4	59	15.0	54	Calm	0	0		0	Haze		Calm	0	0	Hazy	
New London, Connecticut	30.27	768.8	30.32	770.1	56	13.3	69	Calm	0	0		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	77	25.0	69	E	4	1.8		0	0			0	0	Clear	
Newport, Rhode Island	30.27	768.8	30.32	770.1	58	14.4	48	N	4	1.8		Haze	Haze			0	0	Hazy	
New York, New York	30.16	766.1	30.33	770.4	60	15.6	49	E	9	4.0		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.20	767.1	30.26	768.6	63	17.2	67	E	4	1.8			10s		Calm	0.05	1.3	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r —10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.10	688.3	29.60	751.8	60	15.6	88	SE	8	3.6		5k	Haze	SW	Calm	0	0	Fair	
Olympia, Washington Ter.	29.85	758.2	29.89	759.2	50.5	10.3	93	S	3	1.3			10n		Calm	0.46	11.7	Light rain	
Omaha, Nebraska	28.94	735.1	30.01	762.2	63	17.2	78	E	2	0.9		2c	2s	W	Calm	0	0	Fair	
Oswego, New York	29.91	759.7	30.24	768.1	49	9.4	71	SE	8	3.6		8cs	0	W		0	0	Fair	
Pembina, Dakota	29.27	743.4	30.10	764.5	44	6.7	92	S	5	2.2		0	0			0	0	Clear	
Philadelphia, Pa	30.26	768.6	30.32	770.1	57	13.9	69	NE	6	2.7		8ck	Haze	NW	Calm	0	0	Cloudy	
Phœnix, Arizona	28.72	729.5	30.38	771.6	65	18.3	39	NE	1	0.4		5c	0	Calm		0	0	Fair	
Pike's Peak, Colorado	17.95	455.9	30.16	766.1	28	— 2.2	22	SW	36	16.1			10s		Calm	0	0	Cloudy	
Pioche, Nevada					51	10.6	10	S	1	0.4		2c	8s	SW	S	0	0	Cloudy	
Pittsburg, Pennsylvania	29.28	743.7	30.07	763.8	63	17.2	62	SE	6	2.7			10s		SW	0	0	Cloudy	
Port Huron, Michigan	29.41	747.0	30.08	764.0	46	7.8	84	NE	7	3.1			10s		Calm	0.03	0.8	Cloudy	
Portland, Maine	30.20	767.1	30.25	768.3	53	11.7	48	W	4	1.8		0	Haze			0	0	Clear	
Portland, Oregon	29.91	759.7	29.98	761.5	51.5	10.8	90	S	7	3.1			10s		SW	0.93	23.6	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	41	5.0	25	SW	1	0.4		9cs	0	W		0	0	Cloudy	
Pilot Point, Texas	29.27	743.4	30.06	763.5	76	24.4	81	SE	10	4.5		2k	0	S		0	0	Fair	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	72	22.2	76	NE	12	5.4			10s		Calm	0	0	Cloudy	
Red Bluff, California	29.57	751.1	29.93	760.2	55.4	13.0	78	NW	6	2.7			10cs		SW	0	0	Cloudy	
Rio Grande City, Texas	29.88	758.9	30.09	764.3	75	23.9	77	E	6	2.7		2c	0	Calm		0	0	Clear	
Rochester, New York	29.56	750.8	30.18	766.6	48	8.9	56	SE	10	4.5		5ck	0	SW		0	0	Fair	
Roseburg, Oregon	29.43	747.5	30.00	762.0	46	7.8	88	Calm	0	0			10s		Calm	0.78	19.8	Cloudy	
Sacramento, California	29.84	757.9	29.92	760.0	54	12.2	80	SW	3	1.3			10s		Calm	0	0	Cloudy	
St. Louis, Missouri	29.59	751.6	30.16	766.1	62	16.7	77	N	9	4.0		0	0			0	0	Clear	
St. Marks, Florida	30.19	766.8	30.20	767.1	69	20.6	95	Calm	0	0		4c;cs	0	Calm		0	0	Fair	
St. Paul, Minnesota	29.28	743.7	30.11	764.8	51	10.6	78	NW	2	0.9			10s		Calm	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.56	649.2	29.89	759.2	55	12.8	39	N	4	1.8		8k	0	W		0	0	Cloudy	
San Antonio, Texas	29.41	747.0	29.98	761.5	67	19.4	94	Calm	0	0		2c	0	Calm		0	0	Clear	
San Diego, California	29.95	760.7	30.02	762.5	59	15.0	87	Calm	0	0			10ks		Calm	0	0	Cloudy	
Sandusky, Ohio	29.39	746.5	30.05	763.3	56	13.3	69	E	5	2.2			10s		Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.26	768.6	30.30	769.6	59	15.0	59	SE	15	6.7		0	Haze		Calm	0	0	Hazy	
San Francisco, California	29.90	759.4	29.97	761.2	53	11.7	89	W	8	3.6		5cs	Fog	Calm	W	0	0	Fair	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	56	13.3	40	E	3	1.3		10cs	0	Calm		Inap.	Inap.	Cloudy	
Savannah, Georgia	30.13	765.3	30.22	767.6	76	24.4	64	SW	8	3.6		2ck	0	E		0	0	Fair	
Shreveport, Louisiana	29.94	760.5	30.16	766.1	72	22.2	76	S	2	0.9		0	0			0	0	Clear	
Silver City, New Mexico	24.37	619.0	30.46	773.7	55	12.8	50	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.21	767.3	30.24	768.1	74	23.3	90	E	6	2.7		0	0			0.19	4.8	Clear	
Springfield, Massachusetts	30.19	766.8	30.32	770.1	53	11.7	54	NW	1	0.4		0	0			0	0	Clear	
Stockton, Texas	26.92	683.8	29.92	760.0	69	20.6	48	SE	16	7.2			10ks		SE	0	0	Cloudy	
Thatcher's Island, Mass	30.24	768.1	30.30	769.6	56	13.3	75	W	7	3.1		0	0			0	0	Clear	
Toledo, Ohio	29.38	746.2	30.06	763.5	54	12.2	80	N	4	1.8			10s		Calm	Inap	Inap.	Cloudy	
Tucson, Arizona	27.50	698.5	30.05	763.3	58	14.4	26	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.58	751.3	30.08	764.0	51.0	10.6	79	W	4	1.8			10s		W	0.35	8.9	Cloudy	
Uvalde, Texas	29.23	742.4	30.03	762.7	71	21.7	75	E	2	0.9		0	2s		S	0	0	Clear	
Vicksburg, Mississippi	29.95	760.7	30.21	767.5	75	23.9	64	S	3	1.3		0	0			0	0	Clear	
Virginia City, Montana	24.18	614.2	29.66	753.4	50	10.0	32	SE	6	2.7		2c	0	Calm		0	0	Clear	
Visalia, California	29.54	750.3	29.91	759.7	57.5	14.2	65	NW	3	1.3			10s		Calm	0	0	Cloudy	
Washington, D. C	30.16	766.1	30.28	769.1	56	13.3	63	NE	4	1.8			10ks		SW	0	0	Cloudy	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.12	765.0	30.20	767.1	73	22.8	76	S	4	1.8		8ck	0	Calm		0.61	15.5	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	40	4.4	39	E	11	4.9			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	30.27	768.8	30.31	769.9	55	12.8	55	SW	6	2.7		Haze	0			0	0	Clear	
Yankton, Dakota	29.80	756.9	30.07	763.8	58	14.4	87	E	4	1.8		10ck	0	SW		0	0	Cloudy	
Yuma, Arizona	29.68	753.9	29.84	757.9	62	16.7	46	Calm	0	0		5c	0	Calm		0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark	28.60	726.4	29.96	761.0	70	21.1	75											Clear	
Havana, Cuba, W. I	29.97	761.2	30.02	762.5	78	25.6	90	SE	1.2	0.5			10n		SE	2.11	53.6	Light rain	J. B. Gordon.
Kingston, Jamaica, W. I																			Chas. Hasselbrink.
Medellin, Colombia, S. A																			James Gall.
Navassa, W. I	29.82	757.4	29.90	759.4	80	26.7	86	NE								0	0	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	81	27.2	87	E			2	3c	5k	E		1.410	35.81	Fair	F. M. Everett.
Santiago de Cuba, W. I																			C. J. Hering.
St. Thomas, W. I																			Robert Mason.
York Factory, B. A	29.82	757.4	29.87	758.7	24.0	— 4.4	94	NE	13	5.8			9s		NE	0.51	13.0	Cloudy	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 2,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in,; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.98‡	761.5‡			53	11.7	100	SW	10	4.5			10		Calm	0	0			Cloudy	
Navy Yard, Pensacola, Fla	30.18‡	766.6‡			73	22.8	85	NW	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡			59	15.0	82	E			3		10n		NE	0.92	23.4			Light rain	
Adams, Callao, Peru	29.98‡	761.5‡			63	17.2	94	Calm			0		10							Foggy	
Alaska, Sitka, Alaska	29.72‡	754.9‡			49	9.4	85	Calm			0		10			0	0			Foggy	
Alliance, Cadiz, Spain	30.03‡	762.7‡			65	18.3	68	NW			4		2					Light	NW	Pleasant	
Colorado, New York, N. Y.	30.55‡	776.0‡			60	15.6	65	ESE	4	1.8			2		NW	0	0			Hazy	
Constitution, Brooklin, N. Y.	30.23‡	767.8‡			60	15.6	50	NNE			1		1		Calm					Clear	
Despatch, Funchal, Madeira	30.27‡	768.8‡			67	19.4	79	WNW			2		6		Calm	0	0	Smooth		Fair	
Enterprise, Havre, France	29.58‡	751.3‡			59	15.0	70	SE			1		10							Overcast	
Franklin, Norfolk, Va.	30.22‡	767.6‡			65	18.3	73	ENE	4.8	2.1			10		Calm	0.02	0.5			Cloudy	
Hartford, Montevideo, Uruguay.*	30.14‡	765.5‡			56	13.3	81	NW			5		8			0	0			Clear?	
Kearsarge, Portsmouth, N. H.	30.28‡	769.1‡			54	12.2	61	W			1		0							Clear	
Marion, N. 22° 55′, W. 86° 45′	29.97‡	761.2‡			80	26.7	100	ENE			4		10		N			Mod'ate	N;E	Drizzling	
Michigan, Erie, Pa.					56	13.3	54	SSE			6		10							Overcast	
Monocacy, Shanghai, China	30.05‡	763.3‡			57	13.9	94	SE			1		10		SE					Rainy	
Monongahela, Yokohama, Japan	29.99‡	761.7‡			61	16.1	77	ENE			2		10			Heavy	Heavy			Raining	
New Hampshire, Port Royal, S. C.	30.19‡	766.8‡			72	22.2	76	SW	13	5.8			2		ENE	0	0			Clear	
Onward, Callao, Peru †*	30.09‡	764.3‡			60.5	15.8	91	WNW			2		10					Long	W	Foggy	
Palos, Shanghai, China	30.01‡	762.2‡			56	13.3	100	SE			1		10							Light rain	
Passaic, Washington, D. C.					64	17.8	53	NE			2		8		S					Cloudy	
Pensacola, Callao, Peru	29.99‡	761.7‡			61	16.1	94	Calm	0	0			10			0	0	Smooth	W	Misty	
Portsmouth, N. 32° 06′, W. 80° 20′	30.12‡	765.0‡			71	21.7	90	WSW			2		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.22‡	767.6‡			61	16.1		E			3		10		Calm	0	0	Mod'ate	ESE	Cloudy	
Quinnebaug, N. 33° 22′, E. 31° 56′	30.01‡	762.2‡			73	22.8	85	NW			1		0					Smooth		Clear	
Ranger, Amoy, China	29.89‡	759.2‡			82	27.8	96	SE			1-2		5		NW			Smooth		D. clouds	
Richmond, Shanghai, China	29.99‡	761.7‡			59	15.0	94	E			0-1		10		E	0.2	5.	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	30.04‡	763.0‡			71	21.7	95	E			1		0							Clear	
Santee, Annapolis, Md.	30.26‡	768.6‡			64	17.8	62	SE			1		10		S	0	0			Overcast	
Saratoga, Funchal, Madeira	30.27‡	768.8‡			68	20.0	79	S			1		2		Calm	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa	30.24‡	768.1‡			58	14.4	64	NE	5	2.2			8		NNE	0	0			Cloudy	
Trenton, Marseilles, France	29.69‡	754.1‡			66	18.9	64	WSW			2-3		2		Calm	0.04	1.0	Smooth		Fair	
Tuscarora, Port Angel, Mexico	29.95‡	760.7‡			79	26.1	74	NNW			1		2		Calm	0	0	Smooth		Hazy	
Vandalia, N. 24° 09′, W. 85° 47′	29.88‡	758.9‡			80	26.7	91	ENE			4		5			Blank	Blank	Mod'ate	NE	Cloudy	
Wabash, Boston, Mass.	30.31‡	769.9‡			47	8.3	??	NW			5		0			0	0			Clear	
Wyoming, Leghorn, Italy	29.72‡	754.0‡			62	16.7	88	WSW			2		8		W			Smooth	W	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Yokohama, Japan		29.98‡	761.5‡				NNW			5		0			0	Smooth		Blue sky	L. B Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		30.01‡	762.2‡	60	15.6	94	SE					4		SE				Raining	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 31° 54′, E. 177° 51′		29.88‡	758.9‡				NE			6				SE		Mod'ate	SE	Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.88‡	758.9‡	82	27.8	87	NW			3	6c				0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt J. Metcalf N. 47° 34′, W. 159° 34′		29.82‡	757.4‡	42	5.6	75	NW			5		7		NW		3	W	D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Unddtsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md		30.26‡	768.6‡				N			2		8		N				Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		29.84‡	757.9‡	54	12.2	80	N			7		1		N	Mod'ate			Clear	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 28′, W. 89° 56′		30.17‡	766.3‡	76	24.4	68	E	8	3.6			5k		E	0	Smooth		D. clouds	Capt. James Jorgensen.
Brigantine "George of Halifax", N 35° 18′, W. 75° 26′ †.		30.21‡	767.3‡	66	18.9		E			2		8		SE		Small cross	NE	Fair	Willard N. Pratt.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I.		29.62‡	752.3‡				ENE	3	1.3			5		NE		Long	SE	Thick	N. B. Foss.
Nordenskiold of Sundsvall, Sweden, N 37° 42′, W. 65° 49′ †.		30.12‡	765.0‡	63	17.2	72	NNE			6		2		NE		Cross	NNE	Fair	Capt. George Gardner.
Schooner Henry Whitney, N. 34° 21′, W. 75° 45′ †.		30.20‡	767.1‡	74	23.3		E			5		0			1. in. or 25. mm	Small	S	Clear	Capt. P. Sandelin.
																			Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.93	760.1	72.3	22.4	77	WNW			2		2			0	0	Fair	Kesxuche.
Algiers			29.81	757.2	72.7	22.6	43	WNW			6		0			0	0	Clear	Tourilliere.
La Calle			29.86	758.5	78.4	25.6	71	NE			1		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.06	763.4															Gau.
Saida			29.92	760.0	81.3	27.4	4	NW			3		0			0	0	Clear	Herbin.
Tebessa			29.96	760.9	77.9	25.5	33	W			5		5			0	0	Cloudy	Watrin.
Geriville			29.93	760.2	78.4	25.8	49	WSW			3		5			0	0	Cloudy	Brugniaux.
Laghouat			29.89	759.2	85.6	29.8	32	SW			5		0			0	0	Clear	Bertrand.
Biskra			29.84	758.0	91.0	32.8	19	SE			2		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.32	744.6	29.84	758.0	69.8	21.0	41	SW			5		8			0	0		Prof. Ivan Stossir.
Cracow, I. R. Observatory	29.04	737.6	29.78	756.3	74.1	23.4	59	W			1		8			0.059	1.5		Dr. Wierzbiski.
Eperies	28.95	735.3	29.79	756.7	70.2	21.2	75	S			2		10s			0.384	9.75		Julius Mikolik.
Gratz	28.68	725.8	29.78	756.3	68.9	20.5	58	SW			4		5			0.075	1.9		Andreas Rospini.
Hermannstadt	28.46	722.8	29.82	757.5	70.9	21.6	65	W			1		9			0.305	7.75		Prof. A. Gottschling.
Kremsmünster	28.35	720.2	29.63	752.7	70.2	21.2	64	E			4		5			0	0		Prof. C. Wagner.
Lemberg	28.81	731.8	29.75	755.6	74.1	23.4	66	S			1		6			0.791	20.1		Dr. T. Stanecki.
Pola	29.82	757.4	29.93	760.2	64.0	17.8	70	SE			3		5			0.094	2.4		I.R. Hydrographic Office.
Szathmar	29.43	747.5	29.88	758.9	71.1	21.7	71	SW			2		10			2.059	52.3		Julius Csics, S. J.
Szegedin	29.58	751.4	29.85	758.1	74.7	23.7	48	W			2		3			0	0		Karl Stancel.
Trieste	29.84	757.8	29.94	760.4	70.9	21.6	71	WSW			1		4			Inap.	Inap.	½ Clear	P. Busin.
Vienna	29.04	737.7	29.73	755.2	71.8	22.1	54	SE			2		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.68	753.9	29.77	756.1	49.7	9.8		N	24	10.7			9			0.060	1.52	Squally	W. Boswell.
Ardrossan	29.76	755.9	29.78	756.4	58	14.4		NW			3		5					D. clouds	William McNeil.
Armagh, Observatory			29.80	756.9	50.0	10.0		NE	13	5.8			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			29.66	753.9	55.0	12.8		ENE	23	10.3			9					Overcast	John Hartnup.
Bolton (Sharples)			29.67	753.6	54.7	12.6		E	24	10.7			6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.70	754.4	54.4	12.4		NE			3		5			0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.91	759.7	29.94	760.5	84.5	29.2		NE			1		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.58	751.3	29.68	753.9	53.0	11.7		E			1		10					Showery	H. Todd.
Cardington			29.62	752.3	55.0	12.8		E			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.54	750.3	29.67	753.6	51.6	10.9		Calm			0		4					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	29.75	755.6	29.79	756.7	55	12.8		ENE			5		5					D. clouds	J. Mac Gowan.
Dover	29.60	751.6	29.62	752.3	55	12.8		E			3		5					½ clouded	J. Costello.
Falmouth, Observatory	29.22	742.2	29.45	748.0	47.4	8.6		E			6		10					Raining	The Staff.
Fort Napier (Natal)	27.52	706.6	30.12	765.0	64.2	17.9		E			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.69	754.1	29.93	760.2	88	31.1		W			1		3					D. clouds	
Galway, Queen's College			29.71	754.6	51	10.6		NNE			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.80	756.9	29.86	758.4	68.4	20.2		W			4		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.58	751.3	29.78	756.4	56.5	13.6		N			2		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.68	753.9	29.69	754.1	52	11.1		E			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.46	748.3	29.63	752.6	58.1	14.5		ENE			2		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.26	743.2	29.49	749.0	53	11.7		ESE			4		8					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.48	748.8	29.60	751.8	51	10.6		E			7		10n			0.51	13.0	Raining	M. P. Moyle.
Holyhead	29.67	753.6	29.71	754.6	50	10.0		ENE			4		10					Overcast	John Tilston.
Jersey	29.23	742.4	29.52	749.8	52.8	11.6		SE			6		8					Threatening	J. Fisher.
Kew, Observatory	29.59	751.6	29.63	752.6	55.0	12.8		NE	14	6.3			9					Misty	The Meteorological Of.
Leicester, Museum	29.38	746.2	29.63	752.6	54.0	12.2		E			2		10					Overcast	Wm.J.Harrison, F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	69.8	21.0		E			1	1c				0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.76	755.9	29.85	758.2	55	12.8		Calm			0		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			30.10	764.5	78.5	25.8		E			1		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.50	749.3	29.69	754.1	55.3	12.9		NNE			4		10k;d		ENE	0.037	0.84	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.15	740.4	29.67	753.6	50.5	10.4		ENE			4		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.65	753.1	51	10.6		E			2		7					Squally	H. E. Bellamy.
Plymouth	29.41	747.0	29.48	748.8	49.8	9.9		E			4		10					Squally	John Merrifield.
Prince Town	28.08	713.2	29.55	750.6	43.8	6.6		E			7		10					Gloomy	W. H. Tooker.
*Roche's Point	29.62	752.3	29.71	754.6	47	8.3		NE			5		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.41	747.0	29.57	751.1	54	12.2		ENE			7		4					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.86	758.4	49	9.4		N	28	12.5			10			0.40	10.2	Overcast	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.83	757.7	29.90	759.4	78.2	25.7		SW			1		0					D. clouds	Serg't W. H.Lyne.
Sheffield	29.44	747.8	29.72	754.9	54.4	12.4		NE			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.72	754.9	29.75	755.6	56.0	13.3	58	E			5		2			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.31	744.5	29.72	754.9	56.4	13.6		NE			2		10					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.40	746.7	29.62	752.3	55.5	13.2		SE			2		7					D. clouds	Rev.C.H.Griffith, F.M.S.
Truro, Royal Institution	29.45	748.0	29.49	749.0	52	11.1		E			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.69	754.1	29.72	754.9	52.4	11.3		N	28	12.5			10			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.07	763.8	30.12	765.0	65	18.3	64	SE	12	5.4		6	9			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.92	760.0	52.0	11.1	87	S			3		10n			0.01	0.3	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.78	756.4	29.80	756.9	55.8	13.2		E			1	9ck				0	0		Andrew Gibb.
Mauritius, Observatory	30.05	763.3	30.24	768.1	74.0	23.3	64	E	19.0	8.5		0	4		ESE	0.35	8.9	Squally	C. Meldrum.
Melbourne, Observatory	29.70	754.4	29.79	756.6	51.4	10.8	83	S	11	4.9			10			0.03	0.76	Showery	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.91	759.7	51	10.6		N			4	3	3	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.79	756.7	46	7.8		SE			4	5	5	ESE				Hazy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier. 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
H. M. S. "Fawn"				Capt. W. J. L. Wharton.
Brig Alliance, N. 44° 01′, W. 40° 25′	30.09‡ 764.3‡ 66.5 19.2 SSW 6 9		Misty	Capt. W. Scott.
S. S. Amanda				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
—— City of Agra				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma, N. 24° 25′, W. 62° 40′	30.14 765.5 77 25.0 NE 3 8	3 NE	D. clouds	Capt. H. L. Fox.
Barque Mertole				Capt. E. W. Turner.
S. S. Nizam				Capt. Barlow.
S. S. Royal Alexandra, N. 46° 20′, W. 32° 00′	30.44 773.2 66 18.9 SW 1 9	1 N	Overcast	W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.27	667.2	29.99	761.7	68.0	20.0	93	S			2	10cs				0.4	10		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.73	755.1	29.78	756.3	68.7	20.4	72	SE			4		0						
Fanöe	29.70	754.3	29.72	754.8	58.5	14.7	83	SW			4		9					Thunder-storm.	
Godthaab (Greenland)	29.58	751.4	29.63	752.5	42.4	5.8	91	SSE			2		10					Raining	
Stykkisholm (Iceland)	30.37	771.3	30.41	772.4	46.4	8.0	78	E			2		0						
Thorshavn (Faröe)	30.06	763.6	30.10	764.5	49.3	9.6	75	ENE			4		3						
Vestervig	29.62	752.3	29.79	756.6	59.4	15.2	87	S			2		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.06	738.2	29.61	752.2	58.6	14.8	67	SSW			2		8	SW	S	0.178	4.4	Very cloudy	Collignon, Director.
Amiens, Normal School	29.52	749.8	29.62	752.4	61.9	16.6	58	WNW			1		5		Calm	0.504	12.8	Cloudy	Ronvallet, Director.
Arras, Engin'r School	29.39	746.5	29.64	752.9	59.7	15.4	48	SSE			2		10		WNW	0	0	Covered	Klein, Commandant.
Avignon, Normal School	29.58	751.2	29.65	753.2	50.4	10.2	95	E			1		10			1.209	30.7	Raining	Giraud, Director.
Bar-sur-Seine	29.07	738.3	29.62	752.3	54.1	12.3	65	S			1		10		S	Inap.	Inap.	Covered	O. Saillard, Director.
Beauvais, Normal School	29.38	746.2	29.61	752.8	58.6	14.8	52	ESE			1		10		SE	0	0	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	28.72	729.6	29.59	751.6	61.7	16.5	74	S			2		2		SW	0.24	6.	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.78	731.0	29.69	754.0	50.5	10.3	93	W			3		10n	W	W	0	0	Covered	Marlot, Director.
Bourges, Normal School	29.07	738.4	29.62	752.3	52.2	11.2	75	SE			1		10	N	S	0	0	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.08	738.6	29.32	744.7	57.9	14.4	69	SW			1		8		SW	0.571	14.50		De Rermaree, Director.
Carcassonne, Normal School	29.23	742.4	29.63	752.7	60.1	15.6	55	W			2		5	W	W	0.28	7.	Cloudy	September, Director.
Caen, Normal School	29.48	748.8	29.55	750.6	60.8	16.0	49	SSE			3		8		SSE	0.102	2.6	Very cloudy	Lair, Director.
Chartres, Normal School	29.09	738.9	29.65	753.1	54.5	12.5	86	ESE			1		10		NW	0.126	3.2	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.38	746.2	29.69	754.2	55.9	13.3	69	SW			1		8			0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.28	718.4	29.64	752.8	48.2	9.0	84	E			1		10		W	0.406	10.3		Allnard, Director.
Commercy, Normal School	28.78	731.1	29.62	752.3	60.8	16	59	ESE			1		8kn		ESE	0.150	3.8	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.58	725.9	29.72	754.9	55.0	12.8	98	N			2		10		NW	0.335	8.5	Raining	L. Kina, Director.
Grenoble, Normal School	28.89	733.7	29.65	753.1	50.4	10.2	84	NE			1		10n			0.177	4.50	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.38	746.2	29.60	751.7	56.7	13.7	57	SSW			3		5		SSW	0	0	Cloudy	Mouillot, Director
Le Mans, Normal School	29.30	744.2	29.60	751.9	56.3	13.5	58	S			1		8	S	S	0.16	4.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.69	728.6	29.60	751.8	55.4	13	86	NE			2		10	S	S			Raining	A. Baudry, Director.
Lorient, Naval Observatory	29.39	746.6	29.50	749.2	50.7	10.4	84	S			4			S	SW	0.188	3.5		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			29.65	753.1	50.2	10.1	87	WNW			1		10			1.450	36.85	Rainy	E. Stephan, Director.
Mirecourt, Normal School	28.56	725.3	29.56	750.9	64.9	18.3	59	SE			4		10ck		NW	0.425	10.8	Covered	Barbier, Director.
Nismes, Normal School	29.47	748.5	29.67	753.7	57.6	14.2	63	SW			2		10		N	1.02	26.	Covered	Boyer, Director.
Privas, Normal School	28.60	726.4	29.66	753.4	50.0	10	86	S			1		n	S	S	0.882	22.4		Cantier, Director.
Puy de Dome (Summit) Obs	24.76	628.9			30.0	—1.1	100	W			2		10			0.532	13.5	Snow-fog	Allnard, Director.
Rochefort, Naval Obs'y	29.58	751.3	29.61	752.1	55.2	12.9	70	WSW			2		10	WSW	WSW	0.24	6.	Raining	Lt. E. Decante, Director.
Rouen, Normal School	29.54	750.4	29.63	752.6	56.7	13.7	53	SE			2		10			0.063	1.6	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.46	748.2	29.49	749.0	51.3	10.7	82	SSE			3		10	SSE	SSE	0.330	8.37	Rainy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.48	748.8	29.65	753.0	52.5	11.4	68	NW			1				S	0.161	4.1		E. Renou, Director.
Tarbes, Normal School	28.52	724.3	29.59	751.5	53.6	12	65	W			4		2	NW	W	0	0	Slightly cl'dy	F. Huguet, Director.
Toulouse, Observatory	28.97	735.8	29.69	754.0	56.7	13.7	55	W			3		4			0	0		Mercadier Julier.
Versailles, Observatory	29.15	740.3	29.64	752.8	52.5	11.4	63	S			1		10			0.097	2.46	Raining	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	28.95	735.4	29.66	753.4	53.2	11.8	90	NW			1		10			0.079	2.0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.2	29.88	758.9	79.5	26.4										0.39	10.		L'Abbé Marchesi.
Lyons Obs'y (Park Station)	29.02	737.1	29.61	752.2	50.5	10.3	89	WSW			1		10			0.772	19.6	Raining	Mr. Jays.
Mont-Louis	24.46	621.3	29.78	756.3	42.4	5.8	71	SE	15.0	6.7			9			1.327	33.7	Rain & snow	M. Cave.
Nice			29.77	756.1	59.0	15.0	91	E			4		10			0.224	5.7	Raining	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.36	745.7			52.2	11.2	65	Calm			0		10			Inap	Inap.	Sprinkling	Marié Davy, Director.
Perpignan	29.54	750.4	29.65	753.1	57.0	13.9	56	SE	5.6	2.5			10		NW	0.681	17.3	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.12	561.8			30.2	—1.0		NW			2		3			0.280	7.1	Clear	Gen'l de Nansouty.
Tours	29.40	746.7	29.60	751.7	57.2	14.0	55	SE			3		9		WSW	0.161	4.1		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.93	760.2	29.96	760.9	55.4	13.0	98	ESE	11.0	4.9			10n			0.634	16.1	Raining	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft., Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.89	733.8	29.72	755.0	68.2	20.1	51	SE			4		2	SE		0.437	11.1		Prof. Dr. Hoh.
Berlin	29.58	751.3	29.74	755.5	76.6	24.8	44	S			1		3			0	0		Prof. Arndt.
Breslau	29.26	743.1	29.78	756.5	76.7	24.5	44	SE			1		7			0.368	9.36		Royal University Obs'y
Carlsruhe	29.19	741.4	29.60	751.7	68.0	20.0	60	ENE			2		10	SE		0.827	21.0		Albert Senz.
Cassel	29.12	739.7	29.72	755.0	66.6	19.2	57	ENE			2		3	E		0.027	0.68		Dr. H. Möhl.
Crefeld	29.50	749.2	29.66	753.3	71.2	21.8	47	SE			2		4k			0.24	6.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.31	744.5	29.67	753.7	68.2	20.1		ENE			2		4			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	29.69	754.1	29.73	755.1	73.9	23.3	54	NE			2		3cs	NE		0.004	0.1		Assmann., M. D.
Friedrichshafen	28.19	716.0	29.56	750.9	67.5	19.7	53	ENE			5		8	E		0.673	17.1	Raining	M. Wilhelm.
Hamburg	29.69	754.2	29.76	755.9	63.0	17.2	71	SW			1		8k	S		0.839	21.3	Fair	Captain F. Hegeman.
Kiel	29.74	755.4	29.76	755.8	63.1	17.3	75	S			1		8			0.085	2.15		Prof. G. Karsten.
Königsberg (Prussia)	29.73	755.2	29.81	757.2	80.2	26.8	55	E			4		4			0	0		Prof. E Luther.
Köslin			29.71	754.6	78.5	26.0		SE			4		2			0.035	0.9		H. Müller.
Leipsic Observatory	29.33	745.0	29.74	755.3	66.6	19.2	60	SE			1		9			0.244	6.2		Prof. Bruhns, Privy Counsellor.
Memel	29.53	757.7	29.88	758.9	78.8	26.0	55	E			4		1s						Skalweit.
Munich (München)	27.85	707.2	29.68	753.9	70.0	21.1	39	E			5		7	E		0.260	6.6		Dr. C. Lang.
Neufahrwasser	29.78	756.4	29.80	756.8	69.6	20.9	78	N			1		7			0.146	3.7		A. Lothes.
Posen	29.50	749.2	29.77	756.2	77.7	25.4	44	S			5		3			0.071	1.8	Light rain	Dr. Magener.
Strassburg (in Alsace)	29.08	738.5	29.61	752.0	66.0	18.9	61	NNE			3		9	E		0.563	14.29		Imp. University Observatory.
Stuttgart	28.67	728.2	29.56	750.9	71.6	22.0	42	E					8	E		0.154	3.9		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.26	717.9	29.72	754.8	66.6	19.2	52	SSE	7	3			6ck		NE	0.177	4.5		Dr. Van Bebber.
Wustrow	29.75	755.7	29.78	756.3	60.1	15.6	83	N			2		3s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 6, instead of 2.6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.0	29.98	761.6	77.7	25.4		SW			2.0							Dust	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.41	747.1	29.46	748.3	96.1	35.6	37	SW					3			0	0	D. clouds	
Deesa	29.08	738.7	29.53	750.0	107.2	41.8	15	WNW					1	S		0	0	D. clouds	
Bombay	29.58	751.2	29.61	752.2	82.3	27.9	86	SW	4.0	1.8			10		SSW	0.28	7.1	Overcast	
Poona	27.64	702.0	29.64	752.8	75.4	24.1	87	W					10		NW	4.08	103.6	Thunder-storm.	
Lahore	28.73	729.8	29.42	747.3	109.3	42.9	13	N	2.3	1.0			0			0	0	Blue sky	
Belgaum	27.15	689.7	29.69	754.2	72.3	22.4	93	W	23.0	10.3			10		W	0.57	14.5	Raining	
Roorkee	28.56	725.3	29.40	746.8	103.9	39.9	21	Calm	3.0	1.3			0			0	0	Misty	
Agra	28.90	733.9	29.42	747.3	108.6	42.6	21	N					0			0	0	Blue sky	
Nagpur	28.52	724.5	29.54	750.2	89.7	32.1	54	Calm	3.5	1.6			8	SW		0.28	7.1	D. clouds	
Lucknow	29.10	739.2	29.46	748.2	102.0	38.9	36	ENE	4.9	2.2			0			0	0	Blue sky	
Allahabad	29.18	741.0	29.47	748.6	102.1	38.9	37	NNE	4.3	1.9			9			0	0	D. clouds	
Patna	29.32	744.7	29.49	749.1	96.6	35.9	46	E	2.6	1.2			6	E	E	0	0	D. clouds	
Hazaribagh	27.55	699.6	29.51	749.5	85.8	29.9	62	SE	9.5	4.2			5			0	0		
Cuttack	29.44	747.8	29.52	749.8	83.6	28.7		WSW	4.0	1.8			3			0.46	11.7	D. clouds	
Calcutta (Alipore)	29.55	750.7	29.58	751.2	80.9	27.2	91	SSE	4.0	1.8			10	S		0.03	0.8	Showery	
Goalpara	29.21	741.9	29.60	751.7	81.8	27.7	79	SSW	1.0	0.4			6			0.24	6.1	D. clouds	
Chittagong	29.58	751.2	29.67	753.5	81.9	27.7	87	SE	7.4	3.3			8			0	0	Misty	
Sibsagar	29.29	744.0	29.62	752.4	85.5	29.9	74	SSE	2.2	1.0			10	W	W	0.36	9.1	Overcast	
Jubbulpore	28.15	714.9	29.45	748.1	97.0	36.1	36	SW	4.7	2.1			10			0	0		

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or u-n'ta error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.52	749.9	29.93	760.1	65.8	18.8	69	SW	5.6	2.5			10			0.020	0.5		Prof. Giovanni Clodig.
Milan	29.27	743.5	29.78	756.5	61.9	16.6	70	ESE			6		10	SE		0.516	13.1		Prof. Schiaparelli.
Padua	29.80	756.8	29.90	759.5	62.1	16.7	73	N	6.9	3.1			9	S		0.547	13.9		Prof. Dott. Lorenzoni
Moncalieri	28.85	732.7	29.75	755.6	50.0	10.0	75	NNE	11.2	5.0			10			1.221	31.0		Prof. P. F. Denza.
Genoa	29.60	751.9	29.79	756.7	61.8	16.3	87	SE	18.1	8.1			10	SE		0.173	4.4		Prof. G. M. Garibaldi.
Mondovi	27.84	707.2	29.74	755.4	50.0	10.0	91	SW			4		10			0.587	14.9		Prof. D. C. Bruno.
Pesaro	29.84	757.8	29.88	759.0	67.3	19.6	67	E	15.0	6.7			7	SW		0.079	2.0		Prof. Luigi Guidi.
Florence	29.60	751.7	29.85	758.1	70.2	21.2	57	SSE			2		9			0.288	7.2		Cav. F. Meucci.
Leghorn	29.74	755.4	29.82	757.5	66.9	19.4	65	ENE			8		10	S		0.039	1.0		Prof. P. Monte.
Rome	29.75	755.6	29.92	760.0	69.8	21.0	54	S	19.2	8.6			5			0	0		Prof. P. S. Ferrari
Lecce	29.77	756.1	30.02	762.5	73.0	22.8	41	NNW	1.8	0.8			3	SW		0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.3	29.97	761.3	75.6	24.2	72	N	1.8	0.8			3			0	0		Prof. D. Conti.
Cagliari	29.59	751.6	29.78	756.4	69.8	21.0	68	SE			2		4	W		0	0		Prof. A. Padinotti.
Palermo	29.69	754.2	29.94	760.5	66.6	19.2	63	ENE	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.90	759.4	29.97	761.3	72.5	22.5	58	ENE	6.3	2.8			4	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.46	748.3	30.02	762.4	69.1	20.6	61	WSW	2.5	1.1			8			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.93	760.2	62.5	16.9	81	NNE	3.2	1.4			6os;s			0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.93	760.2	62.7	17.1	88	S	0.6	0.3			10s			0.010	0.25	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.88	758.9	29.95	760.7	56.8	13.8	93	NNW	4.9	2.2			10n			0.275	6.98	Light rain	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.18	639.5	30.24	768.1	55.0	12.8	65	Calm			0	2	0	Calm		0	0	Clear	Prof. L. Perez.
Leon	24.54	623.2	30.19	766.7	63.5	17.5	88	ENE			1	1c	1s			0.28	7.2	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.19	589.0	30.21	767.3	55.4	13.0	76	Calm	0	0			10pk		NW	0	0	Light rain	The Staff.
Pabellon (Aguascalientes)					63.3	17.4	77	Calm			0	2c	4k	S	S	Inap	Inap.	½ clouded	M. V. de Leon, M. E.
Tlacotalpam	30.03	762.8	30.04	763.1	76.5	24.7	90	S			1	1	1	SW	NNE	0	0	Clear	M. M. Chásaro.
San Luis Potosi	24.29	617.0	30.22	767.6	62.1	16.7	45	E			1	4	0	W		1.24	31.5	Fair	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.8	30.20	767.2	59.4	15.2	68	Calm			0	6c	1s	Calm		Inap.	Inap.	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.52	597.9	30.28	769.1	52.7	11.5	84	NNE	0.4	0.2		0	2s;k		Calm	0	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.48	723.4	30.10	764.4	79.5	26.4	59	NE			2	0	2		E	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.91	759.6	30.19	766.9	76.1	24.5	87	NW			2	4	0	E		0.012	0.3	Fair	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.66	753.4	29.66	753.4	65.8	18.8		ESE								0	0		
Groningen	29.65	753.0	29.70	754.4	61.5	16.4										0	0		
Helder	29.69	754.0	29.69	754.0	55.0	12.8		WSW			1					0.130	3.3		
Hellevoetsluis	29.65	753.1	29.65	753.1	66.2	19.0	58	E			1					0.008	0.2		
Utrecht	29.65	753.0	29.69	754.2	63.0	17.2	69	SE			2		5			0.012	0.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.67	753.7	29.73	755.1	77.4	25.2	43	SE	1.3	5.7			1			0	0		
Brönø	29.96	760.9	30.00	761.9	71.6	22.0	43	SE	2.7	12			4			0	0		
Christiania	29.74	755.5	29.88	759.0	76.8	24.9	54	E	7	3			9			0.075	1.9		
Tromsö	30.15	765.7	30.19	766.8	45.3	7.4	86	NNE	25	11			10			0.302	9.2	Raining	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.13	765.4	30.32	770.2	66.9	19.4	65	ENE	8.1	3.6			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.84	732.6	29.57	758.8	59.5	15.3	53	WSW	11.2	5.0			9	WSW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.00	762.1	30.09	764.3	67.3	19.3	68	SW	5.6	2.5			9			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.56	750.7	29.92	759.9	59.9	15.5	43	NW	16.1	7.2			9			0	0		The Staff.
Ponta Delgada (Azores)	30.22	767.5	30.29	769.3	67.6	19.8	64	NE	11.9	5.3			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 5° 01′, W. 11° 39′			29.99	761.8	83.3	28.5		SW			2		3		SW	1		D. clouds	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.92	760.0	80.6	27.0		NW			2		3		NW	1	NW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. N. 12° 32′, W. 18° 08′			29.96	761.0	84.2	29.0		Var.			3		0			3	N	Blue sky	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo. Macao, China			29.89	759.1	85.6	29.8		SW			2		4		SW	1	SW	D clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.34	745.2	29.74	755.3	81.0	27.2	54	SSW	11	5			5ks						Astronomical Obs.
Wilna	29.50	749.2	29.90	759.4	77.7	25.4	59	SE	7	3			8					Thunder-storm.	Astronomical Obs.
Dorpat	29.88	758.9	30.11	764.8	75.0	23.9	46	ESE	9	4			3ck						Prof. Dr. Weihrauch.
St. Petersburg	30.19	766.7	30.20	767.1	70.3	21.3	43	NNE	9	4			1k						Central Physical Obs.
Kieff	29.31	744.4	29.91	759.7	75.9	24.4	58	ESE	11	5			7ks,n						Physical Cabinet.
Nikolaiev	29.91	759.6	29.98	761.4	72.5	22.5	69	S	9	4			10n						Kurdakof.
Kertch	30.03	762.7	30.05	763.2	72.5	22.6	89	S	2	1			3						Lagorio.
Moscow	29.63	752.6	30.16	766.1	68.9	20.5	54	SSW	9	4			8ks						Meteorological Obs.
Lugan	29.80	756.8	29.99	761.8	77.0	25.0	34	NE	9	4			0						Meteorological Obs.
Archangel	30.34	770.7	30.36	771.2	58.5	14.7	46	NNE	4	2			1cs						Capt. Sseliwerstow.
Tiflis	28.50	723.8	29.84	758.0	79.2	26.2	30	NW	31	14			2k						Physical Observatory.
Astrakhan	29.85	758.3	29.77	756.2	76.5	24.7	28	NE	13	6			10			Blank	Blank		Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.90	759.4	30.17	766.3	56.5	13.6	88	NNW	2	1			8						Physical Cabinet.
Ekaterinburg	28.91	734.2	29.58	758.9	43.3	6.8	42	NNW	31	14			10ks						Meteorological Obs.
Nukus	29.51	749.6	29.74	755.3	75.2	24.0	52	ENE	9	4			10n					Thunder-storm.	
Tashkend	28.19	715.9	29.65	753.2	82.4	28.0	59	Calm	0	0			10						Teich, A. M.
Barnaul	28.79	731.2	29.26	743.3	63.9	17.7	56	W	13	6			10						Meteorological Obs.
Yeniseisk	29.18	741.1	29.46	748.2	56.8	13.8	54	ESE	18	8			10						Marks.
Irkutsk																			
Peking (China)	29.63	752.5	29.77	756.1	71.1	21.7	41	SE	11	5			2cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.69	754.0	29.78	756.5	54.7	12.6	66	E	4	2	5c								
Nikolaievsk, on the Amoor	29.60	751.7	29.68	753.9	40.5	4.7	97	Calm	0	0			10n						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.59	751.6	29.69	754.2	60.8	15	58	S	3.3	1.47			4			0.517	13.12		Antonio Rave, Director.
Bilbao, Met. Obs'y	29.65	753.2	29.71	754.6	59.5	15.3	66	NW	2.8	1.26		2	4	N		0.051	1.3	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.72	678.6			54.5	12.5	49	SW	7.4	3.34			3			0.059	1.5	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.48	698.1			62.1	16.7	30	W	16.4	7.33		0	7			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.60	749.2	29.64	752.9	79.7	26.5	34	NNW	2.9	1.28		0	3			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.84	732.4	29.73	755.2	52.3	11.3	68	NW	18.6	8.3		0	8			0.150	3.8	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.00	762.1	30.07	763.8	78.1	25.6	86	E	1.1	0.5		4c	0	NNW		0.811	20.6	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.83	757.7	29.88	759.0	84.2	29.0	89	ENE	0	0		3cs	0	E		0.45	11.5	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.9	29.94	760.4	63.3	17.4	57	WSW	11.9	5.3		0	7		SW	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.98	761.5	30.07	763.8	78.1	25.6	80	SE	4.9	2.17		2kn	8kn	SE	SE	2.07	52.50	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.6ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.24	768.2	30.28	769.2	66.2	19.0	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.20	767.1	30.25	768.4	72.0	22.2	45	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.15	765.8	30.20	767.1	73.0	22.8	48	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.88	758.9	30.06	763.4	64.8	18.2	60	NE	.....	.....	6	.....	4	.....	.....	0	0	.....	
Wisby	29.81	757.2	29.87	758.7	75.9	24.4	50	SSE	.....	.....	6	.....	8	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.98	761.5	30.06	763.4	72.3	22.4	45	ESE	15.7	7.0	.....	.....	1	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.19	716.9	29.60	751.9	57.2	14.0	66	S	.....	.....	1	.....	10	.....	.....	0.094	2.4	Covered	The Observatory.
Zurich	27.98	710.8	29.59	751.6	63.9	17.7	56	E	.....	.....	1	.....	8	.....	.....	0.339	8.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —9.7 mm.; Thermometer,—4.3 Cent.; Relative Humidity, +10 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.7	85.1	29.5	39	WSW	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.00	762.0	95.0	35.0	.....	NW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	
Valona	.....	.....	30.12	765.1	70.3	21.3	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.85	758.2	29.97	761.2	80.1	26.7	67	N	.....	.....	1	1c	.....	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.86	758.4	30.17	766.3	49	9.4	.....	SW	5	2.2	.....	.....	8s	.....	SW	0.64	1.0	Cloudy	W. R. Bigg
*Chatham, N. B	29.86	758.4	29.92	760.0	58	14.4	58	SW	7	3.1	.....	10c	0	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	54	12.2	68	SW	15	6.7	.....	0	5s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.89	759.2	30.08	764.0	52.0	11.1	83	N	.....	.....	1	.....	10n	.....	.....	0	0	Misty	James Smith, M. A.
Dalhousie, N. B	29.73	755.1	29.89	759.2	55.0	12.8	68	W	.....	.....	3	0	5ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	29.85	758.2	29.90	759.4	46.3	7.9	100	N	2	0.9	.....	2cs	0	.....	.....	0.35	8.9	Fine	W. H. Bevis.
*Father Point, Quebec	29.94	760.5	29.96	761.0	47	8.3	88	NE	5	2.2	.....	5k	5s	N	N	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.01	762.2	58.8	14.9	50	NW	9	4.0	.....	.....	Sm'e	.....	.....	0	0	Smoky	Prof. Harrison.
*Fort Garry, Manitoba	29.08	738.6	29.88	758.9	60	15.6	88	S	5	2.2	.....	5c	Haze	W	.....	0.030	0.76	Fair	James Stewart.
Granton, Ontario	29.15	740.4	30.26	768.6	51	10.6	.....	N	.....	.....	1	1c	0*	.....	.....	0	0	Fine	James Grant.
*Halifax, N. S	29.96	761.0	30.09	764.3	54	12.2	67	W	11	4.9	.....	.....	10ks	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.89	759.2	30.27	768.8	51.7	10.9	78	NW	.....	.....	1	0	0	.....	.....	0.11	2.8	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.83	757.7	30.17	766.3	54	12.2	83	E	3	1.3	.....	Haze	Sm'e	.....	E	0.12	3.0	Hazy	S. Woods, M. A.
Little Glace Bay, N. S	29.97	761.2	30.01	762.2	48.0	8.9	.....	SW	9	4.0	.....	4k	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.86	758.4	30.06	763.5	53	11.7	68	W	24	10.7	.....	2cs	0	NW	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.51	749.5	30.21	767.3	54	12.2	70	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.46	748.3	30.21	767.3	54.7	12.6	74	W	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.56	750.8	30.26	768.6	49	9.4	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.00	762.0	30.05	763.3	55.5	13.1	.....	W	8	3.6	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.60	751.8	30.25	768.3	46	7.8	93	N	5	2.2	.....	Haze	0	.....	.....	0.01	0.3	Clear	M. Payne.
*Quebec, Quebec	29.70	754.4	30.03	762.7	51	10.6	75	NW	.....	.....	5	.....	10n	.....	NW	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.68	753.9	30.13	765.3	54	12.2	52	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.96	761.0	30.01	762.2	54	12.2	73	W	.....	.....	2	Haze	Haze	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.89	759.2	30.05	763.3	50	10.0	78	S	15	6.7	.....	0	7ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.53	750.0	30.24	768.1	52	11.1	66	SW	9	4.0	.....	0	Sm'e	.....	.....	Inap.	Inap.	Smoky	K. Stewart.
Stayner, Ontario	29.44	747.8	30.23	767.8	50	10.0	93	N	3	1.3	.....	0	0	.....	.....	0.04	1.0	Clear	R. J. Cole.
Stratford, Ontario	28.96	735.6	30.25	768.3	48.6	9.2	70	NW	3	1.3	.....	0	.....	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.99	761.7	30.03	762.7	52	11.1	64	SW	16	7.2	.....	9ck	Sm'e	W	Calm	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario	29.85	758.2	30.24	768.1	49	9.4	64	NW	5	2.2	.....	0	Sm'e	.....	Calm	0.03	0.8	Clear	Magnetic Observatory.
Windsor, N. S	29.98	761.5	30.07	763.8	53.0	11.7	70	SW	10	4.5	.....	4cs	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.86	758.4	30.12	765.0	43.0	6.1	100	SW	.....	.....	.....	10k	10s	.....	.....	0.30	7.6	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.93	760.2	30.16	766.1	54	12.2	80	NW	16	7.2	.....	2cs	5s	NW	NW	0.20	5.1	Fair	
Alpena, Michigan	29.57	751.1	30.22	767.6	51	10.6	65	SW	2	0.9	.....	.....	Haze	.....	Calm	0	0	Dense haze	
Atlanta, Georgia	29.05	737.9	30.16	766.1	73	22.8	63	E	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Atlantic City, New Jersey	30.14	765.5	30.16	766.1	64	17.8	68	N	14	6.3	.....	0	0	.....	.....	0.03	0.8	Clear	
Augusta, Georgia	30.05	763.3	30.22	767.6	72	22.2	76	SW	1	0.4	.....	0	Haze	.....	Calm	0.09	2.3	Clear	
Baltimore, Maryland	30.18	766.6	30.23	767.8	63	17.2	52	NW	10	4.5	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Barnegat, New Jersey	30.10	764.5	30.13	765.3	62	16.7	67	N	24	10.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Bismarck, Dakota	27.99	710.9	29.85	758.2	61	16.1	100	E	12	5.4	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Boerne, Texas	28.67	728 2	29.94	760.5	73	22.8	81	SW	4	1.8	.....	0	5ks	.....	S	0	0	Cloudy	
Boise City, Idaho	26.99	685.5	29.95	760.7	48	8.9	63	Calm	0	0	.....	5cs	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.94	760.5	30.10	764.5	53.5	11.9	83	N	11	4.9	.....	0	8s	.....	N	0.01	0.3	Clearing	
Brackettville, Texas	28.92	734.6	29.91	759.7	75	23.9	77	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.83	732.3	29.78	756.4	63	17.2	89	SE	16	7.2	.....	8cs	0	Calm	.....	0.03	0.8	Cloudy	
Brownsville, Texas	30.01	762.2	30.06	763.5	77	25.0	86	E	6	2.7	.....	2k	0	E	.....	0	0	Clear	
Buffalo, New York	29.55	750.6	30.26	768.6	49	9.4	85	SW	6	2.7	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Burkes, Arizona	.....	.....	.....	.....	66	18.9	45	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.82	757.4	30.11	764.8	53	11.7	80	S	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cairo, Illinois	29.82	757.4	30.19	766.8	79	26.1	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.32	643.1	30.12	765.0	59	15.0	13	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	55	12.8	33	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.57	700.3	30.14	765.5	36	2.2	61	E	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.19	766.8	74	23.3	72	W	10	4.5	.....	1cs	Haze	W	.....	0	0	Hazy	
Cape Henry, Virginia	30.17	766.3	30.18	766.6	68	20.0	90	W	12	5.4	.....	2c	2s	W	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	72	22.2	90	SW	16	7.2	.....	5cs	Haze	W	SW	0	0	Fair	
Cape May, New Jersey	30.07	763.8	30.10	764.5	63	17.2	72	NW	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.33	745.0	30.01	762.2	77	25.0	73	S	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.18	766.6	30.24	768.1	75	23.9	77	SW	3	1.3	.....	2c	0	S	.....	0	0	Fair	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	55	12.8	28	NW	4	1.8	.....	Haze	8s	.....	NW	0	0	Cloudy	
Chicago, Illinois	29.49	749.0	30.17	766.3	59	15.0	76	SE	5	2.2	.....	10cs	0	W	.....	0	0	Cloudy	
Cincinnati, Ohio	29.61	752.1	30.25	768.3	65	18.3	73	E	4	1.8	.....	1c	0	W	.....	0	0	Clear	
Cleveland, Ohio	29.54	750.3	30.27	768.8	53	11.7	80	S	4	1.8	.....	2cs	Fog	Calm	Calm	0.01	0.3	Fair	
Coleman City, Texas	28.31	719.1	29.93	760.2	68	20.0	70	S	4	1.8	.....	5cs	0	S	.....	0	0	Fair	
Columbus, Ohio	29.43	747.5	30.26	768.6	61	16.1	66	E	2	0.9	.....	5cs	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	28.10	713.7	29.71	754.6	72	22.2	67	S	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.66	753.4	30.12	765.0	70	21.1	88	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.47	748.5	30.10	764.5	60	15.6	82	E	7	3.1	.....	2cs	0	W	.....	Inap.	Inap.	Fair	
Deadwood, Dakota	25.24	641.1	.....	.....	54	12.2	61	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Decatur, Texas	28.94	735.1	30.07	763.8	73	22.8	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.34	745.2	30.11	764.8	71	21.7	80	S	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.69	627.1	29.91	759.7	60	15.6	34	S	8	3.6	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
Des Moines, Iowa	29.12	739.6	29.97	761.2	65	18.3	84	SW	4	1.8	.....	0	0	.....	.....	0.45	11.4	Clear	
Detroit, Michigan	29.58	751.3	30.25	768.3	54	12.2	74	N	2	0.9	.....	10cs	Sm'e	Calm	Calm	0	0	Cloudy	
Dodge City, Kansas	27.40	696.0	29.60	751.8	68	20.0	56	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.42	747.2	30.11	764.8	61	16.1	82	SE	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy	
Duluth, Minnesota	29.53	745.0	30.00	762.0	52	11.1	79	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texa	29.29	744.0	29.99	761.7	74	23.3	76	SE	3	1.3	.....	4cs	0	W	.....	0	0	Fair	
Eastport, Maine	29.97	761.2	30.04	763.0	54	12.2	67	SW	11	4.9	.....	5ck	Sm'e	W	SW	0	0	Smoky	
Edinburg, Texas	.....	.....	.....	.....	75	23.9	77	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.27	667.2	.....	.....	70	21.1	13	NW	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Erie, Pennsylvania	29.55	750.6	30.27	768.8	55	12.8	62	Calm	0	0	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Clear	
Escanaba, Michigan	29.51	749.5	30.16	766.1	56	13.3	75	S	2	0.9	.....	0	5s	.....	S	0		Fair	
Florence, Arizona	28.55	725.2	30.15	765.8	74	23.3	25	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.74	704.6	.....	.....	64	17.8	94	E	8	3.6	.....	.....	10s	.....	E	0.21	5.3	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	54	12.2	37	Calm	0	0	.....	1c	8s	Calm	Calm	0	0	Cloudy	
Fort Davis, Texas	25.30	642.6	30.20	767.1	65	18.3	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.58	751.3	30.10	764.5	76	24.4	69	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.85	732.8	30.10	764.5	66	18.9	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.18	690.4	.....	.....	63	17.2	61	NW	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.85	707.4	29.71	754.6	79	21.1	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	30.16	766.1	30.20	767.1	29	— 1.7	100	SW	12	5.4	.....	.....	Fog	.....	SW	0	0	Foggy	
Fort Sill, Indian Territory	28.87	733.3	29.94	760.5	70	21.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.98	710.7	.....	.....	63	17.2	83	E	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Fredericksburg, Texas	28.36	720.3	29.89	759.2	70	21.1	53	S	5	2.2	.....	5k	0	S	.....	0	0	Fair	
Galveston, Texas	30.09	764.3	30.13	765.3	77	25.0	69	SE	8	3.6	.....	0	5ks	.....	SE	0	0	Fair	
Graham, Texas	29.02	737.1	30.04	763.0	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.55	750.6	30.20	767.1	52	11.1	79	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.44	747.8	30.21	767.3	62	16.7	77	SE	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Indianola, Texas	30.11	764.8	30.14	765.5	79	26.1	74	SE	4	1.8	.....	5c	0	SW	.....	0	0	Fair	
Jacksboro, Texas	28.96	735.6	30.05	763.3	72	22.2	71	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.19	766.8	30.22	767.6	79	26.1	66	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.44	747.8	30.03	762.7	68	20 0	74	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.05	763.3	30.08	764.0	79	26.1	87	E	4	1.8	.....	2k	5ks	E	E	1.04	26.4	Threatening	
Kittyhawk, North Carolina	30.15	765.8	30.17	766.3	71	21.7	80	W	14	6.3	.....	2c	Haze	Calm	Calm	0	0	Fair	
Knoxville, Tennessee	29.24	742.7	30.22	767.6	70	21.1	53	NE	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
La Crosse, Wisconsin	29.37	746.0	30.10	764.5	62	16.7	88	S	2	0.9	.....	.....	10n	.....	Calm	0.67	17.0	Light rain	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	57	13.9	41	Calm	0	0	.....	8cs	0	W	.....	0	0	Cloudy	
Laredo, Texas	29.59	751.6	29.91	759.7	84	28.9	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.20	741.7	30.00	762.0	71	21.7	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.85	758.2	30.20	767.1	50.5	10.3	79	NE	3	1.3	.....	0	4s	.....	E	0	0	Fair	
Louisville, Kentucky	29.66	753.4	30.20	767.1	68	20.0	65	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.51	749.5	30.16	766.1	77	25.0	57	NW	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Madison, Wisconsin	29.12	739.6	30.10	764.5	59	15.0	88	SE	6	2.7	.....	.....	10n	.....	SE	Inap.	Inap.	Light rain	
Marquette, Michigan	29.40	746 7	30.09	764.3	55	12.8	62	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.49	723.8	30.19	766.8	74	23.3	68	SE	5	2.2	.....	0	2s	.....	S	0	0	Fair	
Memphis, Tennessee	29.84	757.9	30.17	766.3	75	23.9	51	N	1	0.4	.....	1k	Haze	Calm	Calm	0	0	Hazy	
Milwaukee, Wisconsin	29.44	747.5	30.17	766.3	54	12.2	80	SE	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.14	765.5	30.18	766.6	75	23.9	72	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.96	761.0	30.19	766.8	77	25.0	69	SW	4	1.8	.....	5k	0	S	.....	0	0	Fair	
Morgantown, West Virginia*	29.28	743.7	30.26	768.6	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	34	1.1	69	N	19	8.5	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Nashville, Tennessee	29.67	753.6	30.18	766.6	81	27.2	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.99	761.7	30.11	764.8	59	15.0	70	N	12	5.4	.....	.....	10s	.....	N	0.04	1.0	Cloudy	
New London, Connecticut	30.04	763.0	30.09	764.3	62	16.7	77	N	5	2.2	.....	1cs	4ks	W	N	0.16	4.1	Fair	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.04	763.0	30.08	764.	58	14.4	88	NW	6	2.7	.....	2c	0	NW	.....	0.37	9.4	Clear	
New York, New York	29.97	761.2	30.15	765.8	62	16.7	66	NW	9	4.0	.....	2k	2ks	S	SE	0.09	2.3	Fair	
Norfolk, Virginia	30.12	765.0	30.18	766.6	72	22.2	80	N	8	3.6	.....	2cs	0	Calm	.....	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.93	684.0	29.36	745.7	67	19.4	62	SE	12	5.4	.....	8c	0	SW	.....	0	0	Fair	
Olympia, Washington Ter.	29.83	757.7	29.87	758.7	48.0	8.9	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Omaha, Nebraska	28.79	731.3	29.83	757.7	75	23.9	64	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Oswego, New York	29.91	759.7	30.24	768.1	51	10.6	79	W	8	3.6	.....	Haze	Haze	Calm	Calm	0.16	4.1	Hazy	
Pembina, Dakota	29.05	737.9	29.86	758.4	57	13.9	87	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	30.12	765.0	30.17	766.3	60	15.6	71	N	27	12.1	.....	5k	Haze	N	Calm	0.01	0.3	Fair	
Phœnix, Arizona	28.72	729.5	30.46	773.7	63	17.2	33	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.83	452.9	30.04	763.0	30	— 1.1	36	SW	40	17.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pioche, Nevada	....	.....	.....	.....	48	8.9	23	S	8	3.6	.....	2c	2s	SW	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.45	748.0	30.26	768.6	56	13.3	75	N	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Port Huron, Michigan	29.57	751.1	30.24	768.1	50	10.0	72	W	3	1.3	.....	Haze	Haze	.....	Calm	0	0	Hazy	
Portland, Maine	30.04	763.0	30.10	764.5	55	12.8	74	SW	4	1.8	.....	2k	Haze	Calm	.....	0.03	0.8	Fair	
Portland, Oregon	29.80	756.9	29.87	758.7	52.0	11.1	93	NE	1	0.4	.....	.....	10s	.....	SE	0.32	8.1	Cloudy	
Prescott, Arizona	24.77	629.2	30.13	765.3	47	8.3	28	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.19	741.4	29.98	761.5	71	21.7	71	SE	14	6.3	.....	8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	74	23.3	90	NE	8	3.6	.....	.....	10s	.....	NE	0.13	3.3	Cloudy	
Red Bluff, California	29.64	752.8	30.00	762.0	55	12.8	81	SE	24	10.7	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Rio Grande City, Texas	29.89	759.2	30.10	764.5	77	25.0	77	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.61	752.1	30.23	767.8	52	11.1	79	W	10	4.5	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.24	742.7	29.80	756.9	50	10.0	96	N	2	0.9	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Sacramento, California	29.99	761.7	30.08	764.0	56	13.3	78	S	7	3.1	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
St. Louis, Missouri	29.57	751.1	30.13	765.3	71	21.7	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.20	767.1	30.22	767.6	71	21.7	85	E	5	2.2	.....	1ck	0	Calm	.....	0	0	Fair	
St. Paul, Minnesota	29.12	739.6	29.92	760.0	61	16.1	85	SE	16	7.2	.....	.....	10n	.....	Calm	0.70	17.8	Heavy rain	
Salt Lake City, Utah	25.52	648.2	29.86	758.4	62	16.7	22	SE	7	3.1	.....	8k	0	S	.....	0	0	Cloudy	
San Antonio, Texas	29.42	747.2	29.99	761.7	74	23.3	61	E	2	0.9	.....	2c	0	S	.....	0	0	Clear	
San Diego, California	30.14	765.5	30.22	767.6	51	10.6	86	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.60	751.8	30.28	769.1	57	13.9	66	W	1	0.4	.....	Haze	Sm'e	Calm	Calm	0	0	Hazy	
Sandy Hook, New Jersey	30.09	764.3	30.12	765.0	59	15.0	70	N	23	10.3	.....	1k	Haze	N	Calm	0.11	2.8	Hazy	
San Francisco, California	29.99	761.7	30.06	763.5	57	13.9	87	SE	12	5.4	.....	.....	10n	.....	S	0.14	3.6	Light rain	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	55	12.8	22	E	3	1.3	.....	5k	5s	Calm	SE	0	0	Clear	
Savannah, Georgia	30.17	766.3	30.26	768.6	71	21.7	85	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Shreveport, Louisiana	29.96	761.0	30.17	766.3	72	22.2	71	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.40	619.8	30.58	776.7	48	8.9	29	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.21	767.3	30.24	768.1	74	23.3	86	W	12	5.4	.....	2ck	1s	NW	W	0	0	Fair	
Springfield, Massachusetts	29.98	761.5	30.11	764.8	57	13.9	81	N	3	1.3	.....	0	8ks	.....	N	0.05	1.3	Cloudy	
Stockton, Texas	26.91	683.5	29.91	759.7	70	21.1	44	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.04	763.0	30.09	764.3	51	10.6	93	SE	5	2.2	.....	.....	10s	.....	SE	0.23	5.8	Cloudy	
Toledo, Ohio	29.56	750.8	30.24	768.1	59	15.0	70	W	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Tucson, Arizona	27.59	700.8	30.14	765.5	58	14.4	26	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.51	749.5	30.00	762.0	54.0	12.2	87	SW	2	0.9	.....	2cs	2ks	SW	Calm	0	0	Fair	
Uvalde, Texas	29.21	741.9	30.00	762.0	75	23.9	72	E	3	1.3	.....	5k	0	S	.....	0	0	Fair	
Vicksburg, Mississippi	29.95	760.7	30.20	767.1	74	23.3	68	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.13	612.9	29.61	752.1	55	12.8	39	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.78	756.4	30.16	766.1	54.3	12.4	71	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.12	765.0	30.23	767.8	63	17.2	52	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.14	765.5	30.22	767.6	75	23.9	68	W	13	5.8	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	44	6.7	68	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Mass	30.03	762.7	30.07	763.8	57	13.9	81	NW	6	2.7	.....	.....	10ks	.....	NW	0.45	11.4	Cloudy	
Yankton, Dakota	28.52	724.4	29.73	755.1	72	22.2	62	S	22	9.8	.....	2k	0	S	.....	0	0	Fair	
Yuma, Arizona	29.86	758.4	30.03	762.7	62	16.7	18	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.58	725.9	29.95	760.7	69	20.6	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Havana, Cuba. W. I.	30.00	762.0	30.05	763.3	80	26.7	82	Calm	0	0	.....	8cs	0	Calm	.....	1.05	26.7	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.88	758.9	29.96	761.0	82	27.8	82	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	79	26.1	87	E	.....	.....	3	.....	8ks	.....	.....	0.870	22.10	Cloudy	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hefing.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	29.87	758.7	29.92	760.0	29.5	— 1.4	95	NE	14	6.3	.....	0	4s	.....	NE	0	0	Fair	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,916.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12‡	765.0‡			53	11.7	93	S	6	2.7			10		N					Raining	
Navy Yard, Pensacola, Fla.	30.20‡	767.1‡			75	23.9	86	NNW	3	1.3			0			0	0			Clear	
Navy Yard, Portsmouth, N. H.																					
Naval Hospital, Yokohama, Japan	29.88‡	758.9‡			57.5	14.2	91	NE			3		10n		NE	0.71	18.0			Light rain	
Adams, S. 10° 46′, W. 78° 55′	30.04‡	763.0‡			65	18.3	100	S			2		5		S			Smooth		Fair	
Alaska, Sitka, Alaska	29.90‡	759.4‡			50	10.0	86	WNW			1		10		SE	0	0			Foggy	
Alliance, Cadiz, Spain	29.92‡	760.0‡			68	20.0	56	WNW			3		1							Pleasant	
Colorado, New York, N. Y.	30.14‡	765.5‡			61	16.1	71	NW	12	5.4			8		NE	0	0			Hazy	
Constitution, Brooklin, N. Y.	30.06‡	763.5‡			63	17.2	72	NW			3		3		N					Clear	
Despatch, N. 32° 30′, W. 16° 55′	30.11‡	764.8‡			69	20.6	85	SW			3		2			0	0	Long	N	Fair	
Enterprise, Havre, France	29.60‡	751.8‡			59	15.0	59	SE			1–3		8		SE					D. clouds	
Franklin, Norfolk, Va.	30.16‡	766.1‡			72	22.2	55	NNW	8.4	3.8			5		NW	0	0			Fair	
Hartford, Montevideo, Uruguay.*	30.09‡	764.3‡			52	11.1	93	N			3		Fog			0	0			Foggy	
Kearsarge, Portsmouth, N. H.	30.08‡	764.0‡			56	13.3	81	Calm			0		8							Cloudy	
Marion, N. 22° 50′, W. 88° 19′	29.97‡	761.2‡			80	26.7	100	SSE			0–1		5		Calm			Smooth		Fair	
Michigan, Erie, Pa.					54	12.2	74	Calm			0		0							Clear	
Monocacy, Shanghai, China	29.97‡	761.2‡			57	13.9	94	SE			2		10		SE					Rainy	
Monongahela, Yokohama, Japan	29.93‡	760.2‡			60	15.6	82	N			2–3		10			Heavy	Heavy			Raining	
New Hampshire, Port Royal, S. C.	30.26‡	768.6‡			74	23.3	90	NW	4	1.8			2		NW	0	0			Clear	
Onward, Callao, Peru †*	30.13‡	765.3‡			62	16.7	88	SSE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.94‡	760.5‡			55	12.8	100	SE			2		10							Heavy rain	
Passaic, Washington, D. C.					72	22.2	38	NW			3		2							Clear	
Pensacola, Callao, Peru	30.03‡	762.7‡			61	16.1	88	SE	1	0.4			10			0	0	Smooth	W	Misty	
Portsmouth, N. 32° 39′, W. 79° 03′	30.25‡	768.3‡			75	23.9	81	WNW			1		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.15‡	765.8‡			71	21.7	66	NNE			3		2		Calm	0	0			Clear	
Quinnebaug, N. 34° 17′, E. 30° 00′	30.02‡	762.5‡			78	25.6	78	NNW			1		8		N			Smooth		Fair	
Ranger, Amoy, China	29.87‡	758.7‡			80	26.7	74	SSE			2–3		5		Calm			Smooth		D. clouds	
Richmond, Shanghai, China	29.91‡	759.7‡			57	13.9	100	E			2–3		10		E	0.1	3.	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	30.06‡	763.5‡			75	23.9	100	S			1		1		S					Clear	
Santee, Annapolis, Md.	30.21‡	767.8‡			63	17.2	62	NW			4		2		NW	0	0			Clear	
Saratoga, Funchal, Madeira	30.10‡	764.5‡			67	19.4	84	SSW			1		8		Calm	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa.	30.16‡	766.1‡			63	17.2	78	N	22	9.8			5		NE	0.02	0.5			Fair	
Trenton, Marseilles, France	29.66‡	753.4‡			65	18.3	36	E			0–1		8		S;E	0.02	0.5	Smooth		Drizzling	
Tuscarora, N. 15° 59′, W. 97° 48′	29.92‡	760.0‡			81	27.2	78	WNW			2		2		Calm	0	0	Smooth		Hazy	
Vandalia, N. 24° 18′, W. 83° 58′	29.77‡	756.1‡			79	26.1	91	NE			2		2		NE	Blank	Blank	Smooth		Clear	
Wabash, Boston, Mass.	30.10‡	764.5‡			62	16.7	61	NE			2		10			0	0			Overcast	
Wyoming, Leghorn, Italy	29.80‡	756.9‡			65	18.3	84	SE			5–6		8		SE			Mod'ate	SE	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Yokohama, Japan		30.06‡	763.5‡				SE			2		n			1.25 in. or 31.7mm	Smooth		Rainy	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal. †		29.98‡	761.5‡	59	15.0	88	SE					4		SE				Raining	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 27° 54′, W. 179° 05′		29.92‡	760.0‡				SSW			6				S		Mod'ate	SE; SSW	Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. G. Meyer. Hong-Kong, China		29.84‡	757.9‡	82	27.8	87	SE			2		7cs			0			D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalfe N. 46° 45′, W. 152° 21′		29.70‡	754.4‡	43	6.1	83	SSW			4		8		SW		2	W	Showery	J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md.		30.24‡	768.1‡				SSW			2		8		S				Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.71‡	754.6‡	57	13.9	94	SE			2		7		SE	0			Cloudy	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City, La							ENE	3				2k			0	Smooth		Clear	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax",																			
Schooner Charley Buck, N. 35° 12′, W. 75° 27′ †.		30.21‡	767.3‡	72	22.2		WSW			2		0				Short	SW	Clear	N. B. Foss.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I.		29.71‡	754.6‡				N	7				10		NE	4.50 in. or 114.3 m			Raining	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden. N. 37° 08′ W. 64° 33′ †.		30.13‡	765.3‡	67	19.4	81	SE			5		8		SSE		Long	SE	Fair	Capt. P. Sandelin.
Schooner Henry Whitney, N. 34° 16′, W. 76° 34′ †.		30.24‡	768.1‡	77	25.0		WSW			5		0			0			Clear	Capt. Wm. Shepherd.

AMERICAN S. S. CO. MARINE SERIES.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

ALLAN LINE MARINE SERIES.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

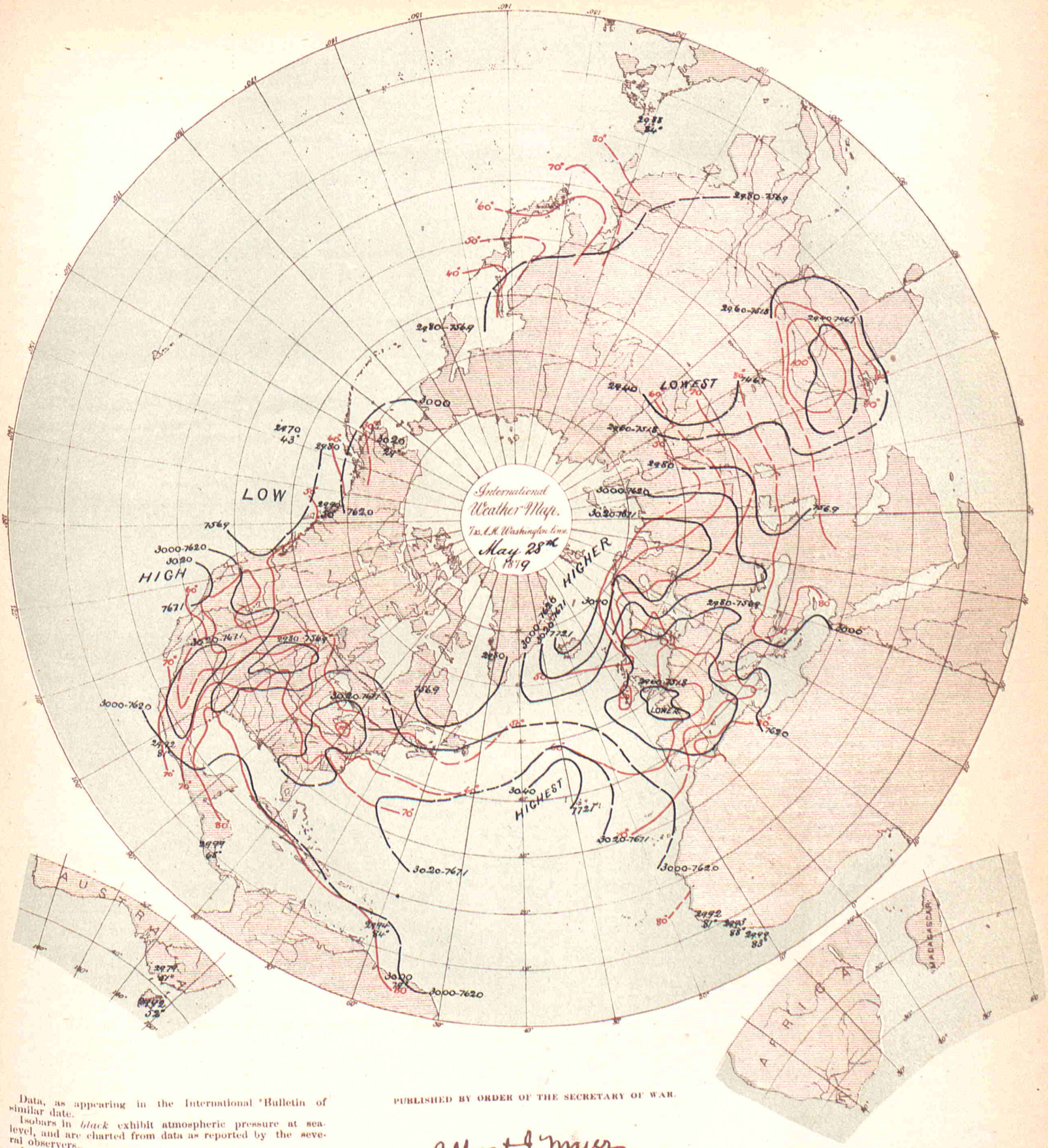
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.96	760.9	69.4	20.8	76	NW			2		5			0	0	Cloudy	Kesxuche.
Algiers			29.88	758.9	69.8	21.0	58	NNE			1		8			Inap.	Inap.	Very cloudy	Tourliiere.
La Calle			29.89	759.3	67.5	19.7	89	NE			4		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.11	764.7															Gau.
Saida			29.96	761.0	76.1	24.5	2	N			3		8			0	0	Very cloudy	Herbin.
Tebessa			30.00	761.9	86.9	30.5	15	S			7		5			0	0	Cloudy	Watrin.
Geriville			29.95	760.7	75.6	24.2	45	S			1		2			0	0	Fair	Brugniaux.
Laghouat			29.89	759.3	91.8	33.2	23	SSW			6		2			0	0	Fair	Bertrand.
Biskra			29.85	758.2	98.6	37.0	24	SE			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.0? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.1	29.90	759.4	78.1	25.6	35	SW			6		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.09	738.9	29.82	757.5	77.4	25.2	33	SSE			3		9			0.004	0.1		Dr. Wiersbiski.
Eperies	29.07	738.4	29.92	760.0	72.3	22.4	68	S			4		9ks			0.016	0.40		Julius Mikolik.
Gratz	28.61	726.7	29.80	756.9	75.7	24.3	38	SW			4		3			0	0		Andreas Rospini.
Hermannstadt	28.62	726.9	29.98	761.5	75.6	24.2	45	W			2		3			0	0		Prof. A. Gottschling.
Kremsmünster	28.66	727.9	30.01	762.2	49.8	9.9	69	NW			3		10			0	0		Prof. C. Wagner.
Lemberg	28.97	735.7	29.91	759.7	73.9	23.3	63	SW			1		5			0	0		Dr. T. Stanecki.
Pola	29.93	760.3	30.04	763.1	72.3	22.4	66	SSE			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.58	751.4	30.03	762.7	75.9	24.4	52	SW			2		6			0	0		Julius Csics, S. J.
Szegedin					78.4	25.8	43									0	0		Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	71.6	22.0	64	SW			2		1			0	0	Fair	P. Busin.
Vienna	29.14	740.1	29.83	757.7	68.4	20.2	64	S			4		9			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.69	754.1	29.79	756.7	45.7	7.6		E	8	3.6			10			0.690	17.53	Misty	W. Boswell.
Ardrossan	29.66	753.4	29.68	753.9	59	15.0		ENE			5		5					D. clouds	William McNeil.
Armagh, Observatory			29.64	752.8	60.0	15.6		NNE	10	4.5			4					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.62	752.3	49.5	9.7		ESE	9	4.0			10					Raining	John Hartnup.
Bolton (Sharples)			29.62	752.3	49.7	9.8		E	12	5.4			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.63	752.6	49.0	9.4		NE			3		10			0.01	0.3	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.96	761.0	84	28.9		SE			2		2					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.54	750.3	29.65	753.1	59.5	15.3		SW			1		7					D. clouds	H. Todd.
Cardington			29.63	752.6	60.4	15.8		W			1		7					D. clouds	John McLaren.
Chatham, School M. E.	29.56	750.8	29.69	754.1	50.1	10.1		S			1		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.63	752.6	29.67	753.6	56	13.3		N			3		2					D. clouds	J. Mac Gowan.
Dover	29.69	754.1	29.71	754.6	55	12.8		SW			4		3					¼ clouded	J. Costello.
Falmouth, Observatory	29.34	745.2	29.57	751.1	54.3	12.4		SE			3		4					D. clouds	The Staff.
Fort Napier (Natal)	27.73	704.3	30.02	762.5	63.0	17.2		SE			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	88	31.1		W			1		3					D. clouds	
Galway, Queen's College			29.62	752.3	56	13.3		N			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.83	757.7	29.88	758.9	69.6	20.9		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.50	749.3	29.71	754.6	55.3	12.9		ENE			2		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.64	752.8	29.65	753.1	58	14.4		SW			4		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.50	749.3	29.67	753.6	56.1	13.4		SSW			1		9					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.40	746.7	29.62	752.3	56	13.3		SSE			2		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.61	752.1	29.73	755.1	56	13.3		S			3		8ck			0.17	4.3	Fine	M. P. Moyle.
Holyhead	29.59	751.6	29.63	752.6	51	10.6		E			3		10					Raining	John Tilston.
Jersey	29.39	746.5	29.68	753.9	55.4	13.0		S			4		5			Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	29.63	752.6	29.67	753.6	56.2	13.4		S	17	7.6			8					D. clouds	The Meteorological Of.
Leicester, Museum.	29.38	746.2	29.63	752.6	54.9	12.7		SW			1		8					D. clouds	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	30.05	763.3	30.12	765.0	68	20.0		E			2	1c				0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.67	753.6	29.76	755.9	52	11.1		Calm			0		10					Covered	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	79.2	26.2		NE			1		7			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.45	748.0	29.64	752.8	51.1	10.6		SE			1		10d		SSW	0.444	11.28	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.10	739.1	29.62	752.3	51.9	11.1		SSE			3		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.65	753.1	55	12.8		S			2		10					Threatening	H. E. Bellamy.
Plymouth	29.50	749.3	29.58	751.3	57.4	14.1		SE			3		5					D. clouds	John Merrifield.
Prince Town	28.15	715.0	29.61	752.1	49.5	9.7		SE			1		6					Fine	W. H. Tooker.
*Roche's Point	29.56	750.8	29.65	753.1	50	10.0		NNE			4		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.43	747.5	29.59	751.6	52	11.1		ESE			2		4					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.53	757.7	49.4	9.7		E	19	8.5			10			0	0	Misty	Rev C.Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.93	760.2	29.99	761.7	74.8	23.8		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.38	746.2	29.66	753.4	47.5	8.6		NE			1		10			0.67	17.0	Raining	W. F. Cooper.
Silloth Rectory	29.63	752.6	29.66	753.4	59.8	15.4	64	E			2		8			0.534	13.56	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.23	742.4	29.64	752.8	52.2	11.2		ENE			2		10					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.43	747.5	29.64	752.8	56.9	13.8		SW			3		8					D. clouds	Rev. O.H.Griffith, F.M.S.
Truro, Royal Institution	29.54	750.3	29.57	751.1	60	15.6		SE			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.64	752.8	29.66	753.4	51.8	11.0		N	14	6.3			10			Blank	Blank	Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.02	762.5	30.06	763.5	74.6	23.7	52	SE	10	4.5		0	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.02	762.5	52.0	11.1	76	SW			3		10k			0.27	6.9	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.73	755.1	29.75	755.6	48.9	9.4		E			3		10s			0.15	3.8	Overcast	Andrew Gibb.
Mauritius, Observatory	30.03	762.7	30.22	767.6	73.6	23.1	61	ESE	16.6	7.4		0	2		ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.70	754.4	29.79	756.6	53.8	12.1	68	S	25	11.2			10			0.39	9.91	Squally	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.75	755.6	52	11.1		N			4	5	5	N		0	0	Solar halo	J. Youngclause.
North Unst (Shetland Is.)			29.86	758.4	47	8.3		E			2	7	3	E				Foggy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
Brig Alliance, N. 45° 19′, W. 37° 13′			D. clouds	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore.				Capt. J. W. Thorne.
—— City of Agra				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma, N. 25° 50′, W. 63° 50′	2	E	D. clouds	Capt. H. L. Fox.
Barque Mertole				Capt. E. W. Turner.
S. S. Nizam				Capt. Barlow.
S. S. Royal Alexandra, N. 46° 50′, W. 30° 20′	4	NW;S	Drizzling	W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	66.2	19.0	90	SE			1	2cs	1s			0.4	10		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	752.3	29.67	753.5	64.2	17.9	81	ESE			2		0						
Fanöe	29.54	750.4	29.58	750.9	69.3	20.7	81	E			4		5					Raining	
Godthaab (Greenland)	30.20	767 1	30.24	768.2	38.1	3.4	85	S			2		10						
Stykkisholm (Iceland)	30.26	768.7	30.31	769.8	47.8	8.8	87	Calm			0		5						
Thorshavn (Faröe)	29.95	760.7	29.98	761.6	46.9	8.3	98	ENE			4		10					Foggy	
Vestervig	29.43	747.4	29.60	751.7	59.0	15.0	96	E			2		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.22	742.2	29.77	756.2	56.8	13.8	64	SW			1		8		SW	0.043	1.1	Very cloudy	Collignon, Director.
Amiens, Normal School	29.67	753.5	29.78	756.3	57.2	14	57	W			1		8		NE	0.677	17.2	Very cloudy	Ronvallet, Director.
Arras, Engin'r School	29.52	749.9	29.78	756.5	52.0	11.1	81	SW			4		10		WSW	0.39	10.	Raining	Klein, Commandant.
Avignon, Normal School	29.92	759.9	30.00	761.9	64.9	18.3	60	S			2				SW	0.418	10.5		Giraud Director.
Bar-sur-Seine	29.32	744.8	29.87	758.7	61.5	16.4	88	S			1		8kn		SW	0.657	16.7	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.51	749.5	29.77	756.1	62.1	16.7	55	SSE			2		8		SW	0.364	9.25	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.06	738.0	29.93	760.3	62.2	16.8	43	SSW			2		2		SW	0.425	10.8	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.11	739.4	30.03	762.7	61.7	16.5	50	S			4		5k	S	S	0.772	19.6	Cloudy	Mariot, Director.
Bourges, Normal School	29.26	743.1	29.80	757.0	55.4	13	70	SW			6		5	SE	S	0	0	Cloudy	A. Waquet. Director.
Brest, Naval Observatory	29.32	744.6	29.56	750.7	56.1	13.4	70	SSW			4		6		S	0.335	8.50	Squally	De Rermaree, Director.
Carcassonne, Normal School	29.48	748.9	29.89	759.2	66.6	19.2	56	E			3		1		E	0	0	V. slightly cloudy	September, Director.
Caen, Normal School	29.63	752.6	29.70	754.4	60.4	15.8	55	S			4		5		S	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.27	743.4	29.83	757.7	53.4	11.9	98	S			3		9		NNE	0.028	0.7		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.57	751.1	29.88	759.0	60.8	16.0	41	SW			2		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.50	723.9	29.88	757.6	63.0	17.2	84	SW			1		8		SW	0.209	5.3		Alluard, Director.
Commercy, Normal School.	29.03	737.4	29.89	759.1	58.3	14.6	55	WSW			4		8ckn		WSW	0.291	7.4	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.92	734.6	30.06	763.6	64.6	18.1	46	S			3		5		SW	1 496	38.0	Heavy rain	L. Kina, Director.
Grenoble, Normal School	29.22	742.1	29.98	761.4	61.5	16.4	56	WSW			1		ks;n		E	0.94	24.		Ablard, Director
La Roche-sur-Yon, N. School	29.58	751.4	29.80	756.9	52.3	11.3	75	SW			4		8		SSW	0.299	7.6	Very cloudy	Moullot, Director.
Le Mans, Normal School	29.53	750.0	29.83	757.7	58.1	14.5	57	WSW			4		5		WSW	0.091	2.3	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.01	736.8	29.92	760.0	60.3	15.7	53	S			2		5kn	S	S	0.693	17.60	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.59	751.6	29.69	754.1	52.5	11.4	80	SSW			4				S	0.260	6.6		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory			29.99	761.7	66.0	18.9	54	SE			1-2		3			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.87	733.4	29.91	759.7	57.9	14.4	53	NE			1		2k		SW	0.20	5.	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.79	756.6	29.09	761.7	65.1	18 4	65	S			2		10		SE	0	0	Covered	Boyer, Director.
Privas, Normal School	28.99	736.3	30.06	763.4	55.4	13	79	SW			3		n	SW	SW	0.732	18.6		Cantier, Director.
Puy de Dome (Summit) Obs	25.02	635.6			78 8	26	68	S			4		9			0.453	11.5	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.82	757.4	29.85	758.2	57.0	13.9	76	SW			2			SW	SW	0.08	2.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.67	753 5	29.75	755.7	60.4	15.8	67	S			2		5	S	SW	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.63	752.5	29.65	753.2	59.9	15.5	54	SSW			6		1	SSW	SSW	0.082	2.07	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.65	753.0	29.81	757.2	60.8	16.0	56	SSW			2-3				SSW	0.047	1.2		E. Renou, Director.
Tarbes, Normal School	28.79	731.3	29.85	758.1	60.8	16	41	W			4		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.20	741.8	29.98	760.1	64.2	17.9	50	SSE			1		2			0	0		Mercadier Julier.
Versailles, Observatory	29.32	744.6	29.81	757.1	59.0	15.0	48	SW			4					0.014	0.36		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S	29.30	744.1	30.06	762.0	57.4	14.1	90	NE			3		5		W	0.32	8.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.3	29.80	757.0	78.8	26										1.14	29.		L'Abbé Marchesi.
Lyons Obs'y (Park Station)	29.33	744.9	29.94	760.4	59.4	15.2	54	W			1		5		WSW	0.591	15.0	Cloudy	Mr. Jays.
Mont-Louis	24.74	628.3	30.05	763.3	46.4	8.0	57	S	30.0	13.3			3		W	0	0		M. Cave.
Nice			30.06	763.6	63.0	17.2	81	SW			4		0			1.071	27.2	Fair	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.52	749.8			59.2	15.1	53	SW			4		8		SW	0.130	3.3		Marié Davy, Director.
Perpignan	29.82	757.3	29.92	760.0	59.5	15.3	79	SE	18.6	8.3			4		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P																			M. Belvac.
Pic du Midi (Plantade) H. P	22.36	567.7			35.6	2.0		W			2		6			0.102	2.6	Snowy	Gen'l de Nansouty.
Tours	29.65	753.0	29.84	758.0	56.3	13.5	68	SW			4		7		SW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.86	758.4	29.88	759.0	60.8	16.0	97	ESE	2.5	1.1			10n			0.303	7.7	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 368 meters, or 1,273.0 feet; Commune de Gréasque, 322 m, or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit 2,877 m., or 9,439.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–1.	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.00	736.7	29.84	758.0	59.9	15.5	60	W			4		4	W		0.098	2.5		Prof. Dr. Hoh.
Berlin	29.48	748.8	29.65	753.0	71.6	22.0	61	W			3		7			0.016	0.4	Raining	Prof. Arndt.
Breslau	29.24	742.8	29.77	756.2	75.4	24.1	44	S			5		2			0	0		Royal University Obs'y.
Carlsruhe	29.50	749.2	29.92	759.9	59.0	15.0	64	W			4		10	S		0.079	2.0	Rain & fog	Albert Senz.
Cassel	29.28	743.7	29.88	759.0	55.0	12.8	80	SSW			2		10	S		0.231	5.87		Dr. H. Möhl.
Crefeld	29.62	752.3	29.78	756.4	63.3	17.4	47	W			5		8			0.04	1.		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.50	749.3	29.86	758.5	63.5	17.5		WSW			5		8			0.181	4.6		Physical Society.
Freienwalde on the Oder	29.61	752.2	29.65	753.2	75.0	23.9	49	SSE			3		8ks	SSE		0	0	Threatening	Assmann., M. D.
Friedrichshafen	28.55	725.1	29.97	761.2	57.9	14.4	64	SSW			3		9	SW		0	0		M. Wilhelm.
Hamburg	29.61	752.0	29.68	753.8	58.5	14.7	84	WSW			5		10n			0.079	2.0	Squally	Captain F. Hegeman.
Kiel	29.59	751.6	29.61	752.0	62.8	17.1	71	W			2		10			0	0		Prof. G. Karsten.
Königsberg (Prussia)	29.72	754.9	29.80	756.9	79.7	26.5	58	SE			3		4			0	0		Prof. E Luther.
Köslin			29.65	753.2	77.5	25.3		SE			4		1			0	0		H. Müller.
Leipsic Observatory	29.41	747.0	29.83	757.7	54.5	12.5	86	SW			5		10	SW				Raining	Prof. Bruhns, Privy Counsellor.
Memel	29.81	757.2	29.86	758.4	78.6	25.9	55	SE			5		4ks						Skalweit.
Munich (München)	28.16	715.3	30.02	762.5	53.8	12.1	62	W			1		8			0.188	3.5		Dr. C. Lang.
Neufahrwasser	29.77	756.2	29.79	756.6	78.1	25.6	42	S			4		4			0	0		A. Lothes.
Posen	29.48	748.7	29.75	755.7	77.2	25.1	41	S			6		5					Thunder-storm	Dr. Magener.
Strassburg (in Alsace)	29.38	746.3	29.92	760.0	63.0	17.2	53	S			4		5	SW		0.072	1.83		Imp. University Observatory.
Stuttgart	29.95	735.4	29.87	758.8	63.1	17.3	38	SW					6	W		0.075	1.9		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.42	721.9	29.91	759.6	57.6	14.2	56	WSW	8.9	4			8ck		WNW	0.059	1.5		Dr. Van Bebber
Wustrow	29.58	751.3	29.60	751.9	76.5	24.7	52	SE			3		5ks			0.496	12.6		E. Schütz, Dir.
GERMAN NAVAL SERIES.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,735.0 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.70	754.3	30.07	763.8	85.1	29.5		SW			1.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.8	29.53	750.0	89.0	31.7	70	SW					4			0	0	D. clouds	
Deesa	29.01	736.9	29.46	748.2	110.3	43.5	9	WNW	7.1	3.2			0			0	0	Misty	
Bombay	29.58	751.3	29.62	752.3	82.3	27.9	86	WSW	9.0	4.0			10		SE	1.88	47.8	Overcast	
Poona	27.63	701.9	29.63	752.5	76.4	24.7	89	W					10		W	0.77	19.6	Overcast	
Lahore	28.63	727.2	29.32	744.7	109.3	42.9	16	N	3.1	1.4			0			0	0	Blue sky	
Belgaum	27.15	689.7	29.70	754.3	71.3	21.5	94	WSW	12.0	5.4			10	SW	SW	0.16	4.1	Showery	
Roorkee	28.50	723.8	29.34	745.3	104.1	40.1	23	Calm	1.7	0.8			0			0	0	Misty	
Agra	28.82	732.1	29.35	745.4	111.1	43.9	17	N					0			0	0		
Nagpur	28.45	722.7	29.48	748.8	80.7	27.1	72	S	5.4	2.4			10			0.28	7.1	Overcast	
Lucknow	29.07	738.4	29.42	747.4	105.0	40.6	35	E	2.3	1.0			0			0	0	Blue sky	
Allahabad	29.11	739.3	29.40	746.8	103.1	39.5	35	NE	3.7	1.6			2			0	0	D. clouds	
Patna	29.29	743.9	29.46	748.3	97.2	36.2	45	E	2.0	0.9			6	E	E	0	0	D. clouds	
Hazaribagh	27.51	698.8	29.46	748.4	88.3	31.3	50	E	9.1	4.1			4			0	0		
Cuttack	29.37	746.1	29.45	748.1	81.0	27.2		NNE	3.0	1.3			8			1.51	38.4	D. clouds	
Calcutta (Alipore)	29.51	749.6	29.54	750.2	84.0	28.9	80	ESE	8.0	3.6			7	SE		0.03	0.8	Showery	
Goalpara	29.17	741.0	29.56	750.8	85.8	29.9	77	Calm	2.8	1.2			1			0	0	D. clouds	
Chittagong	29.54	750.4	29.63	752.7	84.9	29.4	79	S	0.9	3.1			6			0	0		
Sibsagar	29.29	743.9	29.62	752.2	86.2	30.1	75	SE	3.3	1.5			10	SW	SW	0.51	13.0	D. clouds	
Jubbulpore	28.06	712.8	29.36	745.7	101.7	38.7	28	E	7.1	3.2			10		W	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,357 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or under-ta error and temperature. Inches.	Barometer. Corrected or under-ta error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.4	30.02	762.6	63.7	17.6	83	SW	1.8	0.8			10			0.106	2.7		Prof. Giovanni Clodig.
Milan	29.47	748.6	29.99	761.7	66.2	19.0	49	SW			4		2	SSW		0	0		Prof. Schiaparelli.
Padua	29.91	759.6	30.01	762.3	69.6	20.9	48	WNW	8.7	3.9			4	SW		0.126	3.2		Prof. Dott. Lorenzoni
Moncalieri	29.03	737.4	29.93	760.3	63.7	17.6	42	SE	1.8	0.8			2			0	0		Prof. P. F. Denza.
Genoa	29.56	758.5	30.05	763.3	63.2	17.2	63	S	8.1	3.6			4	S		0.268	6.8		Prof. G. M. Garibaldi.
Mondovi	28.05	712.5	29.95	760.6	61.9	16.6	27	N			4		0			0.752	19.1		Prof. D. C. Bruno.
Pesaro	29.98	761.5	30.03	762.7	76.3	24.6	58	SW	5.6	2.5			8	SW		0	0		Prof. Luigi Guidi.
Florence	29.84	757.5	30.07	763.7	68.9	20.5	39	W			4		1			0	0		Cav. F. Meucci.
Leghorn	29.97	761.1	30.05	763.2	66.0	18.9	57	SW			6		2			0.039	1.0		Prof. P. Monte.
Rome	29.93	760.2	30.10	764.6	71.1	21.7	64	S	16.8	7.5			10			0	0		Prof. P. S. Ferrari
Lecce	29.91	759.6	30.15	765.9	78.1	25.6	30	SSW	9.4	4.2			2			0	0		Prof. C. De Giorgi.
Cosenza	29.29	743.1	30.12	765.1	84.6	29.2	68	NW	5.6	2.5			3			0	0		Prof. D. Conti.
Cagliari	29.82	757.4	30.01	762.2	72.0	22.2	49	NW			2		10	W		0	0		Prof. A. Pacinotti.
Palermo	29.85	758.3	30.10	764.6	72.7	22.6	48	NE	6.9	3.1			2			0	0		Prof. G. Cacciatore.
Syracuse	30.08	764.0	30.15	765.9	75.0	24.0	57	E	6.8	2.8			3	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.1	30.17	766.2	74.7	23.7	50	ESE	6.3	2.8			7			0	0		Prof. V. Brioschi.

NOTE.—The original give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.96	761.0	64.9	18.3	86	W	0.5	0.2			3s;cs			1.340	34.03	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	64.6	18.7	90	E	6.9	3.1			10n			1.620	41.15	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	30.00	762.0	30.07	763.8	59.9	15.5	92	S	4.9	2.2			5ck		SW	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca											1	8	0	Calm		0.54	13.8	Cloudy	P. Ceballos.
Guadalajara	25.11	637.9	30.15	765.9	56.3	13.5	69	SE			1	4c	0	W		0	0	Fair	Prof. L. Perez.
Leon	24.47	621.6	30.13	765.3	62.1	16.7	83	SW			1	4c	0	S		0.20	5.2	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.1	30.12	765.0	55.0	12.8	75	NW	1.1	0.5		3c	0			0	0	Clear	The Staff.
Pabellon (Aguascalientes)					63.0	17.2	75	W			1	1c	0			0	0	Light fog	M. V. de Leon, M. E.
Tlacotalpam	29.93	760.1	29.94	760.4	77.0	25.0	90	S			2	2	1	S	SW	0	0	Fair	M. M. Chàzaro.
San Luis Potosi	24.22	615.2	30.16	766.1	60.1	15.6	28	E			1	4	0	W		0	0		G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.4	30.13	765.1	57.6	14.2	88	Calm			0	3c	1s	Calm		0.67	17.0	Fair	J. O. Castrillon.
Puebla (Catholic Institute)	23.46	595.8	30.22	767.6	52.2	11.2	84	NE	0.2	0.1		0	0			0.09	2.3	Very clear	Prof. P. Spuna.
Durango																			M. V. de Leon, C. E.
Colima	28.43	722.0	30.04	763.1	79.9	26.6	55	Calm			0	0	5		SW			½ clouded	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.87	758.8	30.17	766.2	76.5	24.7	83	NW			1	5	3	NW	NW	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft., San Luis Potosi, 1,890.1 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,114.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch, has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.74	755.5	29.74	755.5	60.8	16.0		SSW								0.311	7.9		
Groningen	29.67	753.5	29.72	754.9	53.8	12.1		SW			2					0.244	6.2		
Helder	29.71	754.5	29.71	754.5	52.5	11.4		SW			4					0.071	1.8		
Hellevoetsluis	29.72	754.8	29.72	754.8	59.7	15.4	62	SW			4					0.362	9.2		H. v. d. Brink.
Utrecht	29.71	754.7	29.76	755.9	61.9	16.6	59	WSW			4		5			0.020	0.5	Cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.76	755.9	29.82	757.3	75.9	24.4	47	E	4.9	2.2			1			0	0		
Brünø	29.93	760.3	29.97	761.3	64.4	18.0	53	NE	9	4			0			0	0		
Christiania	29.70	754.3	29.84	757.8	78.4	25.8	40	ENE	0	0			6			0.071	1.8		
Tromsö	30.07	763.7	30.11	764.8	44.2	6.8	70	NE	27	12			5			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.01	762.2	30.20	767.0	65.1	18.4	67	NNE	4.9	2.2			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.93	734.9	29.96	760.9	63.1	17.3	35	WNW	6.9	3.1			6	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.94	760.4	30.02	762.6	68.0	20.0	64	SW	4.3	1.9			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.62	752.4	29.98	761.6	58.6	14.8	60	SW	19.9	8.9			6			0	0		The Staff.
Ponta Delgada (Azores)	30.12	765.1	30.19	766.9	68.0	20.0	47	N	13.0	5.8			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 4° 00′, W. 9° 27′			29.94	760.4	85.1	29.5		SSE			1		2		SW	1		D. clouds	C.C.da Fonseca Ferreira, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.91	759.7	84.6	29.2		WNW			2		1		WNW	1	WNW	D. clouds	A.J.de Mattos, Com'd't.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. N. 13° 31′, W. 20° 24′			29.98	761.5	75.6	24.2		NNE			5		5		NNE	4	NNE	D. clouds	A. Ferreira, 2d Lt.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			29.92	760.0	84.2	29.0		SW			3		3		SW	1	SW	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.43	747.4	29.83	757.6	78.4	25.8	43	S	16	7			8k						Astronomical Obs.
Wilna	29.56	750.9	29.97	761.2	68.2	20.1	67	SSE	9	4			6						Astronomical Obs.
Dorpat	29.84	757.9	30.07	763.7	76.1	24.5	41	ESE	13	6			0						Prof. Dr. Weihrauch.
St. Petersburg	30.10	764.6	30.12	765.0	74.5	23.6	41	SSE	7	3			2k						Central Physical Obs.
Kieff	29.32	744.6	29.93	760.1	76.1	24.5	61	ESE	7	3			6ks;s						Physical Cabinet.
Nikolaiev	29.95	760.6	30.02	762.4	68.2	20.1	78	NNE	9	4			8kn						Kurdakof.
Kertch	29.97	761.3	29.99	761.8	73.0	22.8	78	NE	2	1			0						Lagorio.
Moscow	29.65	753.1	30.16	766.6	67.5	19.7	35	SW	7	3			0						Meteorological Obs.
Lugan	29.79	756.7	29.99	761.7	73.9	23.3	24	E	13	6			0						Meteorological Obs.
Archangel	29.84	758.0	29.86	758.5	55.2	12.9	90	SSW	13	6			10					Raining	Capt. Sseliwerstow.
Tiflis	28.51	724.2	29.85	758.1	81.9	27.7	28	NW	4	2			2k						Physical Observatory.
Astrakhan	30.05	763.3	29.97	761.2	75.0	23.9	25	ESE	7	3			0						Capt. Wisganow.
Krotkowo*																			Cand. Faijanow.
Kasan	29.72	755.0	29.99	761.7	61.7	16.5	33	WNW	9	4			7						Physical Cabinet.
Ekaterinburg	28.89	733.8	29.86	758.4	42.4	5.8	54	N	4	2			10						Meteorological Obs.
Nukuss	29.52	749.9	29.76	755.7	71.6	22.0	30	NNW	11	5									
Tashkend	28.24	717.2	29.71	754.6	82.0	27.8	55	Calm	0	0			10					Light clouds	Teich, A. M.
Barnaul	29.34	745.2	29.84	758.0	45.9	7.7	46	SW	9	4			10					Light clouds	Meteorological Obs.
Yeniseisk	29.40	746.7	29.69	754.0	46.6	8.1	44	S	16	7			10						Marks.
Irkutsk																			
Peking (China)	29.66	753.4	29.80	757.0	71.2	21.8	58	S	4	2			2k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.83	757.6	29.93	760.1	54.3	12.4	66	Calm	0	0			7k						
Nikolaievsk, on the Amoor.	29.82	757.5	29.91	759.7	39.9	4.5	94	Calm	0	0			10n						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.80	756.9	29.91	759.6	63.3	17.4	52	E	2.2	0.97			2			0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.83	757.6	29.88	759.0	67.6	19.8	44	N	2.8	1.25		3	2	W		0.102	2.6	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.94	684.2			55.8	13.2	38	SW	11.3	5.03			4			0.020	0.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.66	702.6			64.9	18.3	32	SW	14.9	6.67		1	0	SW		0.016	0.4	Light clouds	The Staff.
Murcia, Met. Obs'y	29.72	754.9	29.87	758.6	73.9	23.3	41	SE	3.5	1.56		3	2	NNE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.93	734.8	29.81	757.2	59.2	15.1	64	WSW	13.0	5.8		0	7			0.224	5.7	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.3	30.00	761.9	79.7	26.5	82	ENE	4.7	2.1		1c	1k;s	W		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.53	757.7	29.88	759.0	86.0	30.0	83	SE	10.5	4.7		3cs	0	E		0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	758.9	29.98	761.4	64.0	17.8	48	WNW	12.4	5.6		2	4	NW	W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.88	759.0	29.97	761.3	80.2	26.8	80	SE	2.8	1.25		6kn	6kn	SE	SE	1.043	26.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.95	760.7	29.99	761.7	61.2	16.2		S			2		0			0	0		
Umea	30.01	762.3	30.06	763.6	72.3	22.4	45	SW			2		0			0	0		
Hernosand	29.99	761.7	30.04	763.0	68.4	20.2	61	S			2		1			0	0		
Stockholm	29.79	756.6	29.96	761.1	68.2	20.1	55	ENE			4		1			0	0		
Wisby	29.78	756.3	29.84	757.8	67.3	19.6	78	SE			6		7			0	0		
Sub-Series.																			
Upsala	29.88	759.0	29.96	760.9	73.2	22.9	49	E	12.1	5.4			0			0.335	8.50		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.52	724.5	29.93	760.2	60.4	15.8	75	SSW			5		2			0.126	3.2	Clear	The Observatory.
Zurich	28.35	720.1	29.98	761.6	55.0	12.8	63	SE			2		6			0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.2 mm.; Thermometer, —2.7 Cent.; Relative Humidity, +19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.03	762.8	79.0	26.1	51	SW	7	3.0			3		SW	0	0		The Observatory.
Fao, Persian Gulf			30.00	762.0	96.8	36.0		NW			1		0						
Valona			30.27	768.9	74.8	23.8		W			1		2			0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.51	757.2	29.93	760.1	86.9	30.5	52	W			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.85	758.2	30.15	765.8	63.	17.2		Calm	0	0		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B	30.14	765.5	30.20	767.1	50	10.0	68	NE	1	0.4		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.14	765.5	30.18	766.6	52	11.1	74	S	1	0.4		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.93	760.2	30.12	765.0	61.0	16.1	68	W			1		10s			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.11	764.8	30.26	769.1	45.2	7.3	85	W			1	0	0			0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.99	761.7	30.03	762.7	52.3	11.3	94	Calm	0	0		cs	0			0	0	Fine	W. H. Bevis.
*Father Point, Quebec	30.15	765.8	30.17	766.3	45	7.2	84	W	2	0.9		2k	Haze	Calm	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.16	766.1	30.23	767.8	44.7	7.1	89	NW	1	0.4			10s			0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.54	724.9	29.32	745.0	64	17.8	89	N	6	2.7		5k	5ks	N	N	0.320	8.13	Clearing	James Stewart.
Granton, Ontario	28.98	736.1	30.06	763.5	63	17.2		S			1	1c	0			0	0	Fine	James Grant.
*Halifax, N. S	30.01	762.2	30.15	765.8	51	10.6	96	NE	4	1.8			10n			0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.15	765.8	56.7	13.7	82	W			1	0	0			0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.83	757.7	30.16	766.1	56	13.3	69	SE	3	1.3		Haze	Sm'e		SE	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	45.5	7.5	83	NE	4	1.8		6k	0	NW		0	0	Fair	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.93	760.2	30.13	765.3	60	15.6	66	W	6	2.7		2c	0	W		0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.38	746.2	30.06	763.5	59	15.0	67	E	7	3.1		2ck	Sm'e	W	W	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.38	746.2	30.12	765.0	57.7	14.3	82	Calm			0	0	0			0	0	Smoky	J. F. Jeffers, B. A.
Port Dover, Ontario	29.48	747.5	30.11	764.8	58	14.4	82	Calm	0	0		10k	0	SW		0	0	Fair	H. Morgan.
Port Hastings, N. S	30.11	764.8	30.16	766.1	52.5	11.4		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.09	764.3	60	15.6	82	E	7	3.1		2ck	0	W		Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	29.86	758.4	30.19	766.8	44	6.7	92	Calm			0	2cs	2ks	E	E	0.05	1.3	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.64	752.8	30.09	764.3	52	11.1	73	Calm	0	0		2c	0	SW		0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.12	765.0	30.17	766.3	44	6.7	91	S			1		Fog			0	0	Foggy	Dr. Gove.
St. John, N. B	30.02	762.5	30.18	766.6	44	6.7	100	Calm	0	0			Fog			0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.02	762.5	67	19.4	50	SE	11	4.9		10cs	Sm'e			0	0	Smoky	K. Stewart.
Stayner, Ontario	29.24	742.7	30.00	762.0	62	16.7	46	SE	6	2.7		2c	0	W		0	0	Fair	R. J. Cole.
Stratford, Ontario	28.81	731.8	30.06	763.5	61.7	16.5	65	SE	4	1.8		3cs;ck	3s	NW		0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.15	765.8	30.19	766.8	47	8.3	83	NW	4	1.8		9ck	Sm'e	W	Calm	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.76	755.9	30.14	765.5	55	12.8	68	E	5	2.2		2ck	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.07	763.8	30.17	766.3	50.0	10.0	96	NE	2	0.9		0	10n			0	0	Foggy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.00	762.0	30.25	768.3	54.0	12.2	80	SE				5ck	5k			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.99	761.7	30.22	767.6	63	17.2	62	Calm	0	0		0	Sm'e			0	0	Smoky	
Alpena, Michigan	29.32	744.7	29.96	761.0	55	12.8	81	SE	4	1.8		0	Haze			0	0	Clear	
Atlanta, Georgia	29.00	736.6	30.11	764.8	75	23.9	47	SE	4	1.8		2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	30.22	767.6	30.24	768.1	67	19.4	69	SW	2	0.9		5c	0	NW		0	0	Fair	
Augusta, Georgia	30.02	762.5	30.19	766.8	73	22.8	50	Calm	0	0		0	Haze		Calm	0	0	Clear	
Baltimore, Maryland	30.20	767.1	30.25	768.3	64	17.8	63	E	2	0.9		2c	Haze	NW	Calm	0	0	Hazy	
Barnegat, New Jersey	30.19	766.8	30.21	767.3	70	21.1	61	NW	1	0.4		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	27.72	704.1	29.58	751.3	55	12.8	87	W	10	4.5		5c	0	S		Inap.	Inap.	Fair	
Boerne, Texas	28.48	723.4	29.74	755.4	72	22.2	80	S	2	0.9		5k	0	Calm		0	0	Cloudy	
Boise City, Idaho	27.24	691.9	30.20	767.1	49	9.4	64	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Boston, Massachusetts	30.04	763.0	30.19	766.8	71	21.7	53	Calm	0	0		Haze	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.79	731.2	29.78	756.4	73	22.8	76	Calm	0	0			10ks		SE	0.15	3.8	Cloudy	
Breckenridge, Minnesota	28.42	721.9	29.33	745.0	69	20.6	80	W	12	5.4			10ks		NW	0.09	2.3	Cloudy	
Brownsville, Texas	29.88	758.9	29.92	760.0	81	27.2	78	SE	1	0.4		2k	0	SE		0	0	Clear	
Buffalo, New York	29.42	747.2	30.10	764.5	64	17.8	53	E	3	1.3		8ck	2s;hz	W	w;calm	0	0	Cloudy	
Burkes, Arizona					68	20.0	18	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.88	758.9	30.16	766.1	62	16.7	67	S	4	1.8		0	Sm'e		Calm	0	0	Smoky	
Cairo, Illinois	29.67	753.6	30.04	763.0	78	25.6	73	SE	1	0.4		1c	0	Calm		0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.25	641.3	30.05	763.3	57	13.9	31	NW	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					55	12.8	50	NW			1	0	0			0	0	Clear.	
Campo, California	27.54	699.5	30.11	764.8	42	5.6	91	SW	6	2.7			Fog		W	0	0	Foggy	
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	66	18.9	79	NE	6	2.7		8cs	0	SW		0	0	Cloudy	
Cape Henry, Virginia	30.22	767.6	30.24	768.1	65	18.3	73	SE	7	3.1		0	8ks		W	0	0	Cloudy	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	73	22.8	76	E	16	7.2		2c	Haze	NE	Calm	0	0	Hazy	
Cape May, New Jersey	30.17	766.3	30.20	767.1	62	16.7	83	W	4	1.8		5cs	Haze	NW		0	0	Fair	
Castroville, Texas	29.15	740.4	29.83	757.7	73	22.8	76	W	4	1.8		5ck	0	Calm		0.02	0.5	Fair	
Charleston, South Carolina	30.13	765.3	30.18	766.6	75	23.9	77	SW	1	0.4		2k	0	SW		0	0	Fair	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	50	10.0	39	NW	12	5.4		0	8s		NW	0.06	1.5	Cloudy	
Chicago, Illinois	29.25	742.9	29.90	759.4	71	21.7	71	SW	9	4.0		2ck	0	Calm		0	0	Clear	
Cincinnati, Ohio	29.44	747.8	30.07	763.8	70	21.1	75	SE	3	1.3			10s		SW	Inap	Inap.	Threatening	
Cleveland, Ohio	29.38	746.2	30.09	764.3	65	18.3	54	E	8	3.6		0	Sm'e		Calm	0	0	Clear	
Coleman City, Texas	28.10	713.7	29.69	754.1	72	22.2	71	SE	8	3.6		0	2s		Calm	0	0	Fair	
Columbus, Ohio	29.26	743.2	30.05	763.3	74	23.3	72	E	3	1.3		2ck	0	Calm		0	0	Clear	
Concho, Texas	27.99	710.9	29.59	751.6	73	22.8	33	SW	25	11.2		0	0			0	0	Clear.	
Corsicana, Texas	29.48	748.8	29.93	760.2	72	22.2	85	S	6	2.7		5cs	2s	S	S	0	0	Fair	
Davenport, Iowa	29.24	742.7	29.85	758.2	71	21.7	71	S	10	4.5		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.14	638.5			53	11.7	67	NW	2	0.9		8k	0	NW		0	0	Fair	
Decatur, Texas	28.70	729.0	29.81	757.2	74	23.3	72	S	20	8.9		0	0			0	0	Clear	
Denison, Texas	29.11	739.4	29.87	758.7	72	22.2	85	S	10	4.5		5ck	2s	S	S	0	0	Fair	
Denver, Colorado	24.66	626.4	29.88	758.9	57	13.9	41	SW	2	0.9		0	0			0	0	Clear	
Des Moines, Iowa	28.89	733.8	29.72	754.9	65	18.3	73	SW	8	3.6		5c	0	W		0	0	Fair	
Detroit, Michigan	29.38	746.2	30.03	762.7	62	16.7	77	SE	3	1.3		5k	0	E		0	0	Fair	
Dodge City, Kansas	27.13	689.1	29.28	743.7	68	20.0	70	SW	22	9.8		0	0			0	0	Clear	
Dubuque, Iowa	29.13	739.9	29.79	756.7	71	21.7	58	SW	8	3.6		1c	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	28.94	735.1	29.60	751.8	47	8.3	85	NE	8	3.6			10s		NE	0	0	Cloudy	
Eagle Pass, Texa	29.15	740.4	29.85	758.2	71	21.7	90	S	3	1.3		0	0			0.29	7.4	Clear.	
Eastport, Maine	30.12	765.0	30.18	766.6	42	5.6	91	NE	3	1.3			Fog		NE	0	0	Foggy	
Edinburg, Texas					80	26.7	82	Calm			0	0	0			0	0	Clear	
El Paso, Texas	26.23	666.2			61	16.1	26	NW	6	2.7		0	0			0	0	Clear	
Erie, Pennsylvania	29.39	746.5	30.09	764.3	66	18.9	64	S	7	3.1		8k	Haze	W	Calm	0	0	Cloudy	
Escanaba, Michigan	29.20	741.7	29.84	757.9	58	14.4	76	S	16	7.2		2cs	Haze	W	S	0	0	Fair	
Florence, Arizona	28.49	723.6	30.09	764.3	70	21.1	28	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota																0	0	Clear	
Fort Craig, New Mexico	25.51	647.9	29.57	751.1	59	15.0	14	SW	2	0.9		0	0			0	0	Clear	
Fort Davis, Texas	25.21	640.3	30.17	766.3	63	17.2	52	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.31	744.5	29.82	757.4	74	23.3	68	SE	14	6.3		0	0			0	0	Clear	
Fort Griffin, Texas	28.59	726.2	29.79	756.7	75	23.9	68	SE	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.12	688.5			53	11.7	73	N	2	0.9		0	2s		Calm	0.28	7.1	Clear	
Fort McKavett, Texas	27.65	702.3	29.49	749.0	70	21.1	70	SW	16	7.2		0	0			0.18	4.6	Clear	
Fort St. Michael, Alaska	30.17	766.3	30.21	767.3	32	0.0	100	SW	9	4.0			10s		SW	Inap.	Inap.	Cloudy	
Fort Sill, Indian Territory	28.61	726.7	29.65	753.1	74	23.3	63	SE	15	6.7		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.68	703.1			57	13.9	57	W	11	4.9		4c	4s	Calm	W	0.23	5.8	Cloudy	
Fredericksburg, Texas	28.02	719.3	29.68	753.9	74	23.3	63	S	1	0.4		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	761.7	78	25.6	82	S	8	3.6		2ck	5ks	NW	S	0	0	Cloudy	
Graham, Texas	28.77	730.7	29.77	756.1	76	24.4	69	SE	10	4.5		0	0			0	0	Clear.	
Grand Haven, Michigan	29.29	744.0	29.90	759.4	73	22.8	63	S	21	9.4		0	0			0	0	Clear	
Indianapolis, Indiana	29.23	742.4	29.97	761.2	70	21.1	80	SE	4	1.8			10n		S	0.20	5.1	Heavy rain.	
Indianola, Texas	29.95	760.7	29.97	761.2	79	26.1	82	S	8	3.6		5c	5ks	NW	S	0	0	Cloudy	
Jacksboro, Texas	28.68	728.0	29.74	755.4	75	23.9	77	S	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	30.13	765.3	30.16	765.8	77	25.0	73	E	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.22	742.2	29.80	756.9	75	23.9	64	S	13	5.8		1k	Haze	S	Calm	0	0	Clear	
Key West, Florida	29.95	761.0	30.01	762.2	77	25.0	86	E	10	4.5			10ks		E	0.54	13.7	Threatening	
Kittyhawk, North Carolina	30.22	767.6	30.22	767.6	64	17.8	68	E	6	2.7		10cs	0	E		0	0	Cloudy	
Knoxville, Tennessee	29.15	740.4	30.13	765.3	69.5	20.8	82	NW	2	0.9			10ks		W	0	0	Cloudy	
La Crosse, Wisconsin	29.00	736.6	29.70	754.4	70	21.1	80	S	12	5.4		2k	0	SW		0.95	24.1	Clear	
La Mesilla, New Mexico	26.06	661.8	30.21	767.3	53	11.7	25	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.50	749.3	29.83	757.7	77	25.0	69	SW	4	1.8		0	0			0.22	5.6	Clear	
Leavenworth, Kansas	28.93	734.8	29.73	755.1	72	22.2	67	S	12	5.4		5c	0	S		0	0	Fair	
Los Angeles, California	29.80	756.9	30.14	765.5	58.0	14.5	85	Calm	0	0			10c		W	0	0	Cloudy	
Louisville, Kentucky	29.48	748.8	30.02	762.5	77	25.0	61	SE	4	1.8		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.54	750.3	30.21	767.5	69	20.6	60	NE	2	0.9		0	8ks		NE	0	0	Cloudy	
Madison, Wisconsin	28.87	733.5	29.81	757.2	68	20.0	84	SW	8	3.6		1ck	0	S		0.20	5.1	Clear	
Marquette, Michigan	29.05	737.8	29.72	754.9	67	19.4	69	SW	8	3.6		5c	0	SW		0	0	Fair	
Mason, Texas	28.28	718.6	29.95	761.0	72	22.2	75	SE	4	1.8		0	0			0	0	Clear	
Memphis, Tennessee	29.69	754.1	30.02	762.2	78	25.6	53	SE	1	0.4		Haze	Haze	Calm	Calm	0	0	Hazy	
Milwaukee, Wisconsin	29.16	740.7	29.85	758.2	69	20.6	80	SW	8	3.6		1c	0	Calm		Inap.	Inap	Clear.	
Mobile, Alabama	30.04	763.0	30.08	764.0	77	25.0	82	SE	5	2.2		1ck	0	Calm		0	0	Clear	
Montgomery, Alabama	29.89	759.2	30.11	764.8	80	26.7	62	SE	2	0.9		2k	0	SE		0	0	Clear	
Morgantown, West Virginia	29.16	740.7	30.13	765.3	64	17.8	73	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	24.01	609.8	30.37	771.4	41	5.0	73	NW	26	11.6			10s		NW	0.01	0.3	Cloudy	
Nashville, Tennessee	29.64	750.5	30.00	762.0	75	23.9	77	Calm	0	0		5cs	0	Calm		Inap.	Inap.	Fair	
New Haven, Connecticut	30.11	764.8	30.22	767.6	69	20.6	56	N	2	0.9		0	Haze		Calm	0	0	Hazy	
New London, Connecticut	30.16	766.1	30.20	767.1	68	20.0	70	N	2	0.9		Haze	Haze	Calm	Calm	0	0	Clear	
New Orleans, Louisiana	30.00	762.0	30.06	763.0	78	25.6	82	SE	2	0.9		0	0			0	0	Clear	
Newport, Rhode Island	30.15	765.8	30.20	767.1	65	18.3	63	NW	3	1.3		Haze	Haze			0	0	Hazy	
New York, New York	30.06	763.5	30.23	767.8	68	20.0	50	Calm	0	0		Haze	Haze			0	0	Dense haze.	
Norfolk, Virginia	30.19	766.8	30.25	768.3	67	19.5	74	SE	4	1.8			10s		Calm	0	0	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.76	679.7	29.16	740.7	67	19.4	43	NW	28	12.5	.....	2k	2ks	S	NW	0	0	Fair	
Olympia, Washington Ter.	30.05	763.3	30.10	764.5	49.0	9.4	89	S	9	4.0	.....	.....	10s	.....	W	0.27	6.9	Cloudy	
Omaha, Nebraska	28.51	724.1	29.52	749.8	75	23.9	56	S	12	5.4	.....	2k	2s	NW	Calm	0	0	Fair	
Oswego, New York	29.84	757.9	30.16	766.1	58	14.4	70	S	8	3.6	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	28.54	724.9	29.32	744.7	60	15.6	94	E	2	0.9	.....	0	2s	.....	Calm	0.08	2.0	Clear	
Philadelphia, Pa	30.18	766.6	30.24	768.1	68	20.0	65	W	1	0.4	.....	10ck	Haze	NW	Calm	0	0	Cloudy	
Phœnix, Arizona	28.79	731.3	30.54	775.7	65	18.3	31	E	1	0.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Pike's Peak, Colorado	17.70	449.6	29.91	759.7	16	— 8.9	33	NE	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	48	8.9	29	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.34	745.2	30.15	765.8	55	12.8	81	Calm	0	0	.....	.....	Sm'e	.....	Calm	0	0	Smoky	
Port Huron, Michigan	29.37	746.0	30.01	762.2	64	17.8	68	S	10	4.5	.....	8k	2s	W	Calm	0	0	Cloudy	
Portland, Maine	30.11	764.8	30.16	766.1	61	16.1	71	Calm	0	0	.....	Haze	Haze	Calm	.....	0	0	Hazy	
Portland, Oregon	30.10	764.5	30.18	766.6	50.5	10.3	86	S	16	7.2	.....	.....	10n	.....	SW	0.25	6.3	Light rain	
Prescott, Arizona	24.75	628.6	30.11	764.8	42	5.6	34	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.08	738.6	29.80	758.4	74	23.3	81	SE	4	1.8	.....	2k	0	S	.....	0	0	Fair	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	76	24.4	82	E	12	5.4	.....	5k	0	E	.....	0.02	0.5	Fair	
Red Bluff, California	29.86	758.4	30.23	767.8	57	13.9	75	SE	6	2.7	.....	.....	9cs	.....	S	0.09	2.3	Cloudy	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	76	24.4	82	SE	6	2.7	.....	0	8s	.....	SE	0	0	Fair	
Rochester, New York	29.52	749.8	30.12	765.0	62	16.7	67	SW	5	2.2	.....	9ck	Sm'e	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.71	754.6	30.29	769.4	47	8.3	85	SW	2	0.9	.....	0	8s	.....	SW	0.14	3.6	Fair	
Sacramento, California	30.16	766.1	30.24	768.1	50	10.0	86	S	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear	
St. Louis, Missouri	29.40	746.7	29.95	760.7	73	22.8	72	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.11	764.8	30.13	765.3	72	22.2	85	SE	7	3.1	.....	1ck	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	28.76	730.5	29.53	750.0	71	21.7	71	S	10	4.5	.....	0	0	.....	.....	0.46	11.7	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	52	11.1	41	NE	5	2.2	.....	0	8ks	.....	W	Inap.	Inap.	Cloudy	
San Antonio, Texas	29.25	742.9	29.81	757.2	76	24.4	73	SE	4	1.8	.....	10ck	0	SE	.....	0	0	Cloudy	
San Diego, California	30.10	764.5	30.17	766.3	60	15.6	88	NW	2	0.9	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Sandusky, Ohio	29.40	746.7	30.05	763.3	67	19.4	69	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.17	766.3	30.20	767.1	67	19.4	60	W	2	0.9	.....	2ck	Haze	W	Calm	0	0	Hazy	
San Francisco, California	30.20	767.1	30.26	768.6	55	12.8	87	W	9	4.0	.....	0	1s	.....	Calm	0.27	6.9	Clear	
Santa Fé, New Mexico	23.28	691.3	29.82	757.4	47	8.3	21	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.09	764.3	30.18	766.6	78	25.6	73	S	1	0.4	.....	2k	0	SE	.....	0	0	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	73	22.8	81	S	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	24.30	617.2	30.50	774.7	43	6.1	59	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.19	766.8	30.23	767.8	74	23.3	95	Calm	0	0	.....	0	8ks	.....	W	0	0	Cloudy	
Springfield, Massachusetts	30.08	764.0	30.21	767.3	65	18.3	63	NW	2	0.9	.....	Haze	Haze	.....	.....	0	0	Hazy	
Stockton, Texas	29.89	759.2	29.89	759.2	69	20.6	35	SW	8	3.6	.....	0	0	.....	.....	0.18	4.6	Clear	
Thatcher's Island, Mass	30.15	765.8	30.20	767.1	57	13.9	87	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.37	746.0	30.03	762.7	68	20.0	70	E	3	1.3	.....	2c	Haze	Calm	Calm	0	0	Fair	
Tucson, Arizona	27.56	700.0	30.11	764.8	59	15.0	23	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.73	755.1	30.23	767.8	50.0	10.0	79	SW	28	12.5	.....	.....	10n	.....	SW	0.21	5.3	Light rain	
Uvalde, Texas	29.06	738.1	29.86	758.4	67	19.4	95	Calm	0	0	.....	5c	0	Calm	.....	2.19	55.6	Fair	
Vicksburg, Mississippi	29.83	757.7	30.08	764.0	75	23.9	72	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	45	7.2	61	W	8	3.6	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Visalia, California	29.82	757.4	30.20	767.1	55.5	13.1	68	NW	9	4.0	.....	5k	2ks	SW	SW	0	0	Fair	
Washington, D. C.	30.13	765.3	30.24	768.1	63	17.2	72	Calm	0	0	.....	10k	Sm'e	W	.....	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.13	765.3	30.20	767.1	72	22.2	90	Calm	0	0	.....	10k	Fog	Calm	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	46	7.8	62	W	16	7.2	.....	.....	10ks	.....	W	Inap.	Inap.	Threatening	
Wood's Holl, Mass	30.17	766.3	30.20	767.1	61	16.1	77	NW	4	1.8	.....	Haze	Haze	.....	Calm	0	0	Dense haze.	
Yankton, Dakota	28.31	719.1	29.50	749.3	70	21.1	66	W	20	8.9	.....	10k	0	SW	.....	0	0	Cloudy	
Yuma, Arizona	29.80	756.9	29.96	761.0	63	17.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.86	720.3	29.69	754.1	70	21.1	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	80	26.7	82	Calm	0	0	.....	4c	0	Calm	.....	0	0	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.95	760.7	30.03	762.7	80	26.7	82	E	.....	.....	.....	.....	.....	.....	.....	0.05	1.3	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	78	25.6	91	E	.....	.....	2	4c	0	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	30.01	762.2	30.06	763.5	34.0	1.1	95	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,8[illegible] (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft. or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.12‡	765.0‡			77	25.0	91	E	5	2.2			10		SE	0	0			Threatening	
Navy Yard, Portsmouth, N. H.																					
Naval Hospital, Yokohama, Japan	29.96‡	761.0‡			61.5	16.4	88	SW			1		4ck		W	Slight	Slight			Fair	
Adams, S. 8° 25. W. 81° 15′	30.00‡	762.0‡			67	19.4	89	E			2		10		E			Long	S;W	Cloudy	
Alaska, Sitka, Alaska	29.95‡	760.7‡			48	8.9	92	WNW			1		10		SE	0	0			Overcast	
Alliance, Cadiz, Spain	29.98‡	761.5‡			64	17.8	53	NW			3		6							Pleasant	
Colorado, New York, N. Y.	30.20‡	767.1‡			69	20.6	52	Calm	0	0			2			0	0			Clear	
Constitution, Off New York City, N. Y.	30.14‡	765.5‡			70	21.1	66	Calm			0		0							Clear	
Despatch, N. 30° 42′, W. 18° 25′	30.07‡	763.8‡			67	19.4	95	NNW			2		9		Calm	1.	25.	Long	N	Fair	
Enterprise, Havre, France	29.72‡	754.9‡			61	16.1	66	SW			3		6		W					D. clouds	
Franklin, Norfolk, Va.	30.22‡	767.6‡			65	18.3	84	SSE	2.4	1.1			10		WNW	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	29.98‡	761.5‡			59	15.0	70	N			4		5		N	0	0			Fair	
Kearsarge, Portsmouth, N. H.	30.17‡	766.3‡			61	16.1	82	Calm			0		0							Clear	
Marion, N. 22° 54′, W. 89° 15′	29.96‡	761.0‡			82	27.8	91	E			0–1		2		Calm			Smooth		Fair	
Michigan, Erie, Pa.					67	19.4	60	S			3		8		NW					Cloudy	
Monocacy, Shanghai, China	29.87‡	758.7‡			61	16.1	94	SSW			1		10		SSW					Rainy	
Monongahela, Yokohama, Japan	30.05‡	763.3‡			65	18.3	84	S			0–1	c				0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.11‡	764.8‡			76	24.4	77	S	6	2.7			2		Calm	0	0			Clear	
Onward, Callao, Peru †*	30.11‡	764.8‡			61	16.1	88	SE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.35‡	758.2‡			61	16.1	94	ESE			1		10							Raining	
Passaic, Washington, D. C.					65	18.3	84	E			1		5							Fair	
Pensacola, Callao, Peru	30.03‡	762.7‡			61	16.1	88	SE	1	0.4			10			0	0	Smooth	W	Misty	
Portsmouth, N. 32° 59′, W. 77° 47′	30.21‡	767.3‡			77	25.0	82	SSE			1		2		Calm	0	0	Smooth		Clear	
Powhattan, Hampton Roads, Va.	30.19‡	766.8‡			67	19.4	79	S			1		8		SW	0	0			Cloudy	
Quinnebaug, N. 35° 20′, E. 28° 02′	30.03‡	762.7‡			73	22.8	81	NNW			3		0					Smooth		Clear	
Ranger, Amoy, China	29.81‡	757.2‡			83	28.3	87	SSE			1–2		5		Calm			Smooth		Clear	
Richmond, N. 31° 20′. E. 122° 42′	29.84‡	757.9‡			61	16.1	94	NNE			2		10		NNE	0.1	3.	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.94‡	760.5‡			76	24.4	95	SE			1		2		Calm					Fair	
Saniee, Annapolis, Md.	30.24‡	768.1‡			67	19.4	64	Var.			1		8		W	0	0			Cloudy	
Saratoga, Funchal, Madeira	30.02‡	762.5‡			70	21.1	70	W			3		8		S	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa.	30.21‡	767.3‡			66	18.9	79	SW	3	1.3			8		NW	0	0			Hazy	
Trenton, Marseilles, France	30.02‡	762.5‡			67	19.4	55	SSW			1–2		5		S;W	0.01	0.3	Smooth		Cloudy	
Tuscarora, N. 16° 08′, W. 99° 15′	29.93‡	760.2‡			84	28.9	75	WNW			3		5		E	0	0	Smooth		Hazy	
Vandalia, Key West, Fla.	29.75‡	756.4‡			78	25.6	86	Calm			0		10			Blank	Blank	Smooth		Cloudy	
Wabash, Boston, Mass.	30.28‡	769.2‡			60	15.6	88	N			3		5			0	0			Fair	
Wyoming, Leghorn, Italy	30.06‡	763.5‡			66	18.9	89	NW			1–2		2		NW			Smooth	NW	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True Course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury Yokohama, Japan		29.63‡	752.6‡				N			6		n			1. in. or 25. mm	Smooth		Rainy	L. B. Walls.
S. S. Colima, N. 7° 10′, W. 80° 19′		29.96‡	760.7‡	81	27.2		SW			3		8*		ENE	0	Small	WSW	D. clouds	Capt. R. Searle. Capt. Whitehu
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		30.06‡	763.5‡	57	13.9	87	Calm			0		0						Clear	R. Lawless. Capt. C anolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin.																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, S. 23° 53′, W. 176° 04′		30.00‡	762.0‡				SSW			4		4		S		Mod'ate	SE, SSW	Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. Hong-Kong, China		29.83‡	757.7‡	83	28.3	83	W			2		6ck			0			D. clouds	D. A. Joyce, 2nd Officer. Capt. W. H. Kidley.
S. S. Gaelic																			
S. S. Oceanic, Capt. J. Metcalf N. 45° 26′, W. 145° 18′		29.97‡	761.2‡	46	7.8	84	ESE			4		0				Smooth		Blue sky	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Baltimore, Md.		30.24‡	768.1‡				Calm			0								Fair	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.67‡	753.6‡	52	11.1	86	ESE			5		9		ESE	Mod'ate			Cloudy	Captain Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City La		30.06‡	763.5‡	79	26.1	82	E	6	2.7			5k		E	0	Smooth		Clear	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N 34° 19', W. 76° 31'....†		30.22‡	767.6‡	75	23.9		ENE			2		0				Long	ESE	Clear	N. B. Foss.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I		29.65‡	753.1‡				NE	10	4.5			8		NE	2.50 in. or 63.5 m	Long	SE	Cloudy	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden. N. 37° 28' W. 60° 24'....†		29.82‡	757.4‡	69	20.6	97	S			2		10		SW		Mod'ate	SE	Thunder-storm.	Capt. P. Sandelin.
Schooner Henry Whitney, N. 34° 00', W. 76° 30'....†		30.28‡	769.1‡	79	26.1		Calm			0		0			0			Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

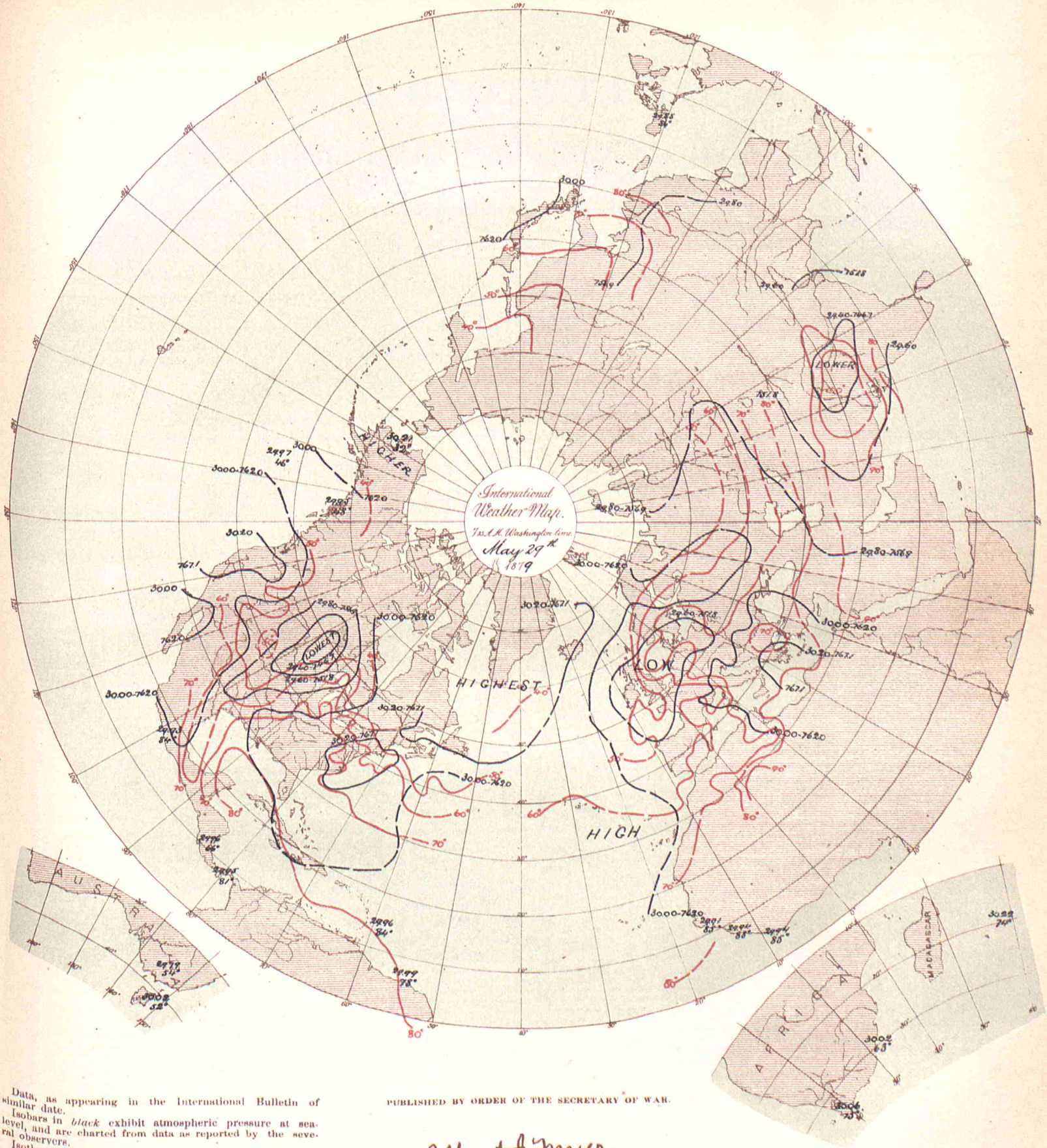
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Muritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.02	762.4	69.6	20.9	78	WNW			1		5			0	0	Cloudy	Keszuche.
Algiers			29.92	760.0	73.4	23.0	48	W			3		5			0	0	Cloudy	Tourilliere.
La Calle			29.92	760.0	71.6	22.0	69	NNW			5		10			0.039	1.0	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.03	762.7															Gau.
Saida			30.02	762.6	73.4	23.0	9	N			3		5			0	0	Cloudy	Herbin.
Tebessa			29.94	760.4	82.9	28.3	15	SW			2		8			0	0	Very cloudy	Watrin.
Geriville			30.00	761.9	78.1	25.6	51	N			2		2			0	0	Fair	Brugniaux.
Laghouat			29.87	758.6	90.3	32.4	32	E			4		2			0	0	Fair	Bertrand.
Biskra			29.78	756.5	97.2	36.2	24	SE			7		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.58	751.4	30.11	764.8	78.3	25.7	48	NW			4		7			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.36	745.7	30.11	764.7	70.5	21.4	72	E			1		0			0	0		Dr. Wierzbiski.
Eperies	29.21	741.9	30.06	763.4	72.7	22.6	63	E			2		5s		N	0	0		Julius Mikolik.
Gratz	28.90	734.1	30.12	765.1	68.0	20.0	54	S			2		8			0	0		Andreas Rospini.
Hermannstadt	28.71	729.2	30.05	763.3	81.9	27.7	42	NW			2		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.66	728.0	29.97	761.1	66.0	18.9	68	E			3		8			0	0		Prof. C. Wagner.
Lemberg	29.10	739.2	30.06	763.5	70.7	21.5	76	NE			1		3			0	0		Dr. T. Stanecki.
Pola	30.07	763.7	30.18	766.5	73.8	23.[illegible]	67	NW			1		5			0	0		I.R. Hydrographic Office.
Szathmar	29.69	754.1	30.13	765.4	77.5	25.3	46	SW			3		1			0	0		Julius Csics, S. J.
Szegedin	29.85	758.3	30.12	765.0	78.1	25.6	53	W			1		2			0	0		Karl Stancel.
Trieste	30.12	765.1	30.23	767.7	70.3	21.3	65	NE			1		10			Inap.	Inap.		P. Busin.
Vienna	29.39	746.5	30.09	764.2	70.3	21.3	51	SE			1		8			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 416 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.53	750.0	29.62	752.3	51.0	10.6		NW	16	7.2			10			0.430	10.92	Raining	W. Boswell.
Ardrossan	29.65	753.1	29.67	753.6	50	10.0		SW			4		9					Raining	William McNeil.
Armagh, Observatory			29.70	754.4	51.2	10.7		SW	10	4.5			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.73	755.1	58.9	14.9		WNW	11	4.9			7					D. clouds	John Hartnup.
Bolton (Sharples)			29.74	755.4	55.8	13.2		SSW	12	5.4			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.34	745.2	29.74	755.4	58.4	14.7		W			1		10			0.37	9.4	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760 7	83.5	28.6		SE			2		2					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.73	755.1	29.82	757.4	58.0	14.4		S			2		10					Overcast	H. Todd.
Cardington			29.78	756.4	63.0	17.2		W			1		8					Overcast	John McLaren.
Chatham, School M. E.	29.79	756.7	29.92	760.0	51.6	10.9		S			1		4					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	29.66	753.4	29.71	754.6	52	11.1		WSW			3		10					Raining	J. Mac Gowan.
Dover	29.86	758.4	29.89	759.2	56	13.3		SW			3		0					Clear	J. Costello.
Falmouth, Observatory	29.53	750.0	29.76	755.9	55.5	13.2		SSE			3		4					D. clouds	The Staff.
Fort Napier (Natal)	27.73	704.3	30.03	762.7	57.0	13.9		SE			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	86	30.0		W			1		3					D. clouds	
Galway, Queen's College			29.65	753.1	50.5	10.3		S			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.94	760.5	29.99	761.7	71.4	21.9		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.47	748.5	29.67	753.6	50.9	10.5		WSW			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.83	757.7	29.84	757.9	55	12.8		SW			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.67	753.6	29.84	757.9	59.1	15.1		SSW			1		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.60	751.8	29.82	757.4	56	13.3		SE			2		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.76	755.9	29.88	758.9	59	15.0		SE			6		6ck			0	0	Fine	M. P. Moyle.
Holyhead	29.73	755.1	29.75	755.6	57	13.9		SW			4		2					Blue sky	John Tilston.
Jersey	29.57	751.1	29.86	758.4	57.0	13.9		SSW			2		5					D. clouds	J. Fisher.
Kew, Observatory	29.80	756.9	29.84	757.9	56.7	13.7		S	15	6.7			10					Threatening	The Meteorological Of.
Leicester, Museum	29.53	750.0	29.78	756.4	58.5	14.7		SW			1		9					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.92	760.0	30.00	762.0	69	20.6		E			3		3ck			0	0	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.58	751.3	29.67	753.6	49	9.4		E			2		10					Raining	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	79.5	26.4		SE			2		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.59	751.6	29.77	756.1	61.3	16.3		S			3	c	6k	NE	SSW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.24	742.7	29.76	755.9	59.1	15.1		S			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.91	759.7	57	13.9		SW			1		7					Showery	H. E. Bellamy.
Plymouth	29.70	754.4	29.78	756.4	59.0	15.0		SE			4		5					D. clouds	John Merrifield.
Prince Town	28.34	719.8	29.80	756.9	51.0	10.6		S			2		8					Fine	W. H. Tooker.
*Roche's Point	29.64	752.8	29.74	755.4	61	16.1		SSE			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.59	751.6	29.75	755.6	54	12.2		SE			1		1					Clear	John C. Walker.
Sandwick Manse (Orkneys)			29.69	754.1	53	11.7		NE	23	10.3			2			0	0	D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.99	761.7	30.06	763.5	81.0	27.2		NE			2		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.50	749.3	29.78	756.4	60.1	15.6		SSW			2		9			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.70	754.4	29.72	754.9	55.0	12.8	75	W			1		5			0.020	0.51	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.34	745.2	29.75	755.6	55.5	13.1		WSW			1		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.61	752.1	29.82	757.4	58.7	14.8		SW			3		4					Blue sky	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.74	755.4	29.76	755.9	61	16.1		SE			7		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.70	754.4	29.72	754.9	51.9	11.1		W	7	3.1			10					Raining	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.98	761.5	81.2	27.3	33	SE	8	3.6		6	6			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania).			30.05	763.3	50.0	10.0	82	S			2		10kn			0.02	0.5	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.66	753.4	29.67	753.6	54.0	12.2		W			4		10ks			0.45	11.4	Overcast	Andrew Gibb.
Mauritius, Observatory	29.85	761.5	30.17	766.3	72.8	22.7	61.8	ESE	15.0	6.7		0	4		ESE	0.02	0.51	Squally	C. Meldrum.
Melbourne, Observatory	29.83	757.7	29.92	759.9	53.3	11.8	82	S	12	5.4			8		SE	0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.68	753.9	52	11.1		N			6	5	5	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.69	754.1	46	7.8		NE			7	0	0					Clear	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn."																			Capt. W. J. L. Wharton.
Brig Alliance, N. 46° 48', W. 33° 44'			30.004	762.0‡	58.8	14.9		WNW			6		6					D. clouds	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
—— City of Agra																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 26° 35', W. 65° 20'			30.03	762.7	76	24.4		N			3		1			1	E	Blue sky	Capt. H. L. Fox.
Barque Mertole																			Capt. E. W. Turner.
S. S. Nizam																			Capt. Barlow.
S. S. Royal Alexandra, N. 47° 30', W. 26° 55'			29.98	761.5	58	14.4		SSW			4		7			5	Confused	Misty	W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES,

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	66.6	19.2	93	SE			1	2ck	5s			Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES,

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	754.8	29.76	756.0	62.6	17.0	47	W			7		7						
Fanöe	29.78	756.4	29.80	756.9	54.5	12.5	83	WSW			6		7						
Godthaab (Greenland)	30.06	763.6	30.11	764.7	40.0	4.4	79	Calm			0		10						
Stykkisholm (Iceland)	30.11	764.8	30.15	765.9	51.0	10.6	91	Calm			0		0						
Thorshavn (Faröe)	29.94	760.4	29.97	761.3	52.5	11.4	50	NE			4		3						
Vestervig	29.46	748.2	29.63	752.5	49.3	9.6	89	SW			6		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES,

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.40	746.8	29.95	760.8	60.1	15.6	64	SSW			1		5		SW	0.028	0.7	Cloudy	Collignon, Director.
Amiens, Normal School	29.67	753.7	29.78	756.4	60.8	16	47	S			3		10		N	0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.71	754.7	29.96	761.1	57.2	14.0	50	SSW			6				SW				Klein, Commandant.
Avignon, Normal School	29.88	759.0	29.96	761.0	72.1	22.3	64	SE			1		8		SSW	0.031	0.8	Very cloudy	Giraud Director.
Bar-sur-Seine	29.40	746.7	29.94	760.5	62.8	17.1	49	NE			1		8kn		S	0.008	0.2	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.69	754.0	29.95	760.6	59.2	15.1	61	S			2		8		SSE	0.020	0.50	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.09	738.8	29.96	761.0	64.0	17.8	61	S			4		8		SW	0.071	1.8	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.16	740.7	30.08	764.0	56.3	13.5	68	S			4		10n	S	S	1.26	32.	Covered	Mariot, Director
Bourges, Normal School	29.37	746.0	29.92	760.0	55.0	12.8	83	N			1		5	N	N	0	0	Cloudy	A. Waquet. Director.
Brest, Naval Observatory	29.46	748.2	29.70	754.4	52.5	11.4	90	S			4		10		S	0.079	2.00	Raining	De Kermaree, Director.
Carcassonne, Normal School	29.54	750.3	29.94	760.5	68.0	20	62	NE			2		10	E	E	0	0	Covered	September, Director.
Caen, Normal School	29.81	757.1	29.88	758.9	62.6	17.0	52	S			6		2		S	0.031	0.8	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.32	744.6	29.88	758.9	55.6	13.1	88	S			3		10		NNW	0.031	0.8	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.6	29.99	761.7	58.6	14.8	58	SW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.58	725.9	29.90	759.5	64.6	18.1	58	NW			1		8		SW	0.118	3.0		Allnard, Director.
Commercy, Normal School	29.07	738.4	29.92	760.0	62.6	17	55	SSE			3		8kn		SSE	0.091	2.3	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.89	733.7	30.03	762.7	69.8	21.0	61	SE			3		8		SE	0.118	3.0		L. Kinn, Director.
Grenoble, Normal School	29.25	743.0	30.02	762.4	59.0	15.0	87	SSE			1		10kn			0.016	0.40	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.75	755.7	29.97	761.2	58.6	14.8	60	S			4		5		SSW	0.079	2.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.63	752.6	29.93	760.3	59.4	15.2	68	SW			4		5	SSW	SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.06	738.0	29.96	761.1	58.3	14.6	84	SSE			4		10n	SSW	SSW	0.055	1.40	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.74	755.3	29.84	757.8	55.0	12.8	83	S			4				S	0.228	5.8		Lt. T. Carré, Director.
Mâcon, Normal School																			Gaisin Director.
Marseilles, Observatory			29.91	759.8	74.1	23.4	52	ESE			3		8			0.189	4.80		E. Stephan, Director.
Mirecourt, Normal School	28.91	734.4	29.95	760.8	56.5	13.6	98	N			1		2k		S	0	0	Slightly cl'dy	Barbier, Director.
Nismes, Normal School	29.82	757.3	30.02	762.4	69.8	21	71	S			2		10		SE	0.285	7.25	Covered	Boyer, Director.
Privas, Normal School	28.93	734.8	29.97	761.2	67.1	19.5	66	S			1		cn	S	S	0.102	2.6		Cantier, Director.
Puy de Dome (Summit) Obs	25.12	638.0			42.4	5.8	100	W			1					0.109	2.7	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.95	760.8	29.98	761.6	62.2	16.8	64	SW			1		5	SW	SW	0.04	1.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.84	758.0	29.93	760.2	60.4	15.8	58	S			4		2	S	SW	0.039	1.0	Slightly cl'dy	Frere Ducard, Director.
Saint Malo (Port) Obs'y	29.79	756.6	29.82	757.4	63.3	17.4	43	SSW			4		1	SSW	SSW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.81	757.1	29.97	761.3	50.5	10.3	94	SE			1				SW; SSE	0.091	2.3		E. Renou, Director.
Tarbes, Normal School	28.91	734.3	29.98	761.5	59.0	15	48	W			2		0			0	0	Clear.	T. Hugnet. Director.
Toulouse, Observatory	29.28	743.7	30.00	762.1	60.8	15.7	80	SW			1		9			0	0		Mercadier Julier.
Versailles, Observatory	29.49	749.0	29.98	761.5	52.9	11.6	78	SW			2					0.142	0.36		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.30	744.2	30.01	762.2	58.6	14.5	93	S			3		8		W	0.04	1.	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.74	755.3	29.76	756.0	78.8	26										0	0		L'Abbé Marchesi.
Lyons Obs'y (Park Station)	29.37	745.9	29.98	761.5	55.8	13.2	97	ESE			1		10		SSW	0.327	8.3		Mr. Jays.
Mont-Louis	24.81	630.1	30.12	765.1	54.5	12.5	55	S	29.8	13.3			5		E	0	0		M. Cave.
Nice			30.03	764.1	63.7	17.6	86	E			6		10			0.047	1.2	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.69	754.2			50.9	10.5	94	SSE			3		10			0.079	2.0	Sprinkling	Marié Davy, Director.
Perpignan	29.84	758.9	29.95	760.7	61.2	16.2	71	E	7.4	3.3			1		SE	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.45	570.3			36.7	2.6		SW			1		2			0	0	Clear	Gen'l de Nansouty.
Tours	29.77	756.2	29.97	761.2	58.6	14.8	68	SSW			2		8		SSW	0.142	3.6		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.95	760.6	29.97	761.2	63.5	17.5	86	NNE	4.7	2.1		10ck		W		0	0	Covered	MarcDecnevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273.0 feet; Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft., Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,556.40 m., or 5,204.8 ft., Pic du Midi, (Summit 2,877 m., or 9,438.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–12	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.19	741.3	30.03	762.8	68.9	20.5	41	SE			4		6	SE		0	0		Prof. Dr. Hoh.
Berlin	29.85	758.3	30.02	762.5	70.5	21.4	35	SW			4		7			0.024	0.6		Prof. Arndt.
Breslau	29.58	751.3	30.11	764.8	71.8	22.1	34	SW			2		3			0	0		Royal University Obs'y.
Carlsruhe	29.55	750.6	29.96	761.1	70.2	21.2	54	SE			0		4	SE		0.020	0.5		Albert Senz.
Cassel	29.46	748.2	30.07	763.7	68.5	20.3	38	WSW			3		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	68.9	20.5	37	SW			3		8			0	0		Director Lose.
Emden																			Prof. Prestel.
Frankfort on the Main	29.65	753.0	30.01	762.2	68.5	20.3		S			2		3			0	0		Physical Society.
Freienwalde on the Oder	29.95	760.8	29.99	761.8	71.2	21.8	37	SW			5		3k	SW		0.031	0.8		Assmann., M. D.
Friedrichshafen	28.59	726.1	30.00	762.1	61.0	16.1	69	SE			2		10	SE		0.209	5.3	Raining	M. Wilhelm.
Hamburg	29.87	758.8	29.95	760.6	63.0	17.2	55	WSW			5		3k	WSW		0.335	8.5	Showery	Captain F. Hegeman.
Kiel	29.88	759.0	29.90	759.4	60.3	15.7	62	WSW			6		9			0.400	10.15		Prof. G. Karsten.
Königsberg (Prussia)	29.87	758.8	29.96	760.9	66.9	19.4	39	SW			7		2			0.020	0.5		Prof. E Luther.
Köslin			29.89	759.3	65.8	18.8		SW			6		1			0.374	9.5		H. Müller.
Leipsic Observatory	29.61	752.0	30.02	762.4	70.3	21.3	49	SW			3		3	SW		0.071	1.8		Prof. Bruhns, Privy Counsellor.
Memel	29.89	759.1	29.93	760.3	59.9	15.5	69	SW			5–6		1ks						Kalweit.
Munich (München)	28.20	716.3	30.06	763.6	67.8	19.9	45	E			4		9			0	0		Dr. C. Lang.
Neufahrwasser	29.94	760.5	29.96	760.9	70.2	21.2	30	SW			6		7			0	0		A. Lothes.
Posen	29.78	756.3	30.06	763.4	71.8	22.1	36	SW			6		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.44	747.5	29.98	761.4	68.0	20.0	55	NE			2		4	SW		0.011	0.29		Imp. University Observatory.
Stuttgart	29.04	737.6	29.95	760.6	71.6	22.0	37	S					7	W		0.126	3.2		Prof. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	724.9	30.00	762.0	67.3	19.6	40	S	7	3			6ck	SW		0	0		Dr. Van Bebber
Wustrow	29.91	759.8	29.94	760.4	58.1	14.5	70	SW			5		5k			0.161	4.1		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.72	755.0	30.10	764.5	85.6	29.8		W			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.7	29.53	749.9	90.0	32.7	54	WSW					4			0	0		D. clouds
Deesa	29.02	737.1	29.46	748.4	107.4	41.9	12	NW	7.9	3.5			2	ESE		0	0		Misty
Bombay	29.61	752.0	29.64	752.9	82.6	28.1	90	WSW	12.0	5.4			10		SSW	0.04	1.0		Overcast
Poona	27.66	702.5	29.66	753.2	76.3	24.6	83	W					10		W	0.02	0.5		Overcast
Lahore	28.63	727.2	29.32	744.6	114.3	45.7	11	Calm	1.0	0.4			0			0	0		Blue sky
Belgaum	27.18	690.5	29.73	755.1	72.1	22.3	91	W	7.0	3.1			10	W	W	0.11	2.8		Showery
Roorkee	25.52	724.4	29.37	746.0	104.1	40.1	27	Calm	3.5	1.6			2			0	0		Misty
Agra	28.93	734.9	29.46	748.2	109.6	43.1	23	E					0			0	0		
Nagpur	28.42	721.9	29.44	747.7	87.7	30.9	62	SW	6.7	3.0			9		NE				Thunder-storm
Lucknow	29.08	738.6	29.44	747.7	100.0	37.8	42	ESE	5.9	2.6			0			0	0		Misty
Allahabad	29.13	739.8	29.42	747.3	101.3	38.5	37	E	6.6	3.0			4		NE	0	0		D. clouds
Patna	29.30	744.1	29.47	748.5	97.0	36.1	44	E	3.8	1.7			4	E	E	0	0		D clouds
Hazaribagh	27.49	698.3	29.45	748.0	86.3	30.2	59	E	14.5	6.5			9			0.21	5.3		
Cuttack	29.35	745.4	29.43	747.5	84.8	29.3		E	3.0	1.3			10			5.44	138.2		Raining
Calcutta (Alipore)	29.50	749.2	29.52	749.7	81.9	27.7	87	ESE	9.0	4.0			7	SE		0	0		D. clouds
Goalpara	29.23	742.4	29.61	752.2	81.4	27.4	87	E	4.9	2.2			9			0.15	3.8		D. clouds
Chittagong	29.56	750.9	29.65	753.2	83.9	28.8	78	SE	7.2	3.2			9			0	0		Gloomy
Sibsagar	29.34	745.4	29.68	753.9	78.7	25.9	92	NE	2.0	1.2			10	W	W	4.60	116.8		D. clouds
Jubbulpore	28.04	712.2	29.35	745.4	95.7	35.4	38	E	6.3	2.8			10		W	0.02	0.5		Overcast

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.83	757.6	30.23	767.8	63.7	17.6	65	Calm	0	0			10			0.068	1.6		Prof. Giovanni Clodig.
Milan	29.72	755.0	30.24	768.2	53.8	12.1	84	WNW			2		10			0.512	13.0		Prof. Schiaparelli.
Padua	30.13	765.3	30.24	768.0	57.7	14.3	87	NNW	9.8	4.4			10	WSW		0.205	5.2		Prof. Dott. Lorenzoni
Moncalieri	29.34	745.1	30.23	767.9	55.4	13.0	85	NNW	1.8	0.8			10			0	0		Prof. P. F. Denza.
Genoa	30.00	762.1	30.19	766.9	57.2	14.0	90	NE	9.8	4.4			10	SE		0.854	21.7		Prof. G. M. Garibaldi.
Mondovi	28.33	719.6	30.23	767.8	49.6	9.8	95	WSW			2		10			0.520	13.2		Prof. D. C. Bruno.
Pesaro	30.15	765.9	30.20	767.1	65.5	18.6	86	NW	10.5	4.7			10	N		0	0		Prof. Luigi Guidi.
Florence	29.90	759.4	30.15	765.9	73.4	23.0	70	S			2		10			0.087	2.2		Cav. F. Meucci.
Leghorn	30.01	762.2	30.09	764.3	67.3	19.6	77	NE			4		10			0.039	1.0		Prof. P. Monte.
Rome	29.93	760.3	30.11	764.7	83.8	28.8	33	S	3.8	1.7			1			0	0		Prof. P. S. Ferrari
Lecce	29.91	759.7	30.16	766.1	81.5	27.5	38	NNE	6.3	2.8			2			0	0		Prof. C. De Giorgi.
Cosenza	29.26	743.3	30.13	765.3	84.9	29.4	68	NNW	1.3	0.6			2			0	0		Prof. D. Conti.
Cagliari	29.78	756.4	29.97	761.2	76.3	24.6	37	SE			2		9	W		0	0		Prof. A. Pacinotti.
Palermo	29.82	757.4	30.07	763.7	80.1	20.7	31	NE	3.8	1.7			1			0	0		Prof. G. Cacciatore.
Syracuse	30.06	763.5	30.13	765.3	72.1	22.3	56	ENE	3.8	1.7			7	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.58	751.2	30.13	765.3	85.6	29.8	39	WSW	1.3	0.6			8			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 378.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,472.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.87	758.7	64.8	18.2	93	Calm	0	0			10s			0.122	3.10	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.88	758.9	65.1	18.4	95	S	1.0	0.5			10s			0.270	6.86	Cloudy	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.82	757.4	29.88	758.9	57.4	14.1	98	NNW	12.1	5.4			10n			0.945	24.00	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.1	30.06	763.4	57.2	14.0	61	Calm			0	0	9		S	0	0	Very cloudy	Prof. L. Perez.
Leon	24.40	619.7	29.96	761.0	66.9	19.4	83	SSE			1	6c	1k	SE		0.31	7.8	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	29.95	760.8	59.9	15.5	69	Calm	0	0			10k		S	0	0	Covered	The Staff.
Pabellon (Aguascalientes)					62.6	17.0	81	SW			1		10k		SW	0.008	2.0	Covered	M. V. de Leon, M. E.
Tlacotalpam	29.82	757.5	29.84	757.8	78.8	26.0	84	ESE			1	1	1	W	E	0	0	Foggy	M. M. Chazaro.
San Luis Potosi	24.17	613.8	30.16	766.1	55.0	12.8	50	N			1		10		W	0.012	0.3	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.55	572.8	30.13	765.2	55.4	13.0	80	Calm			0	5c	4s	Calm		0.63	16.0	Rainy	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	60.8	16.0	38	SE	0.2	0.1		0	9k		NNE	0.04	1.1	Very cloudy	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.36	720.4	29.98	761.4	79.9	26.6	61	NNE			1	0	8		SW	0	0	Covered	R. Baeda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.78	756.4	30.07	763.7	75.6	24.2	91	Calm			0	5	0	Calm		0	0	½ clouded	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft., Leon, 1,798.6 m., or 5,901.0 ft., Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft., San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.6	29.95	760.6	60.8	16.0		SSW								0.122	3.1		
Groningen	29.87	758.8	29.93	760.2	61.9	16.6		SW			3					0.008	0.2		
Helder	29.92	759.9	29.92	759.9	56.1	13.4		SSW			4					0	0		
Hellevoetsluis	29.93	760.1	29.93	760.1	64.6	18.1	56	SW			3					0.094	2.4		
Utrecht	29.91	759.7	29.96	760.9	65.3	18.5	47	SW			4		5			0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.03	737.3	29.08	738.7	70.2	21.2	51	WNW	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	.....
Brönø	29.52	749.9	29.56	750.9	47.1	8.4	67	N	27	12	.....	.....	0	.....	.....	0	0	.....	.....
Christiania	29.19	741.4	29.23	744.9	67.8	19.9	68	E	0	0	.....	.....	9	.....	.....	0.409	10.4	.....	.....
Tromsö	29.62	752.4	29.67	753.5	43.5	6.4	65	NE	29	13	.....	.....	4	.....	.....	0	0	.....	.....

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.09	764.2	30.28	769.0	66.2	19.0	70	W	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.7	30.06	763.6	65.3	18.5	30	WNW	9.4	4.2	.....	.....	5	WNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.1	30.21	767.3	66.7	19.3	54	SW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.79	756.7	30.15	765.9	61.9	16.6	39	NW	16.1	7.2	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.19	766.9	30.24	768.1	68.4	20.2	55	WSW	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
Duque da Terceira, N. 4° 05′, W. 8° 46′	.....	.....	29.94	760.5	83.7	28.7	.....	Calm	.....	.....	0	.....	10	.....	.....	0	.....	Showery	C. C. da Fonseca Ferreira, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando	.....	.....	29.93	760.2	79.7	26.5	.....	WNW	.....	.....	2	.....	2	.....	WNW	1	WNW	D. clouds	A. J. de Mattos, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. N. 14° 33′, W. 22° 57′	.....	.....	30.01	762.3	74.1	23.4	.....	W	.....	.....	5	.....	8	.....	NE	3	NE	D. clouds	A. Ferreira, 2d Lt. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo. Macao, China	.....	.....	29.91	759.8	86.0	30.0	.....	SW	.....	.....	2	.....	5	.....	SW	0	.....	D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.66	753.4	30.07	763.8	69.8	21.0	36	WSW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.59	751.6	30.00	761.9	66.7	19.3	45	WNW	9	4	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.54	750.4	29.78	756.3	66.6	19.2	54	WSW	18	8	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.63	752.5	29.84	757.9	64.9	18.3	70	W	22	10	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	29.39	746.4	29.99	761.7	79.5	26.4	49	S	13	6	.....	.....	9ks;n;c	.....	.....	.....	.....	Thunder-storm.	Physical Cabinet.
Nikolaiev	30.08	763.9	30.15	765.7	80.8	27.1	44	SE	4	2	.....	.....	5k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.06	763.4	30.08	763.9	71.6	22.0	68	N	7	3	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.40	746.8	29.92	759.9	78.3	25.7	44	S	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.87	758.7	30.07	763.7	75.7	24.3	32	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.67	753.7	29.69	754.2	47.7	8.7	74	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.59	726.2	29.95	760.8	74.3	23.5	37	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.20	767.1	30.12	765.0	76.5	24.7	22	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.52	749.8	29.78	756.3	73.0	22.8	41	WSW	22	10	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.69	728.6	29.65	753.2	41.1	5.0	63	SW	45	20	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.93	760.2	30.15	765.9	76.6	24.8	28	NNE	13	6	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.31	719.2	29.82	757.3	74.5	23.6	62	NE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.31	744.4	29.80	756.8	57.2	14.0	32	WSW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.62	752.3	29.91	759.6	52.2	11.2	49	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.81	757.1	29.95	760.7	72.3	22.4	54	S	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.84	757.8	29.93	760.3	52.9	11.6	94	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.91	759.8	30.00	762.0	41.2	5.1	88	E	2	1	.....	.....	2k	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.82	757.4	29.93	760.1	64.8	18.2	71	ESE	2.2	1.00	.....	.....	10	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.06	763.6	30.08	764.0	68.2	20.1	52	NW	2.5	1.12	.....	0	2	E	.....	0	0	Almost clear	Prof. Manuel de Navera n
Burgos, Met. Obs'y	27.04	686.8	.....	.....	58.6	14.8	43	SW	7.8	3.48	.....	.....	1	.....	.....	0	0	Almost clear	Domingo Martin y Pere z.
Madrid, Royal Oservatory	27.76	705.0	.....	.....	68.5	20.3	32	SW	11.2	5.00	.....	0	1	.....	.....	0.016	0.4	Almost clear	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.7	73.0	22.8	51	SE	2.1	0.94	.....	2	6	N	.....	0.002	0.05	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.5	29.99	761.8	57.4	14.4	67	SW	15.0	6.7	.....	0	7	.....	.....	0.051	1.3	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.89	759.2	29.98	760.9	79.1	26.2	81	E	5.2	2.3	.....	3ck	0	E	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.83	757.8	29.88	759.1	84.2	29.0	87	SE	0	0	.....	0	8kn	.....	E	0.118	3.0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	761.9	30.09	764.4	66.2	19.0	46	WNW	14.0	6.3	.....	0	2	.....	W	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.84	757.8	29.98	760.1	79.2	26.2	83	SE	0	0	.....	5k	4k	SE	SE	0.443	11.25	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.40	749.1	29.53	750.1	44.2	6.8	....	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.39	746.5	29.44	747.8	46.4	8.0	100	NE	.....	.....	4	.....	10	.....	.....	0.437	11.1	.....	
Hernosand	29.38	744.9	29.38	746.2	45.0	7.7	88	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	29.12	739.7	29.30	744.2	54.0	12.2	82	SW	.....	.....	4	.....	10	.....	.....	0.303	7.7	.....	
Wisby	29.48	747.6	29.49	749.1	48.6	9.2	92	WSW	.....	.....	8	.....	10	.....	.....	0.071	1.8	.....	
Sub-Series.																			
Upsala	29.20	741.8	29.28	743.7	52.9	11.6	82	SSW	6.3	2.8	.....	.....	10	.....	.....	0.491	12.47	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.3	30.07	763.7	52.0	11.1	91	NNE	.....	.....	1	.....	10	.....	.....	0.067	1.7	Raining	The Observatory.
Zurich	28.42	721.8	30.04	762.9	60.1	15.6	74	W	.....	.....	1	.....	10	.....	.....	0.067	1.7	Raining	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.6 mm.; Thermometer,—7.5 Cent.; Relative Humidity, +35 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.6	74.8	23.8	54	N	22	10.0	.....	.....	1	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	96.8	36.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.23	767.9	81.0	27.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.74	755.4	29.85	758.3	82.6	28.1	46	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.62	752.3	29.91	759.7	74	23.3	.....	SW	4	1.8	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.94	760.5	30.00	762.0	57	13.9	66	S	10	4.5	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	G. A. Blair.
Charlottetown, P. E. Island	30.07	763.8	30.11	764.8	53	11.7	82	S	6	2.7	.....	0	2s	.....	W	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.67	753.6	29.86	758.4	70.3	21.3	67	SW	.....	.....	1	1cs	0	.....	.....	0	0	Fine	James Smith, M. A.
Dalhousie, N. B	29.77	756.1	29.94	760.5	46.6	8.3	100	E	.....	.....	2	.....	10n	.....	.....	.....	.....	Raining	H. A. Johnson.
Esquimault, B. C	30.18	766.6	30.22	767.6	53.3	11.8	86	W	2	0.9	.....	8cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.78	756.4	29.80	756.9	59	15.0	79	SW	24	10.7	.....	5k	Haze	NW	S	0.15	3.8	Hazy	J. McWilliams.
Fredericton, N. B	30.01	762.2	30.08	764.0	60.0	15.6	66	S	7	3.1	.....	1ck	Sm'e	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	28.75	730.2	29.56	750.8	50	10.1	93	N	14	6.3	.....	.....	10n	.....	N	0.14	3.56	Light rain	James Stewart.
Granton, Ontario	28.76	730.5	29.80	756.9	72	22.2	.....	S	.....	.....	1	1c	0	.....	.....	0	0	Fine	James Grant.
*Halifax, N. S	30.06	763.5	30.20	767.1	48	8.9	97	S	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.52	749.8	29.88	758.9	61.7	16.5	83	NW	.....	.....	1	3c	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.92	760.0	64	17.8	75	SE	15	6.7	.....	5ck	Sm'e	Calm	SE	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.12	765.0	30.16	766.1	60.5	15.8	87	SW	8	3.6	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.71	754.6	29.99	759.4	67	19.4	59	S	14	6.3	.....	2c	5ks	W	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.08	738.6	29.73	755.1	72	22.2	71	S	18	8.0	.....	2cs	2ks	S	S	0	0	Fair	Rev. R. Mosly.
Peterboro, Ontario	29.12	739.6	29.82	757.7	73.7	23.2	65	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.88	758.9	63	17.2	89	S	7	3.1	.....	8ck	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.12	765.0	30.17	766.3	48.6	9.2	.....	S	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.24	742.7	29.86	758.4	65	18.3	85	SE	2	0.9	.....	5k	2ks	W	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.62	752.3	29.93	760.2	63	17.2	69	N	.....	.....	1	0	Sm'e	.....	W	0	0	Smoky	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.31	744.5	29.75	755.6	67	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	55	12.8	77	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.00	762.0	30.16	766.1	46	7.8	100	SW	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.06	738.1	29.74	755.4	73	22.8	67	SW	19	8.5	.....	.....	8n	.....	S	0	0	Threatening	K. Stewart.
Stayner, Ontario	29.01	736.8	29.74	755.4	76	24.4	60	W	10	4.5	.....	0	Sm'e	.....	.....	0	0	Smoky	R. J. Cole.
Stratford, Ontario	28.68	725.9	29.80	756.9	70.1	21.2	74	SW	10	4.5	.....	1cs	1ks	Calm	.....	0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B	30.13	765.3	30.17	766.3	61	16.1	63	SW	10	4.5	.....	10c	0	NW	.....	0	0	Hazy	T. C. Hill.
*Toronto, Ontario	29.51	749.5	29.88	758.9	63	17.2	75	E	4	1.8	.....	5c	Sm'e	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.08	764.0	30.17	766.3	55.0	12.8	81	S	4	1.8	.....	1cs	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.07	763.8	30.32	770.1	42.0	5.6	91	E	.....	.....	.....	.....	10n	.....	.....	0	0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 366.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.87	758.7	30.09	764.3	69	20.6	48	S	10	4.5		0	Haze			0	0	Clear	
Alpena, Michigan	28.98	736.1	29.58	751.3	70	21.1	75	S	17	7.6		0	0			0.82	20.8	Clear	
Atlanta, Georgia	29.98	761.5	30.08	764.0	76	24.4	60	E	8	3.6		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	30.20	767.1	30.21	767.3	64	17.8	78	S	6	2.7		5k	5s	W	W	0	0	Cloudy	
Augusta, Georgia	30.00	762.0	30.17	766.3	73	22.8	76	SE	4	1.8		Haze	Haze	Calm	Calm	0	0	Clear	
Baltimore, Maryland	30.11	764.8	30.16	766.1	69	20.6	85	S	3	1.3			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.16	766.1	30.19	766.8	69	20.6	65	S	10	4.5		5c	0	NW		0	0	Fair	
Bismarck, Dakota	27.89	708.4	29.75	755.6	57	13.9	87	W	18	8.0			10s		NW	0.08	2.0	Cloudy	
Boerne, Texas	28.38	720.8	29.63	752.6	75	23.9	81	S	8	3.6		5k	5ks	S	S	0	0	Cloudy	
Boise City, Idaho	27.36	694.9	30.32	770.1	42	5.6	74	SW	1	0.4		2ks	0	W		Inap.	Inap.	Fair	
Boston, Massachusetts	30.02	762.5	30.17	766.3	68	20.0	51	SW	11	4.9		1c	Haze	Calm	Calm	0	0	Clear	
Brackettville, Texas	28.67	728.2	29.65	753.1	75	23.9	77	E	8	3.6		5ck	2s	Calm	SE	0	0	Fair	
Breckenridge, Minnesota	28.55	725.2	29.50	749.3	56	13.3	94	W	16	7.2			10n		Calm	0.32	8.1	Light rain	
Brownsville, Texas	29.76	755.9	29.80	756.9	82	27.8	71	SE	6	2.7		8cs	0	SE		0	0	Fair	
Buffalo, New York	29.22	742.2	29.88	758.9	73.5	23.1	61	S	9	4.0		5cs	Haze	SW	Calm	0	0	Fair	
Burkes, Arizona					62	16.7	41	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.70	754.4	29.98	761.5	69	20.6	48	S	18	8.0		2c	Sm'e	S	S	0	0	Fair	
Cairo, Illinois	29.55	750.6	29.92	760.0	81	27.2	63	S	12	5.4		1c	0	Calm		0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.28	642.1	30.08	764.0	59	15.0	48	N	4	1.8		2k	0	S		0	0	Clear	
Camp Verde, Arizona					56	13.3	35	N			4	0	0			0	0	Clear	
Campo, California	27.33	694.2	29.90	759.4	39	3.9	72	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	73	22.8	85	SE	6	2.7			10s		SE	0.10	2.5	Threatening	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	74	23.3	76	S	14	6.3		2c	2ks	W	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.18	766.6	30.19	766.8	76	24.4	82	S	13	5.8		5k	0	W		0	0	Fair	
Cape May, New Jersey	30.11	764.8	30.14	765.5	64	17.8	72	S	10	4.5			10cs		S	0	0	Cloudy	
Castroville, Texas	29.05	737.9	29.72	754.9	82	27.8	63	S	5	2.2		0	5ks		S	0	0	Fair	
Charleston, South Carolina	30.12	765.0	30.17	766.3	78	25.6	69	SE	4	1.8		0	0			0	0	Clear	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	43	6.1	92	N	14	6.3		0	8s		N	Inap.	Inap.	Cloudy	
Chicago, Illinois	29.02	737.1	29.66	753.4	71	21.7	62	SW	9	4.0		5cs	0	SW		0	0	Fair	
Cincinnati, Ohio	29.34	745.2	29.96	761.0	76	24.4	56	S	6	2.7		1k	0	SW		0	0	Clear	
Cleveland, Ohio	29.20	741.7	29.88	758.9	76	24.4	52	S	20	8.9		5ck	0	S		0	0	Fair	
Coleman City, Texas	27.98	710.7	29.54	750.3	78	25.6	65	S	14	6.3		0	2ks		S	0	0	Fair	
Columbus, Ohio	29.13	739.9	29.92	760.0	74	23.3	63	SW	5	2.2		0	0			0	0	Clear	
Concho, Texas	27.86	707.6	29.44	747.8	75	23.9	81	SW	17	7.6		0	8s		Calm	0	0	Fair	
Corsicana, Texas	29.37	746.0	29.81	757.2	77	25.0	77	S	12	5.4			10s		S	0	0	Cloudy	
Davenport, Iowa	29.06	738.1	29.67	753.6	66	18.9	79	SW	11	4.9		4cs	0	W		0.30	7.6	Cloudy	
Deadwood, Dakota	25.28	642.1			47	8.3	85	W	2	0.9			10s		W	0.30	7.6	Cloudy	
Decatur, Texas	28.58	725.9	29.68	753.9	75	23.9	72	S	32	14.3		0	5ks		S	0	0	Fair	
Denison, Texas	28.99	736.3	29.74	755.4	74	23.3	81	S	14	6.3		10k	0	S		0	0	Cloudy	
Denver, Colorado	24.71	627.6	29.93	760.2	46	7.8	84	SW	2	0.9			10n		Calm	0.36	9.1	Heavy rain	
Des Moines, Iowa	28.86	733.0	29.70	754.4	63	17.2	78	W	5	2.2		8c	0	W		0.40	10.2	Fair	
Detroit, Michigan	29.17	740.9	29.80	756.9	71	21.7	80	SW	7	3.1		10cs	0			0.02	0.5	Cloudy	
Dodge City, Kansas	27.04	686.8	29.20	741.7	63	17.2	67	NE	20	8.9		0	0			0	0	Clear	
Dubuque, Iowa	28.98	736.1	29.64	752.8	64	17.8	73	W	6	2.7		8c	Haze	NW	Calm	0.42	10.7	Fair	
Duluth, Minnesota	28.66	728.0	29.29	744.0	61	16.1	94	SW	6	2.7			10n		W	0.82	20.8	Light rain	
Eagle Pass, Texa	29.01	736.8	29.69	754.1	77	25.0	82	E	4	1.8		0	4ks		SW	0	0	Fair	
Eastport, Maine	30.05	763.3	30.12	765.0	53	11.7	73	S	11	4.9		5ck	Haze	N	Calm	0.02	0.5	Fair	
Edinburg, Texas					80	26.7	78	S			1	5c	5s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.13	663.7			62	16.7	36	N	8	3.6		0	0			0	0	Clear	
Erie, Pennsylvania	29.20	741.7	9.86	758.4	77	25.0	61	S	11	4.9		8c	0	SW		0	0	Fair	
Escanaba, Michigan	28.87	733.3	29.49	749.0	58	14.4	76	S	12	5.4			10cs		SW	0	0	Cloudy	
Florence, Arizona	28.42	721.9	30.02	762.5	75	23.9	19	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.82	706.6			50	10.0	93	NW	16	7.2			10s		NW	0.75	19.1	Cloudy	
Fort Craig, New Mexico	25.42	645.7	29.49	749.0	59	15.0	23	W	4	1.8		0	0			0	0	Clear	
Fort Davis, Texas	25.12	638.0	30.08	764.0	64	17.8	34	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.23	742.4	29.73	755.1	79	26.1	68	S	16	7.2		0	0			0	0	Clear	
Fort Griffin, Texas	28.47	723.1	29.66	753.4	77	25.0	69	S	20	8.9		0	0			0	0	Clear	
Fort Keogh, Montana	27.37	695.2			51	10.6	78	NW	20	8.9			10s		Calm	0.19	4.8	Cloudy	
Fort McKavett, Texas	27.56	700.0	29.40	746.7	72	22.2	80	S	12	5.4		0	5s		S	0	0	Fair	
Fort St. Michael, Alaska	30.15	765.8	30.19	766.8	30	—1.1	100	SW	11	4.9			10s		SW	0.01	0.3	Cloudy	
Fort Sill, Indian Territory	28.45	722.6	29.48	748.8	77	25.0	69	SE	14	6.3		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.86	707.6			56	13.3	87	NW	14	6.3		0	8s		NW	0.09	2.3	Cloudy	
Fredericksburg, Texas	28.08	713.2	29.56	750.8	73	22.8	81	S	8	3.6			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.84	757.9	29.88	758.9	80	26.7	78	S	10	4.5		2ck	5ks	Calm	S	0	0	Cloudy	
Graham, Texas	28.65	727.7	29.64	752.8	76	24.4	77	S	10	4.5		0	0			0	0	Clear	
Grand Haven, Michigan	29.03	737.3	29.63	752.6	74	23.3	59	S	6	2.7		2k	0	W		0	0	Fair	
Indianapolis, Indiana	29.10	739.1	29.83	757.7	78	25.6	65	S	8	3.6		8cs	0	Calm		Inap	Inap.	Fair	
Indianola, Texas	29.83	757.7	29.86	758.4	82	27.8	79	S	9	4.0		8c	2ks	NW	S	0	0	Cloudy	
Jacksboro, Texas	28.59	726.2	29.65	753.1	75	23.9	77	S	20	8.9		0	2s		S	0	0	Clear	
Jacksonville, Florida	30.12	765.0	30.14	765.5	78	25.6	73	E	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.09	738.9	29.67	753.8	67	19.4	79	SW	7	3.1			10s		W	0.58	14.7	Cloudy	
Key West, Florida	29.96	761.0	29.99	761.7	76	24.4	86	E	14	6.3			10ks		E	0.27	6.9	Threatening	
Kittyhawk, North Carolina	30.17	766.3	30.19	766.8	73	22.8	81	SW	14	6.3		5cs	2ks	Calm	NW	0	0	Fair	
Knoxville, Tennessee	29.13	739.9	30.09	764.3	72.5	22.5	67	SE	2	0.9		0	5ks		W	0	0	Fair	
La Crosse, Wisconsin	28.82	732.0	29.52	749.8	66	18.9	79	SW	16	7.2		2k	0	SW		0.09	2.3	Clear	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	55	12.8	33	N	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.03	752.6	29.96	761.0	80	26.7	66	E	7	3.1		0	0			0	0	Clear	
Leavenworth, Kansas	28.92	734.6	29.72	754.9	64	17.8	83	S	15	6.7			10ksn		SW	1.45	36.8	Light rain	
Los Angeles, California	29.59	751.6	29.83	760.2	54.0	12.2	80	NW	4	1.8		5c	0	NW		0	0	Fair	
Louisville, Kentucky	29.41	747.0	29.84	760.5	79	26.1	54	S	7	3.1		1k	0	Calm		0.20	5.1	Clear	
Lynchburg, Virginia	29.45	748.0	30.10	764.5	74	23.3	72	W	1	0.4		5k	2s	W	Calm	0	0	Fair	
Madison, Wisconsin	28.64	727.4	29.57	751.1	65	18.3	84	SW	16	7.2		0	2ks		SW	0.14	3.6	Fair	
Marquette, Michigan	28.72	729.5	29.87	746.0	70	21.1	53	S	4	1.8		5k	0	SE		0	0	Fair	
Mason, Texas	28.18	715.8	29.84	757.8	76	24.4	73	S	18	8.0		0	5s		S	0	0	Fair	
Memphis, Tennessee	29.64	752.8	29.96	761.0	79	26.1	58	S	12	5.4		0	0			0	0	Clear	
Milwaukee, Wisconsin	28.91	734.3	29.59	751.6	68	20.0	70	SW	18	8.0		5c	0	SW		0	0	Fair	
Mobile, Alabama	30.00	762.0	30.04	763.0	78.5	25.8	82	SE	10	4.5		0	8s		S	0	0	Fair	
Montgomery, Alabama	29.87	758.7	30.10	764.5	78	25.6	69	SE	6	2.7		5k	0	S		0	0	Fair	
Morgantown, West Virginia*	29.07	738.4	30.02	762.5	72	22.2	76	Calm	0	0		5k	0	SW		0	0	Fair	
Mt. Washington, N. H.	23.95	608.3	30.51	769.9	46	7.8	61	W	25	11.2		8c	Sm'e	W	Calm	0	0	Fair	
Nashville, Tennessee	29.50	749.3	30.00	762.0	83	28.3	53	S	5	2.2		1ck	0	S		0.01	0.3	Clear	
New Haven, Connecticut	30.08	764.0	30.20	767.1	70	21.1	68	S	1	0.4		0	Haze		Calm	0	0	Clear	
New London, Connecticut	30.16	766.1	30.21	767.3	69	20.6	61	S	5	2.2		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	80	26.7	78	SE	5	2.2		0	5s		SE	0	0	Fair	
Newport, Rhode Island	30.16	766.1	30.21	767.3	63.5	17.5	76	SW	4	1.8		1c	Haze	W		0	0	Fair	
New York, New York	30.03	762.7	30.20	767.1	65	18.3	63	SW	5	2.2		2ck	Haze	N	Calm	0	0	Fair	
Norfolk, Virginia	30.11	764.8	30.16	766.1	76	24.4	77	SW	12	5.4		0	8ks		S	0.10	2.5	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
North Platte, Nebraska	26.95	684.5	29.44	747.8	55	12.8	74	NE	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Olympia, Washington Ter.	30.24	768.1	30.28	769.1	45.0	7.2	96	SW	4	1.8	.....	5ck	0	SW	.....	0.18	4.6	Fair	
Omaha, Nebraska	28.61	726.7	29.65	753.1	66	18.9	59	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Oswego, New York	29.64	752.8	29.95	760.7	70	21.1	70	S	10	4.5	.....	8c	0	W	.....	0	0	Fair	
Pembina, Dakota	28.70	729.0	29.50	749.3	50	10.0	86	NW	21	9.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pa	30.12	765.0	30.17	766.3	66	18.9	69	S	10	4.5	.....	5k	5s	W	Calm	0	0	Cloudy	
Phœnix, Arizona	28.67	728.2	30.45	773.4	62	16.7	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.63	447.8	29.84	757.9	13	—10.6	44	W	10	4.5	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Pioche, Nevada	.....	.....	.....	.....	38	3.3	45	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	29.99	761.7	71	21.7	66	S	6	2.7	.....	5ck	2s	SW	S	0	0	Fair	
Port Huron, Michigan	29.14	740.1	29.77	756.1	70	21.1	75	SW	13	5.8	.....	2cs	8ks	W	SW	0.02	0.5	Cloudy	
Portland, Maine	30.08	764.0	30.12	765.0	61	16.1	71	S	8	3.6	.....	Haze	Haze	Calm	.....	0	0	Hazy	
Portland, Oregon	30.26	768.6	30.34	770.6	48.5	9.2	93	NE	2	0.9	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Prescott, Arizona	24.73	628.1	30.09	764.3	42	5.6	34	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	28.87	733.3	29.64	752.8	78	25.6	77	SE	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	76	24.4	73	E	13	5.8	.....	2k	0	E	.....	0.10	2.5	Clear	
Red Bluff, California	29.84	757.9	30.20	767.1	56	13.3	69	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.59	751.6	29.80	756.9	79	26.1	74	SE	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Rochester, New York	29.32	744.7	29.90	759.4	72	22.2	71	SW	14	6.3	.....	5k	0	SW	.....	0	0	Fair	
Roseburg, Oregon	29.76	755.9	30.34	770.6	50	10.0	93	N	1	0.4	.....	10ck	0	Calm	.....	0	0	Cloudy	
Sacramento, California	30.08	764.0	30.17	766.3	56	13.3	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.29	744.0	29.83	757.7	75	23.9	56	S	6	2.7	.....	.....	10s;ks	.....	SW	Inap.	Inap.	Cloudy	
St. Marks, Florida	30.10	764.5	30.11	764.8	74	23.3	81	SE	8	3.6	.....	1k	0	S	.....	0	0	Clear	
St. Paul, Minnesota	28.64	727.4	29.41	747.0	62	16.7	94	SW	20	8.9	.....	.....	10s	.....	W	0.53	13.5	Cloudy	
Salt Lake City, Utah	25.75	654.0	30.08	764.0	41	5.0	65	NE	4	1.8	.....	1c	0	Calm	.....	0.09	2.3	Clear	
San Antonio, Texas	29.14	740.1	29.69	754.1	79	26.1	74	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
San Diego, California	29.86	758.4	29.94	760.5	53	11.7	86	NE	2	0.9	.....	5c	0	W	.....	0	0	Fair	
Sandusky, Ohio	29.21	741.9	29.84	757.9	74	23.3	63	SW	18	8.0	.....	0	0	.....	.....	0.01	0.3	Clear	
Sandy Hook, New Jersey	30.14	765.5	30.17	766.3	71	21.7	53	SW	8	3.6	.....	5ck	Haze	SW	Calm	0	0	Hazy	
San Francisco, California	30.13	765.3	30.20	767.1	54	12.2	87	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	28.18	588.8	29.72	754.9	47	8.3	28	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.09	764.3	30.18	766.6	81	27.2	70	SE	3	1.3	.....	5k	0	SE	.....	0	0	Fair	
Shreveport, Louisiana	29.71	754.6	29.92	760.0	76	24.4	82	S	6	2.7	.....	0	5ks	.....	S	0	0	Fair	
Silver City, New Mexico	24.24	615.7	30.38	771.6	48	8.9	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.17	766.3	30.21	767.3	76	24.4	86	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.04	763.0	30.17	766.3	66	18.9	69	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.88	682.7	29.88	758.9	72	22.2	58	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.12	765.0	30.18	766.6	57	13.9	87	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.17	740.9	29.81	757.2	76	24.4	64	SW	12	5.4	.....	Haze	Haze	Calm	Calm	Inap.	Inap	Hazy	
Tucson, Arizona	27.48	698.0	30.03	762.7	60	15.6	44	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.90	759.4	30.41	772.4	51.0	10.6	72	SW	12	5.4	.....	0	0	.....	.....	0.08	2.0	Clear	
Uvalde, Texas	29.00	736.6	29.80	756.9	74	23.3	86	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.00	762.0	74	23.3	86	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.31	617.5	29.81	757.2	40	4.4	73	Calm	0	0	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Visalia, California	29.78	756.4	30.15	765.8	49	9.4	85	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.02	762.5	30.13	765.3	68	20.0	84	S	5	2.2	.....	2ck	8s;sm	W	S	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Wilmington, N. Carolina	30.11	764.8	30.18	766.6	76	24.4	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.86	656.8	30.22	767.6	37	2.8	81	Calm	0	0	.....	0	8s	.....	Calm	0.07	1.8	Cloudy	
Wood's Holl, Mass	30.19	766.8	30.23	767.8	63	17.2	72	SW	8	3.6	.....	Haze	Haze	.....	Calm	0	0	Dense haze	
Yankton, Dakota	28.42	721.9	29.65	753.1	62	16.7	66	NW	12	5.4	.....	10c	0	SW	.....	0	0	Cloudy	
Yuma, Arizona	29.73	755.1	29.89	759.2	67	19.4	42	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.26	717.8	29.58	751.3	74	23.3	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Havana, Cuba, W. I.	29.89	759.2	29.94	760.5	81	27.2	78	NE	1.2	0.5	.....	8cs	0	Calm	.....	0	0	Fair	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I.	29.80	756.9	29.88	758.9	78	25.6	86	SE	.....	.....	.....	.....	.....	.....	.....	0.10	2.5	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	81	27.2	83	E	.....	.....	2	3c	5k	E	.....	1.600	40.64	Fair	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	30.08	764.0	30.13	765.3	46.5	8.1	88	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. O. Gellich.
																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,460 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,110.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362 2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5.480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.555 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in., Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.38 in., Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 3.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. *The elevation of the barometer at Morgantown has been changed from 1,027.9 ft., or 313.3 m., to 962.2 ft., or 293.3 m.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.24‡	768.1‡			51	10.6	86	N	4	1.8			0			0	0			Clear	
Navy Yard, Pensacola, Fla	30.07‡	763.8‡			78	25.6	91	SE	17	7.6			10d		SE	0	0			Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.84‡	757.9‡			58	14.4		NNE			4		10n		E	1.38	35.1			Raining	
Adams, S. 5° 40. W. 82° 04′	30.01‡	762.2‡			68	20.0	95	NE			1		8		NE			Smooth		Fair	
Alaska, Sitka, Alaska	30.12‡	765.0‡			48	8.9	92	Calm			0		10			0	0			Overcast	
Alliance. Cadiz, Spain	30.10‡	764.5‡			68	20.0	51	WNW			3		1							Pleasant	
Colorado, New York, N. Y.	30.19‡	766.8‡			69	20.6	52	SSE	12	5.4			2		SE					Clear	
Constitution, Off New York City, N. Y.	30.09‡	764.3‡			74	23.3	59	S			1		6		Calm					Fair	
Despatch, N. 28° 47′, W. 21° 12′	30.22‡	767.6‡			71	21.7	95	NE			2		8		Calm	0	0	Light	NE	Clear	
Enterprise, Havre, France	29.95‡	760.7‡			61	16.1	71	SSW			3		5		SW					Showery	
Franklin, Norfolk, Va.	30.15‡	765.8‡			74	23.3	81	SSW	13.2	5.9			8		WSW	0.07	1.8			Fair	
Hartford, Montevideo, Uruguay.*	29.99‡	761.7‡			60	15.6	82	SSE			3		10		SE	0	0			Cloudy	
Kearsarge, Portsmouth, N. H.	30.15‡	765.8‡			62	16.7	72	SSW			2		0							Clear	
Marion, N. 22° 25′, W. 91° 40′	29.90‡	759.4‡			80	26.7	100	SSE			2		5		N			Smooth		Fair	
Michigan, Erie, Pa.					76	24.4	73	S			4		8		W					Cloudy	
Monocacy. Shanghai, China	29.94‡	760.5‡			65	18.3	78	NE			2		10		NE					Cloudy	
Monongahela, Yokohama, Japan	29.86‡	758.4‡			60	15.6	82	NNW			4		10			Heavy	Heavy			Raining	
New Hampshire, Port Royal, S. C.	30.18‡	766.6‡			77	25.0	77	SSE	11	4.9			2		SSE	0	0			Clear	
Onward, Callao, Peru †*	30.14‡	765.5‡			61	16.1	94	N			1		10					Long	W	Misty	
Palos. Shanghai, China	29.93‡	760.2‡			63	17.2	89	NE			2		10		W					Overcast	
Passaic, Washington, D. C.					71	21.7	75	SW			1		8							Cloudy	
Pensacola, Callao, Peru	30.04‡	763.0‡			60	15.6	94	NNE	3	1.3			10			0	0	Smooth	W	Misty	
Portsmouth. N. 33° 17′, W. 77° 21′	30.21‡	767.3‡			75	23.9	86	Calm			0		5		Calm	0	0	Smooth		Fair	
Powhatan, Hampton Roads, Va.	30.13‡	765.3‡			72	22.2	90	SW			2		8		Calm	0	0			Cloudy	
Quinnebaug, N. 36° 46′, E. 26° 27′	30.00‡	762.0‡			74	23.3	81	NNW			2		0					Smooth		Clear	
Ranger, Amoy, China	29.81‡	757.2‡			82	27.8	89	SSE			2		8		Calm			Smooth		Cloudy	
Richmond, N. 33° 27′. E. 122° 45′	29.90‡	759.4‡			62	16.7	88	NW			2		8		NW	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.80‡	756.9‡			79	26.1	100	SE			1		5		S					Fair	
Santee, Annapolis, Md.	30.16‡	766.1‡			69	20.6	85	S			3		8		W	0	0			Cloudy	
Saratoga. Funchal, Madeira	30.21‡	767.3‡			68	20.0	65	W			2		8		Calm	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa	30.18‡	766.6‡			67	19.4	74	E	6	2.7			8		W	0	0			Misty	
Trenton, Marseilles, France	29.93‡	760.2‡			76	24.4	49	E			2		8		S;W	0	0	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.92‡	760.0‡			81	27.2	87	Calm			0		5		Calm	0	0	Smooth		Hazy	
Vandalia, Key West, Fla	29.82‡	757.4‡			77	25.0	91	ESE			3		8			Blank	Blank	Smooth		Cloudy	
Wabash, Boston, Mass.	30.10‡	764.5‡			64	17.8	78	W			2		5			0	0			Fair	
Wyoming, Leghorn, Italy	30.16‡	764.5‡			65	18.3	100	SE			1-2		10		SE			Smooth		Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio, Capt. Maury N. 35° 53′, E. 142° 32′		30.00‡	762.0‡	70	21.1		N			4		8ok		NE	0.25 in. or 6.3 mm	Mod'ate	NE	Drizzling	L. B. Walls.
S. S. Colima, N. 8° 48′, W. 84° 20′		29.98‡	761.5‡	76	24.4		N			3		10		W	2.00 in. or 50.8mm	Mod'ate	SW	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehur
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		30.15‡	766.6‡	58	14.4	88	E			0		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. C[illegible]
S. S. Granada, Capt. Austin																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 15° 58′, W. 178° 14′		30.00‡	762.0‡				S			5				S		Mod'ate	ESE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.81‡	757.2‡	83	28.3	87	SW			3		4n						Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf, N. 48° 39′, W. 139° 18′		30.01‡	762.2‡	50	10.0	100	SSE			4		6		SE		Smooth		D. clouds	J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeifer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 36° 57′, W. 76° 00′		30.21‡	767.3‡				SSE			3		2		SE		2	SE	Fair	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.78‡	756.4‡	54	12.2	80	E			4		7		E	Mod'ate			Cloudy	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City La		30.01‡	762.2‡	80	26.7	66	SE	9	4.0			8k		SE	0			Cloudy	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax", Schooner Charley Buck, N 33° 47′, W. 77° 20′ †.		30.21‡	767.3‡	78	25.6		Calm			0		0				Smooth	SE	Clear	N. B. Foss.
Schooner Harry and Fred, Mannabo, Porto Rico, W.I		29.58‡	751.3‡				NE	3	1.3			10		NE	1. in. or 25. m.			Cloudy	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden N 37° 18′ W 59° 18′ †.		2 .86‡	758.4‡	69	20.6	75	NE	7	3.1			5		ENE		Rough	E	Fair	Capt. P. Sandelin.
Schooner Henry Whitney, N. 33° 30′, W. 77° 15′ †.		30.26‡	768.6‡	79	26.1		NE			1		2		ESE	0			Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

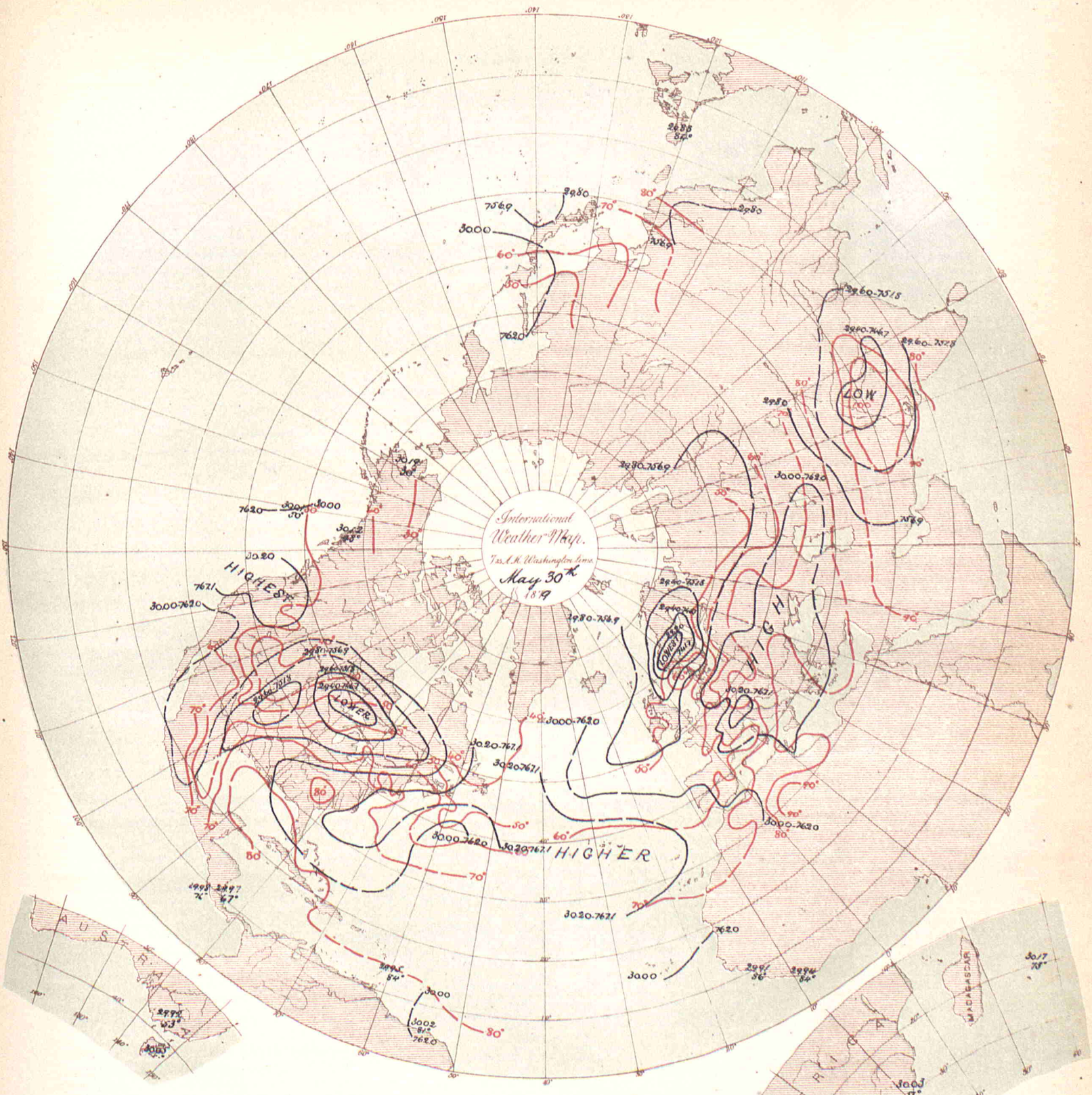
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON MAY 31, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			Kesxuche.
Nemours			30.12	765.1	73.4	23.0	64	WNW			3		2			0.106	2.7	Fair	Tourliiere.
Algiers			30.00	761.9	68.7	20.4	64	NW			1		10			0	0	Covered	Foufrede.
La Calle			30.03	762.8	74.5	23.6	78	N			1		10			0	0	Covered	Jacques.
Tunis																			Gau.
Sfax			30.00	762.1															Herbin.
Saida			30.09	764.2	75.2	24.0	4	N			1		2			0	0	Fair	Watrin.
Tebessa			29.97	761.1	92.5	33.6	20	S			4		2			0	0	Fair	Brugniaux.
Geriville			30.07	763.7	71.8	22.1	58	N			1		0			0	0	Clear	Bertrand.
Laghouat			29.94	760.4	86.0	30.0	32	W			4		0			0	0	Clear	Chauvaux.
Biskra			30.21	767.3	95.0	35.0	24	NW			1		0			0	0	Clear	

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920.0? feet; Tebessa, 1,088? m., or 3,569.6? feet; Geriville, 1,360? m., or 4,462.0? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.39	746.4	29.91	759.6	79.5	26.4	49	S			2		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.04	737.6	30.16	766.0	81.0	27.2	49	SW			3		10			0	0		Dr. Wierzbiski.
Eperies	29.00	736.6	29.83	757.6	81.7	27.6	62	S			5		6cs;8			0	0		Julius Mikolik.
Gratz	28.73	729.8	29.93	760.3	73.2	2[illegible].9	52	SSW			3		9			0	0		Andreas Rospini.
Hermannstadt	28.64	727.4	29.97	761.2	86.5	30.3	39	SE			1		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.56	725.5	29.86	758.4	68.0	20.0	60	NNW			2		8			0	0		Prof. C. Wagner.
Lemberg	28.90	734.0	29.83	757.6	80.4	26.9	52	SW			1		0			0	0		Dr. T. Stanecki.
Pola	29.87	758.8	29.98	761.6	69.3	20.7	67	ESE			1		10			0.114	2.9		I.R.Hydrographic Office.
Szathmar	29.58	750.0	29.97	761.1	86.0	30.0	45	S			2		1			0	0		Julius Csics, S. J.
Szegedin	29.66	753.3	29.92	759.9	83.7	28.7	58	SW			1		0			0.197	5.00		Karl Stancel.
Trieste	29.93	760.2	30.03	762.8	68.0	20.0	93	Calm			0		10			0.575	14.6	Raining	P. Busin.
Vienna	29.19	741.3	29.88	759.0	65.1	18.4	75	W			2		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171.3 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 383.6 meters, or 1,258.5 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.53	750.0	29.63	752.6	47.6	8.7		NW	14	6.3			9			0.080	2.03	Overcast	W. Boswell.
Ardrossan	29.55	751.3	29.60	751.8	51	10.6		Calm			0		8					Foggy	William McNeil.
Armagh, Observatory			29.65	753.1	55.9	13.3		SW	4	1.8			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.64	752.8	57.8	14.3		NW	11	4.9			7					D. clouds	John Hartnup.
Bolton (Sharples)			29.61	752.1	58.8	14.9		SW	18	8.0			6					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.63	752.6	59.6	15.3		W			1		8			0.61	15.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84	28.9		SE			1		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.55	750.6	29.64	752.8	58.0	14.4		S			1		10					Overcast	H. Todd.
Cardington			29.63	752.6	57.0	13.9		SW			1		9					Showery	John McLaren.
Chatham, School M. E.	29.60	751.8	29.72	754.9	52.6	11.4		Calm			0		6					D. clouds	J. Carmiell, Sappr, R. E.
Donaghadee	29.59	751.6	29.63	752.6	56	13.5		WSW			2		5					D. clouds	J. Mac Gowan.
Dover	29.66	753.4	29.69	754.1	51	10.6		SW			4		8					Showery	J. Costello.
Falmouth, Observatory	29.51	749.5	29.73	755.1	55.3	12.9		WNW			2		9					Overcast	The Staff.
Fort Napier (Natal)	27.62	701.5	29.92	760.0	67.0	19.4		E			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	86	30.0		SW			1		3					D. clouds	
Galway, Queen's College			29.64	752.8	59	15.0		S			1		8					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.01	762.2	30.07	763.8	72.5	22.5		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.41	747.0	29.61	752.1	48.7	9.3		ENE			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.65	753.1	29.65	753.1	56	13.3		S			4		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.49	749.0	29.66	753.4	57.2	14.0		SW			1		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.52	749.8	29.74	755.4	56	13.3		WSW			3		5					D. clouds	Dr. S.E.Hoskins, F.R.S.
Helston	29.74	755.4	29.86	758.4	57	13.9		NW			2		6k			0.6	15.	Fine	M. P. Moyle.
Holyhead	29.65	753.1	29.67	753.6	56	13.3		W			3		5					D. clouds	John Tilston.
Jersey	29.49	749.0	29.78	756.4	54.9	12.7		WSW			5		6					D. clouds	J. Fisher.
Kew, Observatory	29.64	752.8	29.67	753.6	53.7	12.1		SW	7	3.1			9					Threatening	The Meteorological Of.
Leicester, Museum.	29.40	746.7	29.64	752.8	59.2	15.1		SW			1		10					Overcast	Wm, J. Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.91	759.7	70	21.1		E			3	2c						Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.58	751.3	29.67	753.6	49	9.4		NNE			2		10					Covered	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	78.0	25.6		NE			3		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.44	747.8	29.63	752.6	64.3	17.9		SSW			3	c	7k	W	S	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.63	752.6	59.6	15.3		WSW			2		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.66	753.4	58	14.4		S			1		8					Overcast	H. E. Bellamy.
Plymouth	29.63	752.6	29.70	754.4	53.7	12.1		Calm			0		10					Raining	John Merrifield.
Prince Town	28.26	717.8	29.71	754.6	47.5	8.6		NW			1		9					Raining	W. H. Tooker.
*Roche's Point	29.65	753.1	29.75	755.6	64	17.8		SSW			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.53	750.0	29.69	754.1	53	11.7		W			1		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.67	753.6	47	8.3		N	27	12.1			6					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	30.02	762.5	30.08	764.0	79.0	26.1		NE			2		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.38	746.2	29.65	753.1	63.0	17.2		SW			1		8			0.18	4.6	Overcast	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	60.7	15.9	84	W			1		10			0.035	0.89	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.24	742.7	29.64	752.8	57.1	13.9		W			1		9					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.46	748.3	29.68	753.9	57.9	14.4		SW			3		7					Showery	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.72	754.9	29.74	755.4	60	15.6		W			5		4					D. clouds	W. Newcombe.
Valencia, Observatory	29.66	753.4	29.69	754.1	55.9	13.3		WSW	13	5.8			8					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.41	772.4	30.45	773.4	62.8	17.1	61	NW	11	4.9		10	10			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.03	762.7	44.0	6.7	76	S			2		0			0.8	8.	Clear	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	29.63	752.6	29.64	752.8	50.2	10.1		E			2		10s			0.07	1.8	Overcast	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.16	765.9	73.3	22.9	70	NE	12.5	5.6		2	6	WSW	ENE	0.17	4.3	Cloudy	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	51.6	10.9	87	SE	2	0.9			8			0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.70	754.4	50	10.0		NNE			6	5	5	NNE		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.61	752.1	46	7.8		N			9	5	2	N				Showery	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
Brig Alliance, N. 48 16', W. 30° 26'			D. clouds	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore.				Capt. J. W. Thorne.
—— City of Agra				Capt. Thos. Young.
Barque Commewyne				Capt. A. Buchan.
Barque Fedalma, N. 27° 15', W. 65° 25'	1	E	D. clouds	Capt. H. L. Fox.
Barque Mertole				Capt. E. W. Turner.
S. S. Nizam, N. 18° 15', E. 69° 35'			D. clouds	Capt. Barlow.
S. S. Royal Alexandra, N. 48° 10', W. 23° 30'	5	NW/NE	Misty.	W. P. Hughes.
S. S. Strathleven				Capt. C. W. Pearson.
S. S. Wyberton				Capt. W. R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.30	668.0	30.02	762.5	67.6	19.8	97	NW			1		10n		NW	0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,756.6 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.56	750.7	29.60	751.9	62.4	16.9	55	WSW			4		3						
Fanöe	29.58	751.3	29.60	751.8	55.8	13.2	81	WSW			6		5						
Godthaab (Greenland)	30.12	765.1	30.17	766.2	39.0	4.4	85	NE			2		10						
Stykkisholm (Iceland)	30.04	763.0	30.08	764.1	52.9	11.6	76	E			4		0						
Thorshavn (Faröe)	29.84	757.8	29.87	758.7	47.5	8.6	64	NE			4		5						
Vestervig	29.25	743.0	29.42	747.3	46.4	8.0	89	SW			6		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	745.0	29.88	759.0	55.0	12.8	76	WSW			3		8		NW	0.146	3.7	Raining	Collignon, Director.
Amiens, Normal School																			Bouvallet, Director.
Arras, Engin'r School	29.52	749.9	29.78	756.3	55.2	12.9	73	SW			4				SW				Klein, Commandant.
Avignon, Normal School	29.89	759.2	29.97	761.2	72.5	22.5	48	NNW			1		0			0.335	8.5	Very clear	Giraud, Director.
Bar-sur-Seine	29.39	746.4	29.93	760.2	62.2	16.8	52	WSW			2		8kn		W	0.024	0.6	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.55	750.5	29.81	757.2	56.3	13.5	79	SW			2		8		WSW	0.04	1	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.11	739.4	29.98	761.5	65.5	18.6	51	S			2		2		SW	0.937	23.8	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	740.8	30.09	764.2	66.0	18.9	56	S			1		5kn	S	S	0	0	Cloudy	Mariot, Director
Bourges, Normal School	29.35	745.5	29.90	759.5	57.9	14.4	74	SW			1		5	S	S	0	0	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.52	749.7	29.76	755.8	59.4	15.2	74	WSW			2		8		WSW	0.236	6.00	Squally	De Kermaree, Director.
Carcassonne, Normal School	29.64	752.8	30.04	763.1	69.1	20.6	49	W			2		5	W	WNW	0	0	Cloudy	September, Director.
Caen, Normal School	29.69	754.0	29.76	755.8	60.1	15.6	61	W			3		8		W	0.08	2.	Very cloudy	Lair, Director.
Chartres, Normal School	29.31	744.4	29.87	758.6	55.8	13.2	98	SSW			4		10	NNE	NE	0.390	9.9	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.60	751.8	29.91	759.7	60.8	16.0	50	SW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.61	726.7	29.93	760.2	65.5	18.6	41	SW			2		2		SW	0.150	3.8		Allnard, Director.
Commercy, Normal School	29.08	738.6	29.93	760.3	57.6	14.2	63	WSW			4		8kn		WSW	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.87	733.2	30.01	762.2	72.5	22.5	49	N			2		5		NW	0.039	1.0		L. Kina, Director.
Grenoble, Normal School	29.26	743.2	30.02	762.4	64.0	17.8	65	NE			1		2ks			1.122	28.50	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.75	755.7	29.97	761.2	57.9	14.4	72	WSW			4		8		SW	0.165	4.2	Very cloudy	Moullot, Director.
Le Mans, Normal School	29.56	750.7	29.86	758.5	57.2	14	74	W			4		8		W	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.0	30.00	762.1	65.3	18.5	50	S			4		0			0.850	21.60	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.76	755.9	29.86	758.4	56.8	13.8	71	WSW			3			SW	W	0.33	8.6		Lt. P. Carré, Director.
Mâcon, Normal School																			Galsin Director.
Marseilles, Observatory			29.92	760.0	74.1	23.4	59	WSW			2-3		9			0	0		E. Stephan, Director.
Mirecourt, Normal School	28.89	733.8	29.92	760.0	60.4	15.8	64	NNE			4		5kn		SSW	0.488	12.4	Cloudy	Barbier, Director.
Nismes, Normal School	29.77	756.2	29.97	761.2	74.5	23.6	44	W			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.97	735.8	30.00	762.0	71.6	22	46	N			1			N	N	0.331	8.4		Cantier, Director.
Puy de Dome (Summit) Obs	25.14	638.5			40.1	4.5	77	SW			3		8			0.315	8.0	Very cloudy	Allnard, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	60.4	15.8	67	WSW			4		10	WSW	WSW	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.71	754.6	29.80	756.8	61.7	16.5	49	S			5		8		SW	0.059	1.5	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.75	755.6	29.78	756.3	56.8	13.8	84	WSW			2		10	WSW	WSW	0.186	4.72	Rainy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.69	754.0	29.85	758.2	57.9	14.4	71	SSW			3-4			SW	SW	0.068	1.6		E. Renou, Director.
Tarbes, Normal School	28.98	736.2	30.06	763.4	59.0	15	48	W			2		0			0	0	Clear	F. Huguet, Director.
Toulouse, Observatory	29.87	746.1	30.10	764.5	63.3	17.4	57	NW			2		5			0	0		Mercadier Julier.
Versailles, Observatory	29.36	745.6	29.84	758.0	59.0	15.0	55	SW			6					0.184	4.68		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N. S	29.34	745.1	30.03	762.7	69.8	21	91	W			3		5		NW	0.331	8.4	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.77	756.1	29.80	756.8	77.7	25.4										0	0		L'Abbé Marcl ésl.
Lyons Obs'y (Park Station)	29.37	746.1	29.97	761.3	66.2	19.0	49	ENE			1		5		WSW	0.455	11.55	Cloudy	Mr. Jays.
Mont-Louis	24.85	631.1	30.15	765.1	51.5	12.5	65	E	23.0	10.3			6		E	0.039	1.0	Raining	M. Cave.
Nice			29.99	761.8	69.8	21.0	80	SW			1		8			0.146	3.7	Fair	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.56	750.8			56.5	13.8	73	SW			4		10		SW	0.051	1.3	Showery	Maria Davy, Director.
Perpignan	29.89	759.3	30.00	762.0	68.4	20.2	84	NE	7.4	3.3			1		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. I.																			M. Baylac.
Pic du Midi (Plantade) H. I.	22.51	571.5			37.4	3.0		SW			1		2			0	0	Clear	Gen'l de Nansouty.
Tours	29.69	754.2	29.89	759.2	59.7	15.4	67	NNW			4		7		SSW	0.094	2.4		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	30.00	762.1	30.03	762.7	69.8	16.0	84	ENE	4.7	2.1			0			0	0	Clear	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand, Nice and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Mirecourt, apparently, gives cloud-direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p.m. local time. The elevation of Clermont-Ferrand is 358 meters, or 1,273.0 feet: Commune de Gréasque, 322 m., or 1,056.4 ft., Puy de Dome, (Summit) 1,467 m., or 4,813.1 ft.; Tarbes, 308 m., or 1,010.5 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,438.2 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,762.6 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.5	65.3	18.5	49	W			4		4	W		0.079	2.0		Prof. Dr. Hoh.
Berlin	29.61	752.2	29.78	756.4	68.7	20.4	57	W			4		6			0.059	1.5		Prof. Dr. Arndt.
Breslau	29.33	744.9	29.85	758.3	68.7	20.4	62	WNW			1		7			0	0		Royal University Obs'y.
Carlsruhe	29.48	748.9	29.90	759.5	64.4	18.0	59	SW			3		2	SW		0.157	4.0		Albert Senz.
Cassel	29.24	742.7	29.84	758.0	68.4	20.2	44	WSW			4		5	W		0.091	2.32		Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	65.5	18.6	49	S			5		8k;ks			0	0		Director Lose.
Emden																			Prof. Dr. Prestel.
Frankfort on the Main	29.51	749.6	29.87	758.8	67.1	19.5		SSW			3		5			0.067	1.7		Physical Society.
Freienwalde on the Oder	29.72	754.8	29.76	755.8	69.6	20.9	52	W			5		5ks	W		0.020	0.5		D. Assmann.
Friedrichshafen	28.54	725.0	29.95	760.8	62.1	16.7	78	W			2		10	W		0	0		M. Wilhelm.
Hamburg	29.65	753.2	29.72	754.9	63.0	17.2	61	WSW			4		7k	WSW		0.012	0.3	Fair	Captain F. Hegemann.
Kiel	29.65	753.0	29.66	753.4	61.9	16.6	54	WSW			4		4			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.63	752.6	29.71	754.6	73.4	23.0	49	SE			2		8			0	0		Prof. E. Luther.
Köslin			29.66	753.4	65.3	18.5		Calm			0		4			0.028	0.7		H. Müller.
Leipsic Observatory	29.40	746.8	29.81	757.1	69.8	21.0	49	SW			5		8	SW		0.039	1.0		Prof. Bruhns, Privy Counsellor.
Memel	29.70	754.4	29.75	755.6	70.0	21.1	40	SE			2		10n						Skalweit.
Munich (München)	28.13	714.5	29.99	761.7	65.3	18.5	56	W			2		9	SW		0.091	2.3		Dr. C. Lang.
Neufahrwasser	29.67	753.6	29.69	754.0	64.2	17.9	82	SSW			2		10			0.283	7.2		A. Lothes.
Posen	29.52	749.7	29.79	756.7	73.0	22.8	49	W			5		5			0.004	0.1		Dr. Magener.
Strassburg (in Alsace)	29.39	746.6	29.93	760.2	66.0	18.9	57	S			4		3	SW		0.395	10.03		Imp. University Observatory.
Stuttgart	28.96	735.6	29.87	758.8	67.1	19.5	41	W					5	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.6	29.93	760.2	61.3	16.3	65	WSW	7	3			7ck	W	W	0.157	4.0		Dr. Van Bebber.
Wustrow	29.70	754.3	29.72	754.9	57.0	13.9	75	SW			2		5ks			0	0		E. Schütz, Dir.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.70	754.4	30.08	763.9	86.0	30.0		NE			3.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.47	748.5	29.52	749.8	93.8	34.3	54	SW					6			0	0	D. clouds	
Deesa	29.01	736.9	29.46	748.2	104.5	40.3	26	WSW	9.7	4.3			6	S		0	0	D. clouds	
Bombay	29.62	752.4	29.66	753.4	83.9	28.8	87	WSW	11.0	4.9			10		WSW	0	0	Overcast	
Poona	27.66	702.7	29.66	753.3	76.7	24.8	74	WSW					10		WSW	0	0	Overcast	
Lahore	28.61	726.7	29.29	743.9	115.1	46.2	11	NW	1.9	0.8			0			0	0	Blue sky	
Belgaum	27.20	690.9	29.74	755.4	72.6	22.6	85	WNW	30.0	13.4			10	WNW	WNW	0.03	0.8	Overcast	
Roorkee	28.51	724.1	29.37	745.9	95.9	35.5	24	SSE	2.8	1.2			3			0	0		
Agra	28.83	732.3	29.36	745.8	104.6	40.3	34	E					0			0	0	Blue sky	
Nagpur	28.39	721.1	29.42	747.4	76.7	24.8	92	W	7.1	3.2			10		E	3.91	99.3	Overcast	
Lucknow	29.06	738.0	29.42	747.2	96.1	35.6	50	E	7.3	3.3			0			0	0	Misty	
Allahabad																			
Patna	29.27	743.4	29.44	747.8	96.0	35.6	44	E	5.7	2.6			6	E	E	0	0	D. clouds	
Hazaribagh	27.45	697.3	29.44	747.6	78.8	26.0	87	E	16.5	7.4			8			0.27	6.9		
Cuttack	29.30	744.2	29.38	746.2	84.0	28.9		S	3.0	1.3			7			0.56	14.2	D. clouds	
Calcutta (Alipore)	29.48	748.7	29.50	749.3	82.7	28.2	87	SE	7.0	3.1			10	SE		0	0	Overcast	
Goalpara	29.22	742.3	29.61	752.1	81.4	27.4	88	ESE	8.3	3.7			10			0.22	5.6	Thunder-storm.	
Chittagong	29.56	750.8	29.65	753.1	82.9	28.3	75	SE	10.3	4.6			9			0	0		
Sibsagar	29.31	744.5	29.64	752.9	83.5	28.6	79	ENE	2.6	1.2			10	W	W	0.07	1.8	D. clouds	
Jubbulpore	28.00	711.2	29.31	744.4	94.9	34.9	45	E	7.1	3.2			10		W	0.01	0.3	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the origina s, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.3	30.02	762.5	67.5	19.7	69	N	3.8	1.7			10			0.087	2.2		Prof. Giovanni Clodig.
Milan	29.60	749.2	30.01	762.3	59.5	15.3	87	W			2		10	SW		0.079	2.0		Prof. Schiaparelli.
Padua	29.90	759.4	30.00	762.1	67.3	19.6	76	NE	9.8	4.4			10	SW		0.138	3.5		Prof. Dott. Lorenzori.
Moncalieri	29.10	739.1	30.00	762.0	60.6	15.9	78	NW	4.3	1.9			10			1.043	26.5		Prof. P. F. Denza.
Genoa	29.78	756.4	29.97	761.2	68.0	20.0	62	NE	6.3	2.8			6	SW		0.535	13.6		Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	30.02	762.4	59.5	15.3	81	WNW			4		9			0.146	3.7		Prof. D. C. Bruno.
Pesaro	29.95	760.6	29.99	761.8	65.5	18.6	84	E	6.3	2.8			10			0	0		Prof. Luigi Guidi.
Florence	29.73	755.1	29.98	761.6	71.2	21.8	56	E			2		10			0	0		Cav. F. Meucci.
Leghorn	29.87	758.8	29.98	760.9	70.3	21.3	63	SE			2		10			0.142	3.6		Prof. P. Monte.
Rome	29.83	757.6	30.00	762.0	82.4	28.0	46	SSW	11.9	5.3			5			0	0		Prof. P. S. Ferrari.
Lecce	29.82	757.5	30.07	763.8	85.6	29.8	33	SSE	15.0	6.7			1			0	0		Prof. C. De Giorgi.
Cosenza	29.14	740.2	30.01	762.2	87.1	30.6	69	SE	3.8	1.7			0			0	0		Prof. D. Conti.
Cagliari	29.70	754.4	29.89	759.2	66.7	19.3	79	SE			2		10			0	0		Prof. A. Pacinotti.
Palermo	29.69	754.1	29.94	760.4	93.7	34.3	21	SSE	8.1	3.6			4			0	0		Prof. G. Cacciatore.
Syracuse	30.06	763.6	30.14	765.5	69.4	20.8	62	NNE	1.8	0.6			6	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.7	30.03	762.8	80.1	26.7	33	ESE	5.6	2.5			7			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.00	762.0	62.9	17.2	94	WSW	1.1	0.5			10s			0.010	0.25	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.01	762.0	63.0	17.2	90	N	0.5	0.2			8cs;s			0.170	4.32	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.90	759.4	29.97	761.2	61.6	16.4	96	NNW	1.8	0.8			10n			0.585	14.86	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.05	636.2	30.04	763.1	58.6	14.8	63	Calm			0	2	0	SW		0	0	Clear	Prof. L. Perez.
Leon	24.40	619.7	30.00	762.0	64.9	18.3	81	S			1	3c	0			Inap.	Inap.	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.2	29.98	761.5	57.6	14.2	70	NW	1.1	0.5		0	8k		N	Inap.	Inap.	Cloudy	The Staff.
Pabellon (Aguascalientes)					63.0	17.3	79	W			1	0	3ks		SW	0.05	1.2	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.82	757.3	29.83	757.6	80.4	26.9	79	SE			2	1	0	SE		0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.15	613.5	30.02	762.6	64.0	17.8	51	SE			1	2	6	W	W	0	0	Cloudy	G. Barrosta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.53	572 2	30.08	764.0	56.8	13.8	80	Calm			0	0	1s			0	0	Clear	J. O. Castrillon.
Puebla (Catholic Institute)	23.40	594.3	30.16	766.1	55.4	13.0	34	Calm	0	0		0	2s;k		NNE	Inap.	Inap	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.1	29.97	761.2	79.9	26.6	69	NE			1	0	3		SW	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.77	756.2	30.06	763.5	75.6	24.2	89	NE			1	1	0			0	0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft. Leon, 1,798.6 m., or 5,901.0 ft., Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,169.1 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given; except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.74	755.3	29.74	755.3	57.9	14.4		SW								0.004	0.1		
Groningen	29.65	753.0	29.70	754.4	59.5	15.3		SW			2					0.043	1.1		
Helder	29.68	753.8	29.68	753.8	56.5	13.6		SSW			4					0	0		
Hellevoetsluis	29.72	755 0	29.72	755.0	57 5	14.1	78	SSW			4					0	0		H. v. d. Brink.
Utrecht	29.71	754.7	29.76	755.9	54.7	12.6	82	SSW			4		10			0 150	3.8	Dull	

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.10	739.2	29.16	740.6	50.4	10.2	60	NNW	24.6	11.0			3			0.591	15.0		
Brönö	29.39	746.6	29.43	747.6	50.4	10.2	48	NE	18	8			5			0	0		
Christiania	29.04	737.6	29.19	741.3	45.0	7.2	84	ENE	4	2			10			0.299	7.6	Raining	
Tromsö	29.71	754.7	29.76	755.8	41.0	5.0	57	NE	38	17			8			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.04	763.1	30.23	767.9	66.6	19.2	81	WSW	11.2	5.0			6			0	0		Dr. J. A. Sampaio.
Campo Major	29.09	738.9	30.10	764.6	67.1	19.5	31	NW	9.4	4.2			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)																0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.85	758.1	30.20	767.1	61.9	16.6	47	WNW	16.1	7.2			7	WSW		0	0		The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.30	769.6	69.8	21.0	65	WSW	13.7	6.1			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Diaś																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, N. 4° 02′, W. 8° 36′			29.93	760.1	83.3	28.5		Calm			0		10			1		Thunder	C.C.da Fonseca Ferreira, Comd't
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul de Loando			29.87	758.8	79.7	26.5		NW			2		2		WNW	1	NW	D. clouds	A.J.de Mattos, Com'd't. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.04	762.9	79.9	26.6		NE			5		4			2	NE	D. clouds	A. Ferreira, 2d Lt. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo. Macao, China			29.88	759.0	82.0	27.8		N			3		10		S	1		D. clouds	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.34	745.1	29.73	755.2	79.9	26.6	47	SSW	9	4			10ks;c						Astronomical Obs.
Wilna	29.44	747.8	29.84	757.9	76.8	24.9	33	SSE	4	2			9					Light clouds	Astronomical Obs.
Dorpat	29.51	749.6	29.75	755.6	64.9	18.3	46	WSW	16	7			6k						Prof. Dr. Weihrauch.
St. Petersburg	29.62	752.3	29.63	752.7	61.8	11.0	87	W	20	9			10n					Heavy clouds	Central Physical Obs.
Kieff	29.30	744.2	29.90	759.5	73.8	23.2	61	SW	9	4			9k;ks;	cn]				Raining	Physical Cabinet.
Nikolaiev	30.08	764.0	30.15	765.8	81.1	27.3	50	SW	9	4			6ks						Kurdakof.
Kertch	30.13	765.3	30.15	765.8	74.3	23.5	77	N	2	1			0						Lagorio.
Moscow	29.36	745.7	29.58	758.9	73.2	22.8	35	S	13	6			6ks						Meteorological Obs.
Lugan	29.85	758.2	30.04	763.1	82.4	28.0	27	SW	9	4			0						Meteorological Obs.
Archangel	29.46	748.2	29.48	748.7	54.5	12.5	86	E	9	4			10					Raining	Capt. Sseliwerstow.
Tiflis	28.73	729.7	30.11	764.8	70.0	21.1	52	Calm	0	0			9cs						Physical Observatory.
Astrakhan	30.25	768.3	30.17	766.2	73.2	22.9	31	SE	9	4			10s						Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.45	748.0	29.70	754.4	77.2	25.1	42	WSW	18	8			3						Physical Cabinet.
Ekaterinburg	28.67	728.2	29.60	751.7	64.8	18.2	29	W	22	10			5c;cs;k					Light clouds	Meteorological Obs.
Nukuss																			
Tashkend	28.62	726.9	30.14	765.4	75.2	24.0	29	NW	2	1			0						Teich, A. M.
Barnaul	29.09	738.9	29.57	751.1	62.2	16.8	32	S	0	0			10						Meteorological Obs.
Yeniseisk	29.60	751.7	29.88	759.0	54.0	12.2	46	N	2	1			1						Marks.
Irkutsk																			
Peking (China)	29.78	756.3	29.92	759.9	77.0	25.0	30	S	4	2			2cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.85	758.2	29.95	760.7	55.0	12.8	66	Calm	0	0			0						
Nikolaievsk, on the Amoor	29.85	758.1	29.93	760.3	44.8	7.1	83	Calm	0	0			10s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.9 feet; Tashkend, 455 m., or 1,492.8 ft.; Irkutsk, 461.5 m., or 1,514.0 ft.; Nertchinsk, 660 ? m., or 2,165.4 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.80	756.9	29.91	759.6	69.8	21.	49	S	3.2	1.44			1ck			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	30.05	763.3	30.11	764.7	68.5	20.3	50	NW	2.8	1.26		3	2	NE		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.1			60.8	16.0	42	SW	6.5	2.92			1			0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.82	706.6			72.3	22.4	35	NW	12.7	5.67		0	0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.81	757.2	29.96	760.9	80.2	26.8	42	NE	6.2	2.76		0	3			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.5	30.04	763.1	56.3	13.5	66	SW	17.4	7.8		0	10			0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.2	29.99	761.8	80.0	26.7	77	ENE	11.9	5.3		0	1k;s			Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.8	29.89	759.2	82.6	28.1	94	ENE	1.1	0.5		0	7kn		S	2.028	51.5	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.05	763.3	30.15	765.9	64.4	18.0	59	W	15.0	6.7		0	1		W	0	0		Capt. C. Pulaxon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.6	29.96	760.9	81.7	27.6	76	SE	0	0		6ks	5k	SE	SE	0.059	1.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a.m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.6 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Haparanda	29.43	747.6	29.47	748.6	30.2	4.0	.....	NE	.....	.....	6	.....	10	.....	.....	0.394	10.0	.....	
Umea	29.42	747.2	29.47	748.5	48.9	9.4	61	N	.....	.....	2	.....	9	.....	.....	0.024	0.6	.....	
Hernosand	29.38	746.2	29.43	747.5	43.9	6.6	88	SE	.....	.....	2	.....	10	.....	.....	0.331	8.4	.....	
Stockholm	29.31	744.4	29.48	748.9	60.8	16.0	45	SW	.....	.....	4	.....	3	.....	.....	0.559	14.2	.....	
Wisby	29.55	750.6	29.61	752.1	59.0	15.0	62	SW	.....	.....	7	.....	7	.....	.....	0.638	16.2	.....	
Sub-Series. *																			
Upsala	29.37	745.9	29.44	747.8	56.1	13.4	75	SW	13.0	5.8	.....	.....	8	.....	SSW	0.276	7.00	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.57	725.7	29.07	761.2	64.0	17.8	47	S	.....	.....	3	.....	2	.....	.....	0.224	5.7	Clear	The Observatory.
Zurich	28.37	720.5	29.08	761.6	59.7	15.4	65	W	.....	.....	1	.....	9	.....	.....	0	0	Cloudy	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —0.1 mm.; Thermometer, —0.9 Cent.; Relative Humidity, —3 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,338.6 feet, and that of Zurich 470 m., or 1,542.0 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.14	765.6	73.8	23.2	61	N	16	7.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	30.04	763.0	98.6	37.0	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.3	85.5	29.7	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.77	756.1	29.88	759.0	84.6	29.2	66	SW	.....	.....	3	.....	3s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.67	753.6	29.96	761.0	71	21.7	.....	SW	6	2.7	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.73	755.1	29.79	756.7	60	15.6	79	SW	8	3.6	.....	5k	5ks	SW	SW	0.02	0.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.88	758.9	60	15.6	72	SW	10	4.5	.....	2c	0	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.82	757.4	71.1	21.7	68	W	.....	.....	3	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.52	749.8	29.68	753.9	66.8	19.3	77	W	.....	.....	1	0	0	.....	.....	0.06	1.5	Clear	H. A. Johnson.
Esquimault, B. C	30.28	767.8	30.27	768.8	51.3	10.7	100	NNE	1	0.4	.....	1ck	.. ..	.....	.....	0	0	Fine	W. H. Bevis.
*Father Point, Quebec	29.65	753.1	29.67	753.6	46	7.8	94	W	5	2.2	.....	.....	Sm'e	.....	Calm	0	0	Smoky	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.89	759.2	62.7	17.1	70	S	5	2.2	.....	.....	Sm'e	.....	.....	0	0	Smoky	Prof. Harrison.
*Fort Garry, Manitoba	29.40	746.7	30.25	768.3	39	3.9	91	N	10	4.5	.....	5k	5ks	N	N	0.060	1.27	Cloudy	James Stewart.
Granton, Ontario	28.86	733.0	29.92	760.0	70	21.1	.....	S	.....	.....	1	1cs	0	.....	.....	0	0	Fine	James Grant.
*Halifax, N. S	29.86	758.4	29.99	761.7	53	11.7	83	SW	9	4.0	.....	.....	10ks	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.62	752.3	29.97	761.2	73.3	22.9	78	W	.....	.....	2	4c	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.62	752.3	29.94	760.5	62	16.7	75	SE	12	5.4	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.85	758.2	29.89	759.2	71.3	21.8	58	SW	13	5.8	.....	3c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.66	753.4	29.85	758.2	72	22.2	60	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.23	742.4	29.90	759.4	62	16.7	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosly.
Peterboro, Ontario	29.20	741.7	29.91	759.7	75.9	24.4	67	S	.....	.....	1	0	0	.. ..	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	29.98	761.5	62	16.7	94	SW	11	4.9	.....	10ck	0	NW	.....	0.09	2.3	Fair	H. Morgan.
Port Hastings, N. S	29.91	759.7	29.96	761.0	60.7	15.9	.....	SW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.33	745.0	29.96	761.0	63	17.2	92	SW	2	0.9	.....	3k	0	SW	.....	0.12	3.0	Cloudy	M. Payne.
*Quebec, Quebec	29.47	748.5	29.77	756.1	73	22.8	76	W	.....	.....	3	Haze	Haze	.....	.....	Inap.	Inap.	Hazy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.84	757.9	64	17.8	75	Calm	0	0	.....	.....	Sm'e	.....	.....	0	0	Smoky	W. H. McIntyre.
St. Andrews, N. B	29.86	758.4	29.91	759.7	56	13.3	81	W	.....	.....	2	2k	Haze	W	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.79	756.7	29.95	760.7	49	9.4	89	SW	15	6.7	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.21	741.9	29.90	759.4	63	17.2	37	SW	14	6.3	.....	2cs	Sm'e	.....	.....	0	0	Smoky	K. Stewart.
Stayner, Ontario	29.13	739.9	29.86	758.4	76	24.4	64	W	1	0.4	.....	2c	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.68	728.5	29.90	759.4	69.6	20.9	82	SW.	13	5.8	.....	2c;cs	2s;k;s	W	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.89	759.2	29.93	760.2	67	19.4	53	SW	19	8.5	.....	0	Haze	.....	Calm	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.61	752.1	29.97	761.2	67	19.4	79	SW	8	3.6	.....	5k	10ks	W	W	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	29.86	758.4	29.95	760.7	67.0	19.4	79	SW	10	4.5	.....	10k	0	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.82	757.4	30.08	764.0	49.0	9.4	66	SW	.....	.....	.....	.....	10n	.....	.....	0.16	4.1	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.78	756.4	30.00	762.0	72	22.2	76	S	9	4.0		0	1s		S	0	0	Clear	
Alpena, Michigan	29.24	742.7	29.88	758.9	56	13.3	75	NE	8	3.6		8c;ck	8s		SW	0	0	Cloudy	
Atlanta, Georgia	29.01	736.8	30.11	764.8	77	25.0	60	SE	8	3.6		8c;ck	0	Calm		0	0	Fair	
Atlantic City, New Jersey	30.10	764.5	30.11	764.8	63	17 2	94	SW	8	3.6			Fog		SW	0	0	Foggy	
Augusta, Georgia	30.02	762.5	30.19	766.8	78	25.6	61	SE	4	1.8		2ck	Haze	E	Calm	0	0	Fair	
Baltimore, Maryland	30.05	763.3	30.10	764.5	73	22.8	76	S	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	30.06	763.5	30.08	764.0	69	20.6	85	SW	11	4.9		2c	Fog	Calm	Calm	0	0	Fair	
Bismarck, Dakota	28.42	721.9	30.28	769.1	43	6.1	83	N	6	2 7		8ck	0	N		0.04	1.0	Cloudy	
Boerne, Texas	28.41	721.6	29.65	753.1	77	25.0	77	S	4	1.8		5k	0	SE		0	0	Cloudy	
Boise City, Idaho	27.44	697.2	30.40	772.1	44	6.7	76	Calm	0	0		0	0			0	0	Clear	
Boston, Massachusetts	29.87	758.7	30.02	762.5	70	21.1	80	SW	13	5.8		2k	Haze	SW	Calm	0	0	Fair	
Brackettville, Texas	28.75	730.2	29.73	755.1	75	23.9	77	E	4	1.8		0	0			0	0	Clear	
Breckenridge, Minnesota	29.11	739.4	30.12	765.0	41	5.0	82	N	20	8.9			10s		Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.75	755.6	29.79	756.7	82	27.8	79	SE	8	3.6		10cs	0	SE		0	0	Cloudy	
Buffalo, New York	29.29	744.0	29.97	761.2	62.5	16.9	77	SW	6	2.7		5ks	Haze	SW	Calm	Inap.	Inap.	Fair	
Burkes, Arizona					68	20.0	18	W			1	0	0			0	0	Clear	
Burlington, Vermont	29.64	752.5	29.91	759.7	74	23.3	80	S	12	5.4		0	5ks		W	0	0	Fair	
Cairo, Illinois	29.60	751.5	29.97	761.2	78	25.6	69	S	12	5.4		5ck	2s	S	S	0	0	Fair	
Camp Apache, Arizona																0	0	Clear	
Camp Grant, Arizona	25.30	642.6	30.10	764.5	55	12.8	28	NE	8	3.6		0	0		Calm	0	0	Hazy	
Camp Verde, Arizona					49	9.4	37	NW			1	0	Haze			0	0	Clear	
Campo, California	27.46	697.5	30.04	763.0	40	4.4	32	E	4	1.8		0	0			0.09	2.3	Cloudy	
Cape Hatteras, N. Carolina	30.23	767.8	30.23	767.8	76	24.4	82	SW	6	2.7		10cs	Haze	W		0	0	Clear	
Cape Henry, Virginia	30.12	765.0	30.14	765.5	75	23.9	77	SW	14	6.3		0	Haze		Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	76	24.4	86	SW	5	2.2		5k	0	S		0	0	Clear	
Cape May, New Jersey	30.02	762.5	30.05	763.3	67	19.4	84	S	10	4.5		0	Fog			0	0	Cloudy	
Castroville, Texas	29.06	738.1	29.72	754.9	79	26.1	74	SE	7	3.1			10ks		S	0	0	Fair	
Charleston, South Carolina	30.13	765.3	30.19	766.8	78	25.6	73	SW	2	0.9		2c	0	Calm		0	0	Fair	
Cheyenne, Wyoming	24.23	615.4	30.17	766.3	38	3.3	81	N	6	2.7		2ck	2s	N	N	0.09	2.3	Fair	
Chicago, Illinois	29.07	738.4	29.72	754.9	73	22.8	72	S	4	1.8		5ck	0	SW		0.03	0.8	Fair	
Cincinnati, Ohio	29.38	746.2	30.00	762.0	77	25.0	61	S	8	3.6		6ck;k	0	W		0	0	Fair	
Cleveland, Ohio	29.27	743.4	29.96	761.0	71	21.7	75	SE	13	5.8		5ck	0	SW		1.16	29.5	Fair	
Coleman City, Texas	28.09	713.5	29.69	754.1	66	18.9	69	N	4	1.8			10s		N	0.10	2.5	Cloudy	
Columbus, Ohio	29.19	741.4	29.99	761.7	75	23.9	72	S	6	2.7		5c	5ks	S	SW	0.04	1.0	Cloudy	
Concho, Texas	28.01	711.4	29.63	752 6	65	18.3	84	NW	17	7.6		0	0			0.04	1.0	Clear	
Corsicana, Texas	29.42	747.2	29.87	758.7	76	24.4	86	SW	7	3.1			10ks		SW	0	0	Threatening	
Davenport, Iowa	29.13	739.9	29.73	755.1	67	19.4	89	SW	3	1.3		8c	0	W		1.96	49.8	Fair	
Deadwood, Dakota	25.59	650.0			45	7.2	54	Calm	0	0		0	0			0.76	19.3	Clear	
Decatur, Texas	28.66	728.0	29.77	756.1	75	23.9	72	SW	18	8.0			10s		SW	0	0	Cloudy	
Denison, Texas	29.03	737.3	29.78	756.4	77	25.0	77	S	10	4.5			10ks		SW	0	0	Cloudy	
Denver, Colorado	25.00	635.0	30.22	767.6	44	6.7	84	N	4	1.8		5ck	2s	NW	Calm	1.29	32.8	Fair	
Des Moines, Iowa	28.94	735.1	29.78	756.4	61	16.1	82	NE	12	5.4			10s		NE	2.62	68.5	Cloudy	
Detroit, Michigan	29.25	742.9	29.89	759.2	70	21.1	80	SW	8	3.6		5cs	0	Calm		0.36	9.1	Fair	
Dodge City, Kansas	27.38	695.4	29.64	752.8	53	11.7	86	N	24	10.7			10s		N	0	0	Cloudy	
Dubuque, Iowa	29.09	738.9	29.76	755.9	65	18.3	84	N	2	0.9			10ks		N	0.87	22.1	Cloudy	
Duluth, Minnesota	29.35	745.5	30.03	762.7	47	8.3	77	N	12	5.4			10s		N	0.11	2.8	Cloudy	
Eagle Pass, Texa	29.08	738.6	29.77	756.1	77	25.0	82	NE	4	1.8			10ks		S	0	0	Cloudy	
Eastport, Maine	29.56	758.4	29.92	760.0	53	11.7	76	S	8	3.6		8c;hz	Sm'e	W;Calm	S	0	0	Smoky	
Edinburg, Texas					81	27.2	53	S			4		10s		S	0	0	Cloudy	
El Paso, Texas	26.30	668.0			59	15.0	23	N	4	1.8		0	0			0	0	Clear	
Erie, Pennsylvania	29.27	743.4	29.96	761.0	71	21.7	80	S	14	6.3		5k	2ks	NW	NW	0.33	8.4	Cloudy	
Escanaba, Michigan	29.24	742.7	29.89	759.2	47	8 3	85	N	19	8.5			10n		N	0.04	1.0	Light rain	
Florence, Arizona	28.53	724.6	30.13	765.3	75	23.9	13	Calm	0	0			0			0	0	Clear	
Fort Buford, Dakota	28.16	715.3			45	7.2	92	E	7	3.1		0	0			0	0	Clear	
Fort Craig, New Mexico	25.60	650.2	29.66	753.4	48	8.9	36	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	63	17.2	24	NE	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.27	743.4	29.79	756.7	63	17.2	100	E	22	9.8			10n		S	3.30	83.8	Light rain	
Fort Griffin, Texas	28.65	727.7	29.88	758.9	68	20.0	56	N	12	5.4		0	8s			0	0	Cloudy	
Fort Keogh, Montana	27.63	701.8			53	11.7	79	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.66	702.6	29.50	749.3	67	19.4	79	W	4	1.8		2c	7s	Calm	W	0.15	3.8	Fair	
Fort St. Michael, Alaska	30.13	765.3	30.16	766.1	31	— 0.6	100	SW	25	11.2			10s		SW	Inap.	Inap.	Cloudy	
Fort Sill, Indian Territory	28.66	728.0	29.73	755.1	63	17.2	72	NW	12	5.4			10s		Calm	0.55	14.0	Cloudy	
Fort Stevenson, Dakota	28.37	720.6			44	6.7	76	NE	5	2.2			8s		NE	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.17	715.5	29.64	752.8	79	26.1	43	N	5	2.2			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.84	757.7	29.87	758.7	80	26.7	82	SE	14	6.3		0	8ks		SE	0.21	5.3	Cloudy	
Graham, Texas	28.77	730.7	29.78	756.4	68	20.0	54	N	5	2.2			10s		S	0.30	7.6	Cloudy	
Grand Haven, Michigan	29.14	740.1	29 75	755.6	71	21.7	81	S	6	2.7		0	2s		Calm	0.72	18.3	Fair	
Indianapolis, Indiana	29.15	740.4	29.88	758.9	75	23.9	77	S	6	2.7		5k	5ks	S	S	0.31	7.9	Cloudy	
Indianola, Texas	29.84	757.9	9.86	758 4	80	26.7	82	S	9	4.0		5c	2ks	Calm	S	Inap.	Inap.	Fair	
Jacksboro, Texas	28.70	729.0	29.79	756.7	65	18.3	91	NW	12	5.4			10s		W	Inap.	Inap	Cloudy	
Jacksonville, Florida	30.16	766.1	30.18	766.6	77	25.0	69	E	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.10	739.1	29.67	753.6	69	20.6	80	SW	4	1.8			10s		SW	0.22	5.6	Cloudy	
Key West, Florida	30.01	762.2	30.04	763.0	78	25 6	78	E	12	5.4		8k	0	E		0.16	4.1	Cloudy	
Kittyhawk, North Carolina	30.15	765.8	30.18	766.6	75	23.9	81	SW	15	6.7		2c	0	SW		0	0	Fair	
Knoxville, Tennessee	29.16	740.7	30.13	765.3	75	23.9	64	SW	1	0.4		10cs	Sm'e	Calm		0	0	Cloudy	
La Crosse, Wisconsin	29.12	739.6	29.84	757.9	56	13 3	100	N	12	5.4			10n		Calm	0.44	11.2	Light rain	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	46	7.8	40	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.43	747.9	29.75	755.6	80	26.7	55	E	7	3.1		5k	0	SE		0	0	Fair	
Leavenworth, Kansas	28.91	734.4	29.71	754.6	65	18.3	84	SW	6	2.7			10s		SW	0.03	0.8	Cloudy	
Los Angeles, California	29.64	752.8	29.96	761.0	68.0	20.0	34	NE	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.44	747.8	29.97	761.2	79	26.1	58	S	7	3.1		8c;ck	0	Calm		0	0	Fair	
Lynchburg, Virginia	29.46	748.3	30.11	764.8	78	25.6	57	S	3	1.3		0	0			0	0	Clear	
Madison, Wisconsin	28.89	734.0	29.74	755.4	65	18.3	89	NE	3	1.3			10ks		SW	0.83	21.1	Cloudy	
Marquette, Michigan	29.25	742.9	29.96	761.0	42	5.6	74	NW	10	4.5			10s		Calm	0	0	Cloudy	
Mason, Texas	28.23	717.0	29.89	759 2	78	25.6	69	SW	8	3.6			10s		SW	0	0	Cloudy	
Memphis, Tennessee	29.64	752.8	29.97	761.2	73	22.8	85	SE	9	4 0			10s		SE	0	0	Cloudy	
Milwaukee, Wisconsin	29.06	738.1	29.76	755 9	62	16.7	77	SE	8	3.6		9c;k	0	S;Calm		0.33	8.4	Cloudy	
Mobile, Alabama	30.02	762.5	30.07	763 8	78	25.6	52	SE	12	5.4		0	5s		SE	0	0	Fair	
Montgomery, Alabama	29.90	759.4	30.13	765.3	77	25.0	65	SE	7	3.1		8k	0	S		0	0	Fair	
Morgantown, West Virginia	29.13	739.8	30.08	764.0	74	23.3	68	Calm	0	0		2k	0	SW		0	0	Fair	
Mt. Washington, N. H.	24.90	607.0	30.26	768.6	52	11.1	100	NW	40	17.9			Fog		NW	0.01	0.3	Foggy	
Nashville, Tennessee	29.53	750.0	30.01	763.0	77	25.0	65	Calm	0	0		5cs	2s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.95	760.7	30.07	763 8	68	20.0	81	SW	3	1.3			10s;hz		SW;Calm	0	0	Cloudy	
New London, Connecticut	30.05	763.3	30.10	764.5	69	20.6	80	SW	9	4.0		1k	Haze	SW	Calm	0	0	Hazy	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	80	26.7	78	SE	14	6.3		0	10s		SE	1.05	26.7	Threatening	
Newport, Rhode Island	30.02	762.5	30.07	763.8	63	17.2	83	SW	11	4.9		Haze	Haze			0	0	Hazy	
New York, New York	29.91	759.7	30.09	764 3	68	20.0	84	SW	4	1.8		1ck	Haze	NE	Calm	0	0	Clear	
Norfolk, Virginia	30.11	764.8	30.17	766.3	81	27.2	67	SW	6	2.7		0	0			0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.18	690.4	29.77	756.1	46	7.8	84	N	24	10.7			10s		N	0.38	9.7	Cloudy	
Olympia, Washington Ter.	30.24	768.1	30.28	769.1	51.0	10.6	90	Calm	0	0		10cs	0	W		0	0	Fair	
Omaha, Nebraska	28.70	729.0	29.77	756.1	55	12.8	87	N	16	7.2			10n		Calm	2.09	53.1	Light rain	
Oswego, New York	29.67	753.6	29.98	761.5	75	23.9	60	SW	5	2.2		8c	0	W		0	0	Fair	
Pembina, Dakota	29.36	745.7	30.21	767.3	39	3.9	91	N	8	3.6			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	30.03	762.7	30.08	764.0	72	22.2	80	SW	7	3.1		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28 80	731.5	30.50	774.7	65	18.3	14	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	10	—12.2	88	N	8	3.6		8ck	0	N		0.47	11 9	Fair	
Ploche, Nevada					49	9 4	31	N	8	3.6		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.33	745.0	30.11	764.8	66	18.9	84	SW	6	2.7			10n		SW	0.16	4.1	Light rain	
Port Huron, Michigan	29.25	742.9	29.88	758.9	69	20.6	80	S	13	5.8		10k	0	W		0	0	Cloudy	
Portland, Maine	29.89	759.2	29.94	760.5	65	18.3	78	S	4	1.8		1k;hz	0	Calm		0	0	Clear	
Portland, Oregon	30.23	767.8	30.30	769.6	53.0	11.7	93	NW	2	0.9		5ck	0	W		0	0	Fair	
Prescott, Arizona	24.85	631.2	30.21	767.3	39	3.9	31	NE	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	28.87	733.3	29.64	752.8	76	24.4	90	SE	17	7.6		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	74	23.3	68	NE	11	4.9		2cs	0	Calm		0	0	Clear	
Red Bluff, California	29.74	755.4	30.09	764.3	63	17.2	65	N	7	3.1		0	0			0	0	Clear	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	81	27.2	78	SE	12	5.4			10s		S	0	0	Cloudy	
Rochester, New York	29.37	746.0	29.95	760.7	74	23.3	69	W	12	5.4		5c	0	W		0	0	Fair	
Roseburg, Oregon	29.72	754.9	30.30	769.6	48	8.9	92	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.99	761.7	30.07	763.8	59	15.0	88	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.27	743.7	29.81	757.2	70	21.1	53	S	10	4.5		2ck	5s	SW	SW	0.08	2.0	Fair	
St. Marks, Florida	30.14	765.5	30.16	766.1	74	23.3	81	SE	10	4.5		2k	0	SE		0	0	Fair	
St. Paul, Minnesota	29.11	739.4	29.92	760.0	54	12.2	73	N	13	5.8		10cs	0	SW		0	0	Cloudy	
Salt Lake City, Utah	25.85	656.6	30.18	766.6	47	8.3	48	E	4	1.8		7k	0	W		0	0	Fair	
San Antonio, Texas	29.15	740.4	29.70	754.4	79	26.1	74	SE	4	1.8		0	8ks		SE	0	0	Cloudy	
San Diego, California	29.90	759.4	29.97	761.2	67	19.4	28	NE	4	1.8		0	0			0	0	Clear	
Sandusky, Ohio	29.29	744.0	29.93	760.2	72	22.2	76	SW	12	5.4		5c	0	W		0.72	18.3	Fair	
Sandy Hook, New Jersey	30.04	763.0	30.07	763.8	75	23.9	72	SW	5	2.2		1ck	Haze	W	Calm	0	0	Hazy	
San Francisco, California	30.04	763.0	30.11	764.8	57.5	14.2	84	Calm	0	0		0	0			0	0	Clear	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	42	5.6	50	N	4	1.8		0	0			0	0	Clear	
Savannah, Georgia	30.12	765.0	30.21	767.3	77	25.0	82	S	1	0.4		2c	0	W		0	0	Fair	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	77	25.0	77	S	4	1.8			10s		SW	0	0	Cloudy	
Silver City, New Mexico	24.37	619.0	30.35	770.9	53	11.7	52	W	8	3.6		0	0			0	0	Clear	
Smithville, North Carolina	30.20	767 1	30.23	767.8	77	25.0	86	NW	4	1.8		0	8ks		SW	0	0	Cloudy	
Springfield, Massachusetts	29.92	760.0	30.04	763.0	67	19.4	89	S	6	2.7			10s		Calm	0	0	Threatening	
Stockton, Texas	27.00	685.8	30.00	762.0	60	15.6	44	NW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	57	13.9	81	S	11	4.9		0	Sm'e			0	0	Smoky	
Toledo, Ohio	29.23	742.4	29.87	758.7	76	24.4	69	S	12	5.4		2c	2s	Calm	S	0.20	5.1	Fair	
Tucson, Arizona	27.56	700.0	30.11	764.8	55	12.8	38	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.94	760.5	30.44	773.2	53.5	11.9	77	E	8	3.6		8cs	0	Calm		0	0	Fair	
Uvalde, Texas	28.95	735.3	29.74	755.4	76	24.4	77	SE	2	0.9			10s		SE	0	0	Cloudy	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	74	23.3	90	S	5	2.2			10s		S	0.24	6.1	Cloudy	
Virginia City, Montana	24.50	622.3	29.98	761.5	44	6.7	76	Calm	0	0			10n		W	0.29	7.4	Light rain	
Visalia, California	29.69	754.1	30.06	763.5	57	13.9	69	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.	29.98	761.5	30.09	764.3	76	24.4	73	SW	5	2.2		0	0			0.01	0.3	Clear	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.14	765.5	30.21	767.3	74	23.3	86	W	3	1.3		8k	0	NW		0	0	Fair	
Winnemucca, Nevada	25.90	657.8	30.26	768.6	45	7.2	46	NE	9	4.0		1c	0	Calm		0	0	Clear	
Wood's Holl, Mass	30.04	763.0	30.08	764.0	61	16.1	88	SW	20	8.9		0	5s;hz		Calm	0	0	Fair	
Yankton, Dakota	28.76	730.5	30.06	763.5	46	7.8	84	N	20	8.9			10n		N	0.13	3.3	Light rain	
Yuma, Arizona	29.80	756.9	29.96	761.0	63	17.2	42	NE	3	1.3		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.36	720.3	29.78	755.1	61	16.1	94											Raining	J. B. Gordon.
Havana, Cuba, W. 1	29.95	760.7	30.00	762.0	81	27.2	78	E	2.4	1.1		4c	4ks	Calm	SE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.																			Tomas Herran.
Navassa, W. I.	29.85	758.2	29.93	760.2	77	25.0	86	SE								0.43	19.9	Raining	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	82	27.8	83	E			2	5ck	6k	E		0.290	7.37	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.02	762.5	30.07	763.8	43.0	6.1	92	NE	5	2.2		1c	0	NE		0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,323 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026(?) ft., or 312.7 (?) m.; Camp Grant, 4,623 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,916.6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,086 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761 4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6,596 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.556 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 1.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 n.; Florence, 1.60 in., Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.11‡	764.8‡			63	17.2	89	SW	7	3.1			2		SW	0	0			Clear	
Navy Yard, Pensacola, Fla.	30.12‡	765.0‡			79	26.1	86	SE	20	8.9			10d		SE	0	0			Threatening	
Navy Yard, Portsmouth, N. H.																					
Naval Hospital, Yokohama, Japan	29.89‡	759.2‡			62.5	16.9	88	Calm			0		10n		ENE	0.29	7.4			Light rain	
Adams, S. 2° 39, W. 82° 13′	30.00‡	762.0‡			69	20.6	95	S			2		5		S			Smooth	S	Fair	
Alaska, Sitka, Alaska	30.17‡	766.3‡			47	8.3	92	ENE			1		2		SW	0.05	1.3			D. clouds	
Alliance, N. 36° 38′, W 7° 14′	30.17‡	766.3‡			65	18.3	58	WNW			3		0							Pleasant	
Colorado, New York, N. Y.	30.09‡	764.3‡			74	23.3	76	SW	2	0.9						0	0			Hazy	
Constitution, N. 39° 47′, W. 73° 11′	30.02‡	762.5‡			61	16.1	94	SW			4		0							Clear	
Despatch, N. 27° 50′, W. 23° 15′	30.30‡	769.6‡			72	22.2	71	E			2		2		Calm	0	0	Light	NE	Clear	
Enterprise, Havre, France	29.79‡	756.7‡			56	13.3	81	W			3–4		7		W					D. clouds	
Franklin, Norfolk, Va.	30.14‡	765.5‡			75	23.9	86	SSW	6.0	2.7			2		Calm	0	0			Clear	
Hartford, Montevideo, Uruguay.*	30.03‡	762.7‡			57	13.9	81	S			2		5		S	0	0			Fair	
Kearsarge,																				Clear	
Portsmouth, N. H.	29.98‡	761.5‡			66	18.9	89	Calm			0		0							Clear	
Marion, N. 20° 25′, W. 95° 01′	29.86‡	758.4‡			82	27.8	90	S			3		5		N			Smooth		Fair	
Michigan, Erie, Pa.					65	18.3	84	SW			2		10							Overcast	
Monocacy, Shanghai, China	30.01‡	762.2‡			65	18.3	73	E			1		0							Clear	
Monongahela, Yokohama, Japan	29.94‡	760.5‡			65	18.3	84	Calm			0		10			Mod'ate	Mod'ate			Raining	
New Hampshire, Port Royal, S. C.	30.20‡	767.1‡			76	24.4	86	S	8	3.6			2		S	0	0			Clear	
Onward, Callao, Peru †*	30.15‡	765.8‡			62	16.7	88	SSE			3		10					Long	W	Misty	
Palos, Shanghai, China	30.03‡	762.7‡			63	17.2	89	E			1		0							Clear	
Passaic, Washington, D. C.					76	24.4	73	W			2		0							Clear	
Pensacola, Callao, Peru	30.07‡	763.8‡			62	16.7	88	SSE	10	4.5			10			0	0	Smooth	W	Overcast	
Portsmouth, N. 33° 47′, W. 75° 30′	30.25‡	768.3‡			77	25.0	65	Calm			0		8		Calm	0	0	Smooth		Cloudy	
Powhatan, Hampton Roads, Va.	30.14‡	765.5‡			74	23.3	81	SW			2		0							Clear	
Quinnebaug, Smyrna, Turkey	29.98‡	761.5‡			81	27.2	58	N			3		0							Clear	
Ranger, Amoy, China	29.93‡	760.2‡			72	22.2	90	NE			2		10		Calm			Smooth		Raining	
Richmond, N. 36° 57′. E. 122° 46′	29.90‡	759.4‡			62	16.7	88	NW			2		8		NW	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.80‡	756.9‡			79	26.1	91	SE			1		8		S					Fair	
Santee, Annapolis, Md.	30.08‡	764.0‡			75	23.9	77	N			1		0			0	0			Clear	
Saratoga, Funchal, Madeira	30.28‡	769.1‡			70	21.1	57	W			2		8		N	0	0	Smooth		Blue sky	
St. Louis, League Island, Pa.	30.10‡	764.5‡			70	21.1	85	SW	2	0.9			2			0				Clear	
Trenton, Marseilles, France	29.94‡	760.5‡			78	25.6	50	NW					8		SW	0	0	Smooth		Fine	
Tuscarora, Acapulco, Mexico	29.87‡	758.7‡			82	27.8	79	Calm					0			0	0	Smooth		Hazy	
Vandalia, Key West, Fla.	29.77‡	756.1‡			78	25.6	86	E			2		8		E	0	0	Smooth		Cloudy	
Wabash, Boston, Mass.	30.02‡	762.5‡			64	17.8	78	SW			4		8			0	0			Hazy	
Wyoming, Leghorn, Italy	29.95‡	760.7‡			68	20.0	60	S			2–3		10		S			Smooth	S	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12, amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	*Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 37° 48′, E. 147° 10′		30.16‡	765.8‡	65	18.3		NE			2		10			0	Mod'ate	NE	Hazy	L. B. Walls.
S. S. Colima, N. 10° 04′, W. 86° 06′.....†.		30.01‡	762.2‡	80	26.7		WSW			3		10		E	0.30 in. or 7.6 mm	Mod'ate	SW	Overcast	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, N. 39° 30′, W. 124° 10′...†.		30.16‡	766.1‡	58	14.4	88	WNW			4		0					NW	Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 14° 32′, W. 171° 22′		30.03‡	762.7‡				S			4				S		Mod'ate	ESE	Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 22° 18′, E. 115° 00′		29.88‡	758.9‡	77	25.0	91	ENE			5		8n						Showery	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf. N. 41° 28′, W. 133° 00′		30.17‡	766.3‡	55	12.8	100	SSE			4		8		S		2	S	D. clouds	J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen
S. S. Berlin																			Capt. T. H. Lamke
S. S. Braunschweig																			Capt. C. Undütsch
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 35° 31′, W. 71° 00′		30.20‡	767.1‡				S			4		5		SSE		3	SE	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng.		29.66‡	753.4‡	56	13.3	100	W			3		5		W	Mod'ate			Fair	Captain Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City La		30.00‡	762.0‡	80	26.7	87	SE	6	2.7			8ks		SE	1.30 in. or 32.0 m.			Showery	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax", N 33° 36', W. 77 43 ...†																Smooth	SE	Clear	N. B. Foss.
Schooner Charley Buck,		30.25‡	768.3‡	76	24.4		Calm			0		0			0.75 in. or 19.1 m.	Long	SE	Cloudy	Capt. George Gardner.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I		29.61‡	752.1‡				NE	2	0.9			8		NE		Long	NE	Cloudy	Capt. P. Sandelin.
Nordenskiold of Sundsvall, Sweden ... N 36° 33' W 58° 28'....†.		30.05‡	763.3‡	70.5	21.4	90	NE			2		8		SE		Small	SE	Clear	Capt. Wm. Shepherd.
Schooner Henry Whitney, N. 32° 57', W. 78° 26'....†.		30.26‡	768.6‡	78	25.6		Calm			0		2		SW	0				

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

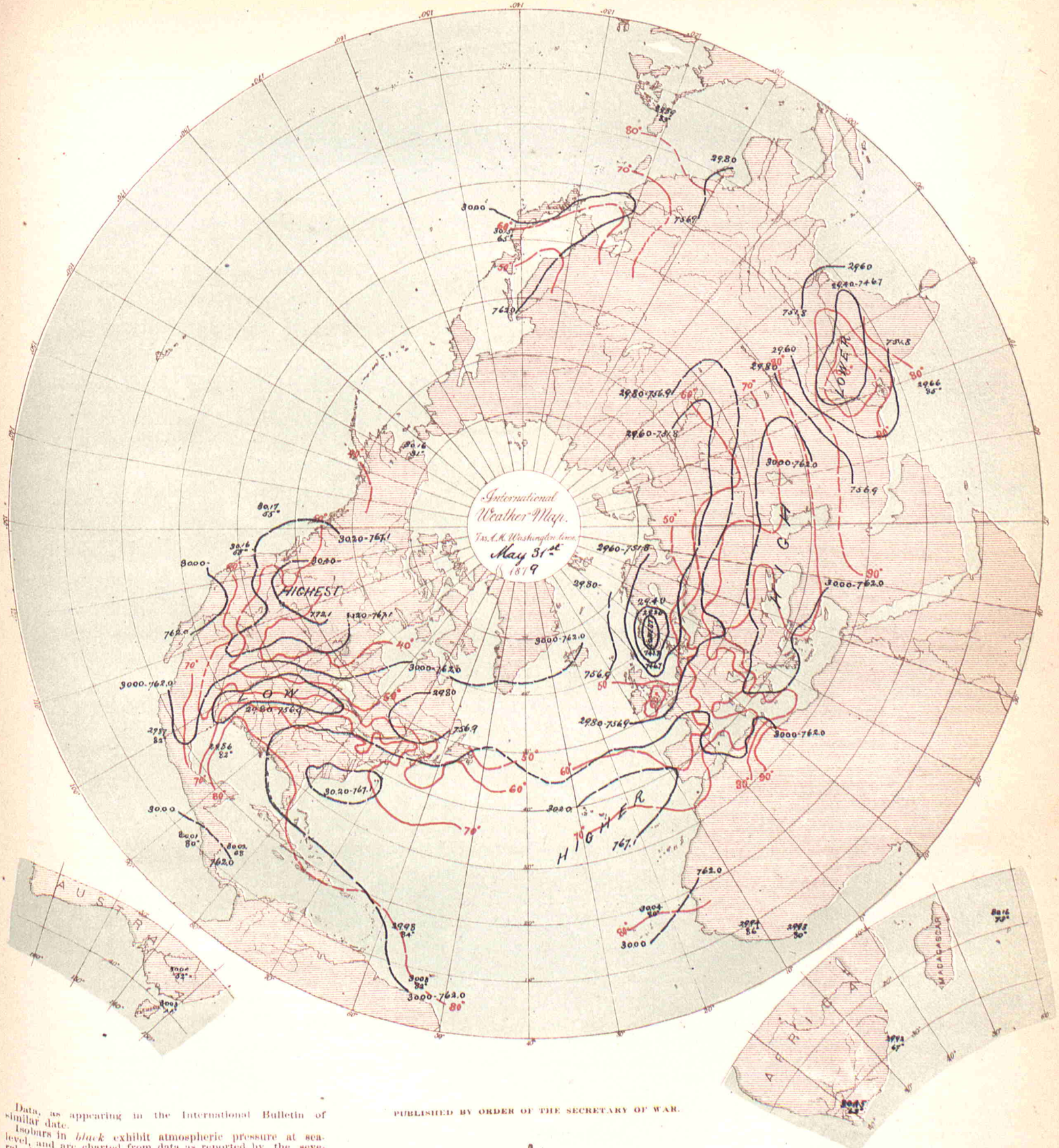
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, *fg* and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 1, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.15	765.8	79.9	26.6	64	WNW			2		0			0	0	Clear	Kesxuche.
Algiers			30.07	763.7	70.5	21.4	68	N			2		0			0	0	Clear	Tourilliere.
La Calle			30.13	765.3	73.4	23.0	67	NNW			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.15	765.7															Gau.
Saida			30.13	765.2	78.1	25.6		N			2		0			0	0	Clear.	Herbin.
Tebessa			30.08	764.1	77.0	25.0	42	W			2		5			0	0	Cloudy	Watrin.
Geriville			30.14	765.5	76.1	24.5	56	NNW			1		0			0	0	Clear	Brugniaux.
Laghouat			30.07	763.8	84.6	30.2	36	W			1		0			0	0	Clear	Bertrand.
Biskra			30.03	762.8	93.4	34.1	23	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.0	29.90	759.4	73.8	23.2	56	NE			2		8			0.035	0.9		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.20	741.6	29.94	760.5	70.5	21.4	72	S			1		9			0.154	3.9		Dr. Wierzbiski.
Eperies	29.06	738.1	29.89	759.3	77.4	25.2	64	S			1		9s			0.144	3.65		Julius Mikolik.
Gratz	28.72	729.4	29.93	760.3	66.2	19.0	72	SW			2		10			0	0		Andreas Rospini.
Hermannstadt	28.63	727.2	30.02	762.4	70.0	21.1	78	S			2		10			0.140	3.55		Prof. A. Gottschling.
Kremsmünster	28.54	724.9	29.84	757.9	65.5	18.6	81	NE			1		5			0	0		Prof. C. Wagner.
Lemberg	28.93	734.8	29.87	758.6	77.5	25.3	59	SW			1		4			0.362	9.2		Dr. T. Stanecki.
Pola	29.80	756.8	29.91	759.6	67.6	19.8	80	SE			2		10			0	0		I.R.Hydrographic Office.
Szathmar	29.55	750.6	29.99	761.8	80.4	26.9	65	SW			2		10			0.752	19.1		Julius Csics, S. J.
Szegedin	29.68	753.8	29.95	760.6	76.8	24.9	59	Calm			0		10			0	0		Karl Stancel.
Trieste	29.84	758.0	29.95	760.6	70.0	21.6	80	Calm			0		10			0.681	17.3	Raining	P. Busin.
Vienna	29.20	741.8	29.90	759.4	65.8	18.8	88	ESE			1		10			0.165	4.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.38	746.2	29.47	748.5	48.5	9.2		NNW	11	4.9			6			0.090	2.29	Showery	W. Boswell.
Ardrossan																			Wm. Neil & G. Carrick.
Armagh, Observatory			29.71	754.6	50.9	10.5		N	5	2.2									S. Call.
Bidston (Liverpool Obs)			29.53	750.0	50.0	10.0		WNW	19	8.5			8					Overcast	John Hartnup.
Bolton (Sharples)			29.50	749.3	51.7	10.9		NW	18	8.0			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire																0.28	7.1		J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	84.5	29.2		SE			2		4					D. clouds	Pvt. G. Surgener, A.
Cambridge, Observatory	29.44	747.8	29.53	750.0	61.0	16.1		SSW			2		7					Showery	H. Todd.
Cardington			29.51	749.5	62.0	16.7		SW			2		8					Overcast	John McLaren.
Chatham, School M. E.	29.50	749.3	29.63	752.6	58.5	14.7		SW			4		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.54	750.3	29.58	751.3	52	11.1		N			4		2					D. clouds	J. Mac Gowan.
Dover	29.64	752.8	29.66	753.4	55	12.8		WSW			5		3					¼ clouded	J. Costello.
Falmouth, Observatory	29.43	747.5	29.66	753.4	53.4	11.9		WSW			5		10					Raining	The Staff.
Fort Napier (Natal)	27.53	699.2	29.82	757.4	73.0	22.8		NE			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0		E			0		4					D. clouds	
Galway, Queen's College			29.61	752.1	55	12.8		NNW			2		8					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	68.6	20.3		W			4		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.36	745.7	29.56	750.8	50.0	10.0		SE			2		8					Gloomy	D. G. Maclean.
Great Yarmouth	29.54	750.3	29.54	750.3	62	16.7		SW			4		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.42	747.3	29.59	751.6	59.2	15.1		SW			4		8					Overcast	The Staff, for G.B.Airy.
Guernsey	29.51	749.5	29.73	755.1	56.5	13.6		WSW			3		7					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.69	754.1	29.81	757.2	54	12.2		W			4		10n			0.10	2.5	Raining	M. P. Moyle.
Holyhead	29.56	750.8	29.59	751.6	50	10.0		NW			3		1					Blue sky	John Tilston.
Jersey	29.49	749.0	29.78	756.4	56.0	13.3		SW			5		9					Gloomy	J. Fisher.
Kew, Observatory	29.55	750.6	29.58	751.3	58.6	14.8		SSW	28	12.5			8					Threatening	The Meteorological Of.
Leicester, Museum	29.26	743.2	29.51	749.5	53.0	11.7		SW			1		10					Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	70	21.1		E			2		2k					Blue sky	A. King.
Nairn	29.40	746.7	29.49	749.0	48	8.9		NNW			3		10					Overcast	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	77.8	25.4		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.34	745.2	29.52	749.8	51.7	10.9		WSW			1		10n;d		WSW	0.230	5.84	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.00	736.6	29.52	749.8	51.5	10.8		SW			3		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.57	751.1	54	12.2		W			1		10					Showery	H. E. Bellamy.
Plymouth	29.56	750.8	29.64	752.8	54.1	12.3		SW			4		10					Raining	John Merrifield.
Prince Town	28.21	716.5	29.66	753.4	47.5	8.8		SW			3		10					Raining	W. H. Tooker.
*Roche's Point	29.58	751.3	29.68	753.9	54	12.2		N			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.47	748.5	43.3	6.3		NW	20	8.9			10					Showery	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.98	761.5	30.04	763.0	80.0	26.7		NE			3		0					Blue sky	Serg't W. H.Lyne.
Sheffield	29.24	742.7	29.51	749.5	56.9	13.8		W			3		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.50	749.3	29.53	750.0	54.7	12.6	64	W			2		4			0.100	2.54	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.12	739.6	29.52	749.8	50.7	10.4		ENE			0		6					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.38	746.2	29.59	751.6	55.6	13.1		SW			3–4		10					Raining	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.69	754.1	29.72	754.9	55	12.8		W			4		10					Raining	W. Newcombe.
Valencia, Observatory	29.66	753.4	29.69	754.1	53.6	12.0		N	16	7.2			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.90	759.4	29.94	760.5	56.2	13.4	87	WNW	5	2.2		10?	10			0.065	1.65	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.06	763.5	48.0	8.9	81	NW			1		8k			0.01	0.3	Covered	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.53	750.0	51.9	11.1		NW			8		6k			0.12	3.0	Fine	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.3	73.3	22.9	65	ESE	20.5	9.2		3	1	WSW	E	0.02	0.51	Squally	C. Meldrum.
Melbourne, Observatory	29.98	761.5	30.07	763.8	51.3	10.7	88	NE	2	0.9			10			0	0	Dense fog	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.60	751.8	49	9.4		N			4		3	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.40	746.7	45	7.2		NE			7	7	3	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier. 2,200 ft. or 670 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn."				Capt. W. J. L. Wharton.
§Brig Alliance, N. 48° 12′, W. 28° 32′	29.62‡	752.3‡	Showery	Capt. W. Scott.
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle.				Capt. A. J. Brown.
Ship British Commodore.				Capt. J. W. Thorne.
—— City of Agra.				Capt. Thos. Young.
Barque Commewyne.				Capt. A. Buchan.
Barque Fedalma, N. 27° 15′, W. 64° 10′	30.05	763.3	Overcast	Capt. H. L. Fox.
S. S. Iron Cross, N, 39° 50′, W. 73° 55′	30.03	762.7	Misty	Capt. W. Randall.
Barque Mertole.				Capt. E. W. Turner.
S. S. Nizam, N. 17° 39′, E. 66° 47′	29.70‡	754.4‡	D. clouds	Capt. Barlow.
S. S. Royal Alexandra, N, 49° 00′, W. 21° 20′	29.75	755.6	Misty	W. P. Hughes.
S. S. Strathleven.				Capt. C. W. Pearson.
S. S. Wyberton.				Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER
San José	26.28	667.5	30.00	762.0	67.1	19.5	90	NE			1	2c;s;ck				Inap.	Inap.		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Low'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	WEATHER.
Copenhagen	29.65	753.1	29.70	754.3	54.0	12.2	89	SW			4		9					Raining
Fanöe	29.59	751.6	29.70	754.4	54.3	12.4	83	WSW			4		9					
Godthaab (Greenland)	30.11	764.7	30.15	765.8	43.7	6.5	83	S			2		10					
Stykkisholm (Iceland)	30.01	762.2	30.05	763.3	47.5	8.6	95	Calm			0		10					Foggy
Thorshavn (Faröe)	29.65	753.1	29.69	754.0	47.5	8.6	71	NE			2		10					Raining
Vestervig	29.41	747.1	29.58	751.4	49.6	9.8	82	SW			2		10					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. corr. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Low'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	WEATHER.	OBSERVER
Alençon, Normal School	29.80	744.1	29.85	758.1	59.0	15	70	W			1		5		W	0.138	3.5	Cloudy	Collignon, Director.
Amiens, Normal School	29.62	752.3	29.73	755.1	59.0	15	65	S			3		8		S	0	0	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.50	749.4	29.76	755.8	59.5	15.3	77	W			6		10		W	0.197	5.0	Raining	Klein, Commandant.
Avignon, Normal School	29.89	759.3	29.97	761.3	73.4	23	52	N			1		2		W	0	0	Slightly cl'dy	Giraud, Director.
Bar-sur-Seine	29.35	745.4	29.89	759.2	63.7	17.6	47	S			2		8kn		WSW	Inap.	Inap.	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.48	748.8	29.74	755.4	58.5	14.7	80	S			1		10		WSW	0.087	2.20	Covered	Frere Eugene Marie, Dr.
Besançon, Normal School	29.10	739.2	29.97	761.3	66.4	19.1	40	SSW			2		2		SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.15	740.3	30.07	763.6	67.1	19.5	50	SW			2		cn	SW	SW	0	0		Mariot, Director.
Bourges, Normal School	29.29	743.9	29.83	757.6	62.8	17.1	67	W			4		5	W	W	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.54	750.2	29.78	756.4	57.9	14.4	76	W			3		10		W	0.098	2.50		De Kermaree, Director.
Carcassonne, Normal School	29.60	751.9	30.00	762.1	68.5	20.3	52	W			1		10	W	WSW	0	0	Covered	September, Director.
Caen, Normal School	29.69	754.0	29.76	755.8	62.2	16.8	63	W			2		5		W	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.28	743.6	29.84	758.0	53.8	12.1	98	SSW			4		9		SW	0.20	5.	Raining	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.55	750.5	29.86	758.4	63.1	17.3	47	SW			3		8	WSW	WSW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.60	726.4	29.92	760.0	66.2	19.0	45	SW			1		5		SW	0	0		Alluard, Director.
Commercy, Normal School	29.05	737.8	29.90	759.5	59.7	15.4	62	WSW			4		8kn		WSW	0.051	1.3	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.2	30.05	763.2	71.1	21.7	48	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.20	741.7	29.95	760.7	67.3	19.6	49	WNW			1		5ck	WSW		0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.73	755.2	29.95	760.7	59.4	15.2	70	WSW			3		8		WSW	0.213	5.4	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.55	750.5	29.85	758.2	59.4	15.2	68	W			2		5	NW	W	0.256	6.5	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.09	738.8	29.99	761.7	66.7	19.3	43	SW			2		5	SW	SW	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.78	756.5	29.89	759.1	59.7	15.4	73	WSW			4				WSW	0.169	4.3		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.72	754.8	29.98	761.6	65.0	20.0	53	WSW			1–2		2			0.008	0.20	Slightly cl'dy	E. Stephan, Director.
Mirecourt, Normal School	28.95	735.3	29.98	761.5	63.9	17.7	57	NNE			3		5		NNE	0	0	Cloudy	Barbier, Director.
Nismes, Normal School	29.73	755.2	29.93	760.3	71.6	22	58	SW			1		10		SW	0	0	Covered	Boyer, Director.
Privas, Normal School	28.93	734.9	29.93	760.2	69.8	21	39	NW			1		n	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.13	638.3			42.1	5.6	88	SW			8		10			0	0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.91	759.8	29.95	760.6	56.7	13.7	92	SSW			4		10	SSW	SSW	0.87	22.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.69	754.1	29.78	756.3	58.6	14.8	63	SW			2		8		SW	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.75	755.6	29.78	756.4	54.1	12.3	78	SW			4		5	SW	SW	0.368	9.35	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.66	753.4	29.83	757.6	54.1	12.3	88	SW			2–3		ck		SSW	0.048	1.1		E. Renou, Director.
Tarbes, Normal School	28.91	734.2	29.95	760.6	73.4	23	44	W			4		2	SW		0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.34	745.1	30.06	763.5	66.4	19.1	63	NNW			2		7			0	0		M. Jullier Mercadier.
Versailles, Observatory	29.32	744.8	29.82	757.3	55.8	13.2	73	SW			3				W	0.224	5.71		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S	29.33	741.9	29.98	761.4	70.0	21.1	82	SE			8		5		SW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.70	756.6	29.82	757.3	80.6	27										0	0		L'Abbé Ma[illegible]ési.
Lyons Obs'y (Park Station)	29.34	745.3	29.94	760.5	69.4	20.8	35	S			1		7		WSW	0	0	Cloudy	Ch. André, Director.
Mont-Louis	24.85	631.1	30.16	766.1	48.2	9.0	75	SE	18.6	8.8			9		NE	0	0		M. Cave.
Nice			29.98	761.4	68.4	20.2	75	W			1		2			0	0	¼ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.54	750.2			56.8	13.8	83	SW			6		10		SW	0.051	0.3	Sprinkling	Marié Davy, Director.
Perpignan	29.90	759.4	30.00	762.1	68.7	20.4	45	SE	7.4	3.3			7		SW	0.248	6.3	Raining	Dr. Fines.
Pic du Midi (Summit) H. P																			M. Baylac.
Pic du Midi (Plantade) H. P	22.50	571.4			38.3	3.5		SW			1		8			0.040	0.35	Threatening	Gen'l de Nansouty.
Tours	29.68	753.8	29.87	758.8	59.5	15.3	64	SW			4		8		W	0.059	1.5		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	30.02	763.6	30.05	763.2	62.4	16.9	93	E	3.8	1.7		8cs;h's		W		0	0	Almost cov'd	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p.m., local time; and Clermont-Ferrand, 9 a.m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p.m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.90	759.4	69.3	20.7	44	W			2		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.68	753.8	29.84	758.0	72.1	22.3	49	W			4		3			0	0		Prof. Dr. Arndt.
Breslau	29.43	747.6	29.97	761.1	72.3	22.4	40	SSE			3		3			0	0		Royal University Obs'y.
Carlsruhe	29.46	748.3	29.87	758.8	67.3	19.6	49	SW			3		8	SW		0	0		Albert Senz.
Cassel	29.29	744.0	29.89	759.3	63.3	17.4	46	WSW			5		8	WSW		0	0		Dr. H. Möhl.
Crefeld	29.63	752.5	29.79	756.6	62.2	16.8	53	SW			6		9			0	0		Director Lose.
Emden			29.72	754.9	57.0	13.9	71	W			7		10			0.106	2. 7		Prof. Dr. Prestel.
Frankfort on the Main	29.53	750.0	29.89	759.2	68.9	20.5		SSW			2		8			0	0		Physical Society.
Freienwalde on the Oder	29.79	756.7	29.83	757.7	70.5	21.4	41	SSW			6		5k	SSW		0	0		Dr. Assmann.
Friedrichshafen	28.50	723.9	29.90	759.4	64.9	18.3	61	SW			4		5	SW		0.150	3.8	Thunder-storm	Mr. Wilhelm.
Hamburg	29.68	753.9	29.75	755.7	61.5	16.4	61	SSW			4		4k	SSW		0.138	3.5	Squally	Captain F. Hegemann.
Kiel	29.67	753.7	29.69	754.0	58.3	14.6	69	SW			3		5			0.400	10.16		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.79	756.6	29.87	758.6	70.3	21.3	51	SW			5		2			0.150	3.8		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.45	748.0	29.85	758.3	73.0	22.8	50	SW			5		6	SW		0	0		Prof. Bruhns, Privy Counsellor.
Memel								SSW			2		0						Skalweit.
Munich (München)	28.10	713.7	29.96	760.9	65.7	18.7	54	N			4		8	S		0	0		Dr. C. Lang.
Neufahrwasser	29.85	758.1	29.86	758.5	73.0	22.8	39	WSW			4		8			0	0		A. Lothes.
Posen	29.64	752.8	29.91	759.8	74.1	23.4	41	SSW			6		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.37	746.1	29.91	759.6	69.1	20.6	49	SSW			2		7	WSW		0	0		Imp. University Observatory.
Stuttgart	28.95	735.3	29.85	758.3	69.8	21.0	34	NW					4	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.43	722.1	29.89	759.2	64.0	17.8	53	Calm	0	0			7ck		W	0	0		T. Hopfner.
Wustrow	29.78	756.5	29.81	757.1	57.7	14.3	79	SW			3		5k			0.031	0.8		E. Schulz, Dir.
GERMAN NAVAL SERIES.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.1	30.06	763.5	86.0	30.0		NE			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Karrachee	29.46	748.3	29.51	749.5	93.3	34.1	59	SSW					6			0	0	D. clouds	
Deesa	29.04	736.7	29.49	749.1	98.9	37.2	25	WNW	16.5	7.4			6	SW		0	0	Misty	
Bombay	29.66	753.4	29.70	754.4	82.9	28.3	88	WSW	13.0	5.8			10		E	0	0	Overcast	
Poona	27.69	703.4	29.69	754.1	77.8	25.4	70	WSW					10	Calm	WSW	0	0	Overcast	
Lahore	28.54	724.8	29.22	742.2	111.8	44.3	18	Calm.	3.6	1.6			0			0	0	Misty	
Belgaum	27.23	691.5	29.77	756.2	72.7	22.6	86	W	25.0	11.2			10	W	W	0.14	3.6	Overcast	
Roorkee	28.44	722.5	29.31	744.4	92.5	33.6	32	NE	1.1	0.5			6			0.02	0.5		
Agra	28.77	730.7	29.30	744.1	105.1	40.6	32	SE					8		SE	0	0		
Nagpur	28.43	722.2	29.47	748.4	77.7	25.4	81	NW	8.5	3.8			10		SE	7.23	18.36	Gloomy	
Lucknow	29.00	736.6	29.36	745.8	94.1	34.5	52	ESE	5.7	2.6			10			0	0	Overcast	
Allahabad	29.06	738.1	29.35	745.5	95.3	35.2	49	ENE	7.6	3.4			3			0	0	D. clouds	
Patna	29.20	741.6	29.37	746.0	91.5	33.1	59	E	3.9	1.7			8	E	E	0	0	D. clouds	
Hazaribagh	27.44	696.8	29.41	747.0	80.6	27.0	81	SSW	11.3	5.0			8			0.35	8.9	Raining	
Cuttack	29.38	746.1	29.46	748.2	84.5	29.2	71	SW	9.0	4.0			7			0	0		
Calcutta (Alipore)	29.44	747.7	29.46	748.2	84.2	29.0	77	SSW	17.0	7.6			10	S		0	0	Overcast	
Goalpara	29.14	740.0	29.52	749.9	77.6	25.3	94	NNE	4.7	2.1			10		S	1.32	33.5	Overcast	
Chittagong	29.55	750.6	29.64	752.9	76.7	24.8	93	SE	8.0	3.6			10			0	0	Gloomy	
Sibsagar	29.23	742.4	29.56	750.8	84.3	29.1	86	SW	3.3	1.5			10	W	W	1.44	36.6		
Jubbulpore	28.05	712.4	29.39	746.5	79.7	26.5	85	NE	4.1	1.8			10			0.56	14.2	Raining	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or uncorrected for error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.56	750.8	29.96	760.9	65.5	18.6	82	NE	3.1	1.4			10			0.146	3.7		Prof. Giovanni Clodig.
Milan	29.43	747.5	29.94	760.5	66.4	19.1	72	S			2		10	S		0.031	0.8		Prof. Schiaparelli.
Padua	29.85	758.3	29.96	761.0	63.3	17.4	91	N	5.6	2.5			10	SW		0.173	4.4		Prof. Dott. Lorenzoni.
Moncalieri	29.02	737.1	29.90	759.5	65.8	18.8	70	WSW	1.8	0.8			3	NNE		0.138	3.5		Prof. P. F. Denza.
Genoa	29.77	756.2	29.96	761.0	68.0	20.0	68	SW	6.3	2.8			0			0	0		Prof. G. M. Garibaldi
Mondovi	28.04	712.3	29.90	759.5	62.8	17.1	66	NNE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.87	758.8	29.92	760.0	63.3	17.4	88	NW	3.8	1.7			10	NW		0	0		Prof. Luigi Guidi.
Florence	29.68	753.8	29.93	760.1	75.2	24.0	62	NW			2		10			0.102	2.6		Cav. F. Meucci.
Leghorn	29.82	757.5	29.91	759.6	68.9	20.5	73	WSW			4		5			0	0		Prof. P. Monte.
Rome	29.83	757.6	30.00	762.0	71.8	22.1	64	SSW	13.7	6.1			7			0	0		Prof. P. S. Ferrari
Lecce	29.79	756.7	30.04	763.0	79.0	26.1	35	SSW	11.9	5.3			6	S		0	0		Prof. C. De Giorgi.
Cosenza	29.13	739.8	29.99	761.8	86.0	30.0	65	SW	4.9	2.2			9			0	0		Prof. D. Conti.
Cagliari	29.78	756.4	29.97	761.2	67.3	19.6	76	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.80	757.0	30.06	763.4	70.0	21.1	66	ENE	8.1	1.4			9			0	0		Prof. G. Cacciatore.
Syracuse	29.97	761.3	30.04	763.1	72.0	22.2	75	NNE	8.7	3.9			7	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.3	30.06	763.4	73.9	23.3	63	ESE	3.1	1.4			4	SW		0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.06	763.5	30.08	764.0	64.6	18.1	86	ESE	0.9	0.4			10ck;s		E	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.83	757.7	30.04	763.0	62.5	16.9	95	SW	0.6	0.3			7cs;s			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.08	764.0	30.15	765.8	63.7	17.6	90	NNW	6.3	2.8			10n			0.390	9.91	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.6	30.06	763.6	58.6	14.8	69	Calm			0	3	0	E		0	0	Clear	Prof. L. Perez.
Leon	24.44	620.7	30.01	762.2	68.0	20.0	78	ENE			2	1c	8kn	W	W	0	0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.8	29.99	761.8	58.6	14.8	83	NW	1.3	0.6			10n		W	0.60	15.2	Light rain	The Staff.
Pabellon (Aguascalientes)					61.7	16.5	67	N			3	1c	8k			0	0	Very cloudy	M. V. de Leon, M. E.
Tlacotalpam	29.84	757.9	29.85	758.2	79.9	26.6	83	SE			1	6	0	Calm		0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.28	616.6	30.22	767.5	61.0	16.1	54	E			1		10		E	0.11	2.7	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.56	573.1	30.11	764.9	57.6	14.2	88	ENE			2	5c	5k	NE	NE	Inap	Inap.	Very cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.5	30.21	767.3	63.5	17.5	58	SE	11.2	5.0			10ck		SE	0.24	6.1	Covered	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.36	720.3	29.96	761.0	81.9	27.7	70	Calm			0	0	5		S	0	0	½ clouded	R. Rauda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.80	756.9	30.09	764.3	75.2	24.0	86	SE			1	6	0	SE		0	0	Fair	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,559.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,112.3 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.72	755.0	29.72	755.0	60.3	15.7		SW								0.142	3.6		
Groningen	29.63	752.5	29.68	753.9	57.4	14.1		SSW			4					0.185	4.7		
Helder	29.63	752.7	29.63	752.7	55.8	13.2		SSW			5					0.110	2.8		
Hellevoetsluis	29.69	754.2	29.69	754.2	57.7	14.3	69	SW			5					0.177	4.5		
Utrecht	29.68	753.8	29.72	755.0	57.0	13.9	84	SW			5		8			0.154	3.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.32	744.8	29.38	746.2	52.9	11.6	62	S	20.1	9.0			3			0.118	3.0		
Brönno	29.49	749.1	29.53	750.1	55.4	13.0	45	ENE	18	8			2			0	0		
Christiania	29.40	746.8	29.55	750.5	55.2	12.9	49	S	11	5			5			0	0		
Tromsö	29.71	754.5	29.75	755.6	48.9	6.6	53	NE	27	12			1			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.80	757.0	30.00	761.9	62.6	17.0	78	WNW	17.5	7.8			5			0.512	13.0		Dr. J. A. Sampaio.
Campo Major	29.13	739.8	30.14	765.5	68.5	20.3	40	W	6.9	3.1			6	WNW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.6	30.19	766.8	65.7	18.7	58	SE	6.3	2.8			7			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.82	757.3	30.17	766.3	64.6	18.1	65	SW	17.4	7.8			6	WSW		0	0		The Staff.
Ponta Delgada (Azores)	29.93	760.1	30.00	761.9	68.9	20.5	85	W	18.6	8.3			10			0.248	6.3		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0—9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira.] N. 4° 17′. W. 8° 16′			29.99	761.8	86.0	30		Calm			0		8		SSW	0		Blue sky	H. C. e Athayde.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.87	758.8	81.0	27.2		WNW			2		1		WNW	1	WNW	Blue sky	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.06	763.4	78.1	25.6		NE			3		8		NE	0	NE	D. clouds	P. de Fairi.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.88	759.0	78.8	26.0		NE			3		10					Drizzling	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.52	749.9	29.93	760.3	71.1	21.7	55	WSW	7	3			9ks;ck						Astronomical Obs.
Wilna	29.53	750.0	29.93	760.3	69.1	20.6	56	Calm	0	0			10						Astronomical Obs.
Dorpat	29.64	752.9	29.88	758.9	65.3	18.5	55	W	9	4			4k						Prof. Dr. Weihrauch.
St. Petersburg	29.74	755.4	29.76	755.8	52.9	11.6	96	WNW	13	6			10n						Central Physical Obs.
Kieff	29.32	744.7	29.91	759.8	82.6	28.1	51	NW	7	3			5ck						Physical Cabinet.
Nikolaiev	30.09	764.2	30.16	766.0	81.9	27.7	41	SSW	13	6			0						Kurdakof.
Kertch	30.14	765.6	30.16	766.1	77.4	25.2	61	N	4	2			0						Lagorio.
Moscow	29.28	743.8	29.80	757.0	75 0	23.9	63	S	9	4			7ks						Meteorological Obs.
Lugan	29.87	758.6	30.06	763.5	86.0	30.0	28	SSW	9	4			3						Meteorological Obs.
Archangel	29.63	752.6	29.65	753.1	53.4	11.9	83	NE	2	1			10						Capt. Sseliwerstow.
Tiflis	28.64	727.6	29.99	761.8	79.9	26.6	39	Calm	0	0			5k						Physical Observatory.
Astrakhan	30.21	767.4	30.13	765.3	81.5	27.5	22	SSW	11	5			2s						Capt. Wisganow.
Krotkowo*	29.57	751.1	29.82	757.5	76.6	24.8	31	W	13	6			7						Cand. Fatjanow.
Kasan																			Physical Cabinet.
Ekaterinburg	28.69	728.7	29.62	752.3	62.8	17.1	71	Calm	0	0			8n;ks;k						Meteorological Obs.
Nukuss	29.80	757.0	30.02	762.6	82.2	27.9	22	NNE	20	9			1ks						
Tashkend	28.42	721.8	29.89	759.3	83.8	28.7	30	NW	0	0			0						Teich, A. M.
Barnaul	29.32	744.7	29.81	757.1	59.9	15.5	42	SW	7	3			9						Meteorological Obs.
Yeniseisk	29.38	746.2	29.66	753.3	61.2	16.2	34	S	13	6			10						Marks.
Irkutsk																			
Peking (China)	29.76	756.0	29.91	759.6	76.5	24.7	33	S	4	2			1c						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.99	761.8	30.09	764.3	56.8	13.8	73	SE	13	6			9k						
Nikolaievsk, on the Amoor	29.49	749.1	29.94	760.5	78.8	26.0	31	WNW	9	4			1s						

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	70.7	21.5	46	SSW	3.8	1.72			2c;ck			0	0	Almost clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763.6	30.12	765.0	69.1	20.6	53	NW	2.6	1.17		2	2	N		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.5			63.9	17.7	55	SW	7.7	3.46			6			0	0	Cloudy	Domingo Martin y Peres.
Madrid, Royal Oservatory	27.83	706.7	29.98	761.4	74.1	23.4	43	SW	14.2	6.33		0	2			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.86	758.4	30.00	762.1	82.8	28.2	24	SW	6.2	2.75		0	2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.9	30.02	762.5	58.5	14.7	84	SW	11.9	5.3			10			0.370	9.4	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.2	80.0	26.7	78	ENE	9.8	4.4		0	1k			0.024	0.6	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.85	758.2	83.9	28.8	91	W	0	0			9kn		E	1.197	30.4	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.07	763.6	30.16	766.1	67.6	19.8	57	WNW	14.0	6.3		1	4	SW	W	0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	81.3	27.4	78	S	3.8	1.70		6cs	1k	S	S	0.020	0.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	45.0	7.2		NE			2		10			0.276	7.0		
Umea	29.65	753.0	29.70	754.3	40.6	4.8	94	E			2		10			0	0		
Hernosand	29.57	751.1	29.62	752.4	50.7	10.4	70	SSE			2		9			0.189	4.8		
Stockholm	29.50	749.2	29.67	753.7	57.6	14.2	65	WSW			4		9			0.063	1.6		
Wisby	29.65	753.2	29.71	754.7	61.9	16.6	58	SW			6		0			0.008	0.2		
Sub-Series.																			
Upsala	29.57	751.1	29.65	753.0	60.1	15.6	59	SSW	13.9	6.2			10		WSW	0.061	1.55		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.32	719.4	29.92	760.0	65.8	18.8	58	W			2		4			0.043	1.1	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.08	764.1	76.6	24.8	35	E	27	12.0			0			0	0		The Observatory.
Fao, Persian Gulf			30.08	764.0	100.4	38.0		NW			2		0						
Valona			30.16	766.1	86.4	30.2		S			1		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.77	756.1	29.89	759.2	79.0	26.1	74	N			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.65	753.1	29.95	760.7	64	17.8		SW	1	0.4			10s		SW	0.38	9.7	Cloudy	W. R. Bigg.
*Chatham, N. B	29.81	757.2	29.88	758.9	63	17.2	80	E	3	1.3		8k	2ks	W	W	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.88	758.9	60	15.6	72	NE	9	4.0		0	2s			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.90	759.4	67.5	19.7	91	W			2		10s			0.130	3.30	Overcast	James Smith, M. A.
Dalhousie, N. B	29.76	755.9	29.93	760.2	56.8	13.8	77	W			2		10ks			0	0	Overcast	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.96	761.0	29.98	761.5	49	9.4	89	Calm	0	0			10n		Calm	0.05	1.3	Threatening	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.88	758.9	68.1	20.1	79	S	1	0.4		0	Sm'e			0.195	4.96	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.54	750.3	30.38	771.6	43	6.1	87	W	5	2.2		0	0			0	0	Clear	James Stewart.
Granton, Ontario	28.83	732.3	29.90	759.4	65	18.3	100	S			1		10n			2.73	69.3	Overcast	James Grant.
*Halifax, N. S	29.75	755.6	29.88	758.9	59	15.0	93	W	3	1.3		Haze	0			0	0	Hazy	F. Allison, M. A.
Hamilton, Ontario	29.56	750.8	29.92	760.0	67.7	19.8	92	SW			1	10cs	0	SW		0.39	9.9	Raining	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.62	752.3	29.94	760.5	64	17.8	94	SE	1	0.4			Fog			0.43	10.9	Foggy	S. Woods, M. A.
Little Glace Bay, N. S																			C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.73	755.1	29.92	760.0	68	20.0	84	W	7	3.1			10s			0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.28	743.7	29.98	761.5	50	10.0	96	NE	18	8.0			10n		NE	0.15	3.8	Light rain	Rev. R. Mosly.
Peterboro, Ontario	29.21	741.9														0.33	8.4		J. F. Jeffers, B. A.
Port Dover, Ontario	29.26	743.2	29.93	760.2	62	16.7	100	Calm	0	0			10n			0.74	18.8	Light rain	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.92	760.0	61	16.1	99	E	2	0.9			10n		SW	0.41	10.4	Light rain	M. Payne.
*Quebec, Quebec	29.63	752.6	29.94	760.5	57	13.9	81	NE			5	0	2s		NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.06	763.5	49	9.4	85	N	3	1.3			10s		NE	Inap.	Inap.	Light rain	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.2	53	11.7	79	Calm			0	0	Haze			0	0	Clear	Dr. Gove.
St. John, N. B	29.75	755.6	29.91	759.7	50	10.0	93	SW	1	0.4			Fog			0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.24	742.7	29.96	761.0	50	10.0	95	NE	8	3.6			10ks		E	0.63	16.0	Heavy rain	K. Stewart.
Stayner, Ontario																Inap.	Inap		R. J. Cole.
Stratford, Ontario	28.66	728.0	29.90	759.4	64.9	18.3	97	SW	6	2.7			10n			0.923	23.45	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.78	756.4	29.82	757.4	67	19.4	77	W	4	1.8		10cs	0			0	0	Hazy	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.94	760.5	61	16.1	100	SW	2	0.9			Fog			0.79	20.1	Foggy	Magnetic Observatory.
Windsor, N. S	29.79	756.7	29.88	758.9	59.0	15.0	94	NE	1	0.4		8k	0			0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.90	759.4	60.0	15.6	76	S				5k	5s			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.76	755.9	29.98	761.5	77	25.0	69	S	1	0.4		1c	0	Calm		Inap.	Inap.	Clear	
Alpena, Michigan	29.40	746.7	30.06	763.5	43	6.1	92	N	14	6.3			10n		Calm	0.25	6.3	Light rain	
Atcha, Aleutian Islands					45	7.2	100	SW			1		10n		SW	Inap.	Inap.	Misty	
Atlanta, Georgia	28.97	735.8	30.07	763.8	74	23.3	59	SE	13	5.8		2c	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	30.05	763.3	30.06	763.5	73	22.8	81	SW	5	2.2		0	0			0	0	Clear	
Augusta, Georgia	30.10	762.0	30.17	766.3	73	22.8	72	SE	4	1.8		2c	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.00	762.0	30.05	763.3	78	25.6	69	W	3	1.3		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.00	762.0	30.03	762.7	70	21.1	70	S	8	3.6		0	0			0	0	Clear	
Bismarck, Dakota	28.61	726.7	30.47	773.9	44	6.7	84	Calm	0	0		0	0			0	0	Clear	
Boerne, Texas	28.68	728.5	29.99	761.7	62	16.7	67	N	9	4.0		5k	0	N		0.04	1.0	Fair	
Boise City, Idaho	27.46	697.5	30.42	772.7	48	8.9	70	Calm	0	0		0	0			0	0	Clear	
Boston, Massachusetts	29.82	757.4	29.96	761.0	78	25.6	65	W	8	3.6		6c;k	0	Calm		0	0	Fair	
Brackettville, Texas	29.05	737.9	30.06	763.5	68	20.0	60	N	5	2.2		5cs	0	W		0	0	Fair	
Breckenridge, Minnesota	29.36	745.7	30.39	771.9	43	6.1	83	N	8	3.6		0	0			Inap.	Inap.	Clear	
Brownsville, Texas	29.98	761.5	30.03	762.7	73	22.8	90	N	4	1.8		5cs	0	Calm		1.60	40.6	Fair	
Buffalo, New York	29.25	742.9	29.92	760.0	67	19.4	84	Calm	0	0			10n		SW	0.02	0.5	Light rain	
Burkes, Arizona					74	23.3	15	W			1	0	0			0	0	Clear	
Burlington, Vermont	29.65	753.1	29.92	760.0	76	24.4	64	S	4	1.8		5c	Sm'e	W	Calm	0	0	Fair	
Cairo, Illinois	29.59	751.6	29.97	761.2	72	22.2	90	S	8	3.6			10n		S	1.03	26.2	Light rain	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.34	643.6	30.14	765.5	62	16.7	18	E	9	4.0		0	Haze		Calm	0	0	Hazy	
Camp Verde, Arizona					53	11.7	48	N			1	0	Haze			0	0	Hazy	
Campo, California	27.42	696.5	29.99	761.7	45	7.2	68	E	2	0.9		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.18	766.6	75	23.9	86	SW	10	4.5		Haze	5s		W	0	0	Fair	
Cape Henry, Virginia	30.09	764.3	30.10	764.5	77	25.0	73	SW	12	5.4		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	77	25.0	73	SW	8	3.6		Haze	0	Calm		0	0	Hazy	
Cape May, New Jersey	29.98	761.5	30.01	762.2	72	22.2	76	S	15	6.7		0	0			0	0	Clear	
Castroville, Texas	29.32	744.7	30.01	762.2	70	21.1	44	NW	14	6.3		2c	0	S		0.01	0.3	Fair	
Charleston, South Carolina	30.12	765.0	30.17	766.3	77	25.0	69	SW	4	1.8		2k	0	SE		0	0	Fair	
Charlotte, North Carolina	29.31	744.5	30.09	764.3	77	25.0	69	S	4	1.8		2c	Haze	Calm	Calm	0	0	Fair	
Chattanooga, Tennessee	29.28	743.7	30.04	763.0	78	25.6	57	S	6	2.7		*5cs	0	Calm		0	0	Fair	
Cheyenne, Wyoming	24.35	618.5	30.29	769.4	44	6.7	84	N	4	1.8		0	8ks		N	0	0	Cloudy	
Chicago, Illinois	29.32	744.7	30.02	762.5	44	6.7	84	N	19	8.5			10n			0.17	4.3	Light rain	
Cincinnati, Ohio	29.36	745.7	29.99	761.7	71	21.7	82	S	10	4.5			10n		SW	0.11	2.8	Light rain	
Cleveland, Ohio	29.22	742.2	29.91	759.7	71	21.7	80	SE	14	6.3			10ks		S	0.75	19.1	Cloudy	
Coleman City, Texas																			
Columbus, Ohio	29.16	740.7	29.96	761.0	71	21.7	75	S	6	2.7			10ks		S	Inap.	Inap.	Cloudy	
Concho, Texas	28.31	719.1	29.97	761.2	65	18.3	49	N	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.66	753.4	30.12	765.0	60	15.6	71	N	8	3.6		2c;ck	0	NW		0.17	4.8	Clear	
Davenport, Iowa	29.44	747.8	30.08	764.0	50	10.0	86	N	11	4.9			10s		N	0.75	19.1	Cloudy	
Deadwood, Dakota	25.75	654.0			45	7.2	92	Calm	0	0		5k	0	E		0.07	1.8	Fair	
Decatur, Texas	28.99	736.3	30.16	766.1	58	14.4	76	S	16	7.2		2cs	0	N		0	0	Fair	
Dénison, Texas	29.33	745.0	30.12	765.0	59	15.0	82	N	6	2.7		5k	5ks	N	N	0.02	0.5	Cloudy	
Denver, Colorado	25.09	637.3	30.31	769.9	47	8.3	85	SE	4	1.8		5ck	0	Calm		0	0	Fair	
Des Moines, Iowa	29.30	744.2	30.19	766.8	47	8.3	77	NE	14	6.3		2c	0	NW		Inap.	Inap.	Clear	
Detroit, Michigan	29.24	742.7	29.88	758.9	67	19.4	95	SW	6	2.7			10s		W	1.89	48.0	Cloudy	
Dodge City, Kansas	27.72	704.1	30.07	763.8	45	7.2	84	N	12	5.4		2c	0	W		0	0	Fair	
Dubuque, Iowa	29.41	747.0	30.12	765.0	48	8.9	78	N	12	5.4			10ks		Calm	0.19	4.8	Cloudy	
Duluth, Minnesota	29.60	751.8	30.29	769.4	48	8.9	78	NE	3	1.3		0	0			0.08	2.0	Clear	
Eagle Pass, Texa	29.39	746.5	30.10	764.5	71	21.7	45	NE	12	5.4		5cs	0	W		0	0	Fair	
Eastport, Maine	29.83	757.7	29.90	759.4	53	11.7	73	NE	1	0.4		Haze	Sm'e	Calm	Calm	0	0	Smoky	
Edinburg, Texas					73	22.8	85	Calm			0	2c	2s	Calm	Calm	0.50	20.3	Fair	
El Paso, Texas	26.45	671.8			60	15.6	44	E	7	3.1		0	0			0	0	Clear	
Erie, Pennsylvania	29.24	742.7	29.92	760.0	67	19.4	89	E	5	2.2			10s		SW	0.06	1.5	Cloudy	
Escanaba, Michigan	29.47	748.5	30.14	765.5	43	6.1	75	N	25	11.2		8k	0	N		0.02	0.5	Cloudy	
Florence, Arizona	28.51	724.1	30.11	764.8	78	25.6	16	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	28.36	720.3			45	7.2	92	S	1	0.4		0	0			0	0	Clear	
Fort Craig, New Mexico	25.72	653.3	29.78	756.4	49	9.4	57	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.42	645.7	30.38	771.6	59	15.0	54	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.54	750.3	30.08	764.0	57	13.9	94	N	12	5.4			10s		N	0.70	17.8	Cloudy	
Fort Griffin, Texas	28.99	736.3	30.27	768.8	59	15.0	59	N	12	5.4		0	0			0	0	Clear	
Fort Keogh, Montana	27.83	706.9			47	8.3	77	N	1	0.4		0	0			0	0	Clear	
Fort McKavett, Texas	27.94	709.7	29.85	758.2	62	16.7	56	NE	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.74	755.4	29.77	756.1	33	0.6	100	SE	11	4.9			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.99	736.3	30.11	764.8	56	13.3	75	NW	12	5.4		5ck	0	N		0	0	Fair	
Fort Stevenson, Dakota	28.57	725.7			44	6.7	75	N	1	0.4		1c	0	Calm		0	0	Fair	
Fredericksburg, Texas																0.06	1.5		
Galveston, Texas	29.98	761.5	30.03	762.7	73	22.8	81	W	7	3.1			10s		W	0.59	15.0	Cloudy	
Graham, Texas	29.14	740.1	30.19	766.8	58	14.4	76	N	10	4.5		0	0			0	0	Clear	
Grand Haven, Michigan	29.27	743.4	29.92	760.0	49	9.4	93	NE	11	4.9			10n		Calm	0.44	11.2	Light rain	
Henrietta, Texas	29.25	742.9	30.19	766.8	57	13.9	75	N	12	5.4		0	0			0	0	Clear	
Indianapolis, Indiana	29.14	740.1	29.89	759.2	69	20.6	90	SE	6	2.7			10n		SE	0.18	4.6	Light rain	
Indianola, Texas	30.03	762.7	30.06	763.5	73	22.8	85	N	13	5.8			10s		NW	1.12	28.4	Cloudy	
Jacksboro, Texas	29.05	737.9	30.19	766.8	59	15.0	76	NW	16	7.2		0	0			0		Clear	
Jacksonville, Florida	30.13	765.3	30.15	765.8	77	25.0	65	E	2	0.9		0	0			0	0	Clear	
Keokuk, Iowa	29.40	746.7	30.01	762.2	53	11.7	86	NE	12	5.4			10s		N	0.22	5.6	Cloudy	
Key West, Florida	30.03	762.7	30.06	763.5	78	25.6	73	NE	10	4.5		1k	0	NE		0	0	Clear	
Kittyhawk, North Carolina	30.11	764.8	30.13	765.3	75	23.9	77	SW	16	7.2		0	0			0	0	Clear	
Knoxville, Tennessee	29.11	739.4	30.07	763.8	75	23.9	62	SW	1	0.4		5ck	2ks	SW	SW	0	0	Fair	
La Crosse, Wisconsin	29.45	748.0	30.20	767.1	46	7.8	69	N	12	5.4		8k	0	N		0.08	2.0	Fair	
La Mesilla, New Mexico	26.28	667.5	30.41	772.4	49	9.4	57	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.73	755.1	30.06	763.5	75	23.9	52	NE	6	2.7		0	0			0.45	11.4	Clear	
Leavenworth, Kansas	29.31	744.5	30.15	765.8	52	11.1	73	N	19	8.5		1ck	1cs	W	NE	Inap.	Inap.	Fair	
Los Angeles, California	29.64	752.8	29.97	761.2	62.5	16.9	40	N	1	0.4		0	0			0	0	Clear	
Louisville, Kentucky	29.43	747.5	29.97	761.2	71	21.7	80	S	9	4.0			10s		Calm	0.24	6.1	Cloudy	
Lynchburg, Virginia	29.42	747.3	30.06	763.5	78	25.6	57	S	3	1.3		0	0			0	0	Clear	
Madison, Wisconsin	29.09	738.9	30.10	764.5	43	6.1	92	N	18	8.0			10s		N	0.28	7.1	Cloudy	
Marquette, Michigan	29.48	748.8	30.19	766.8	42	5.6	66	N	8	3.6		5c	0	N		0	0	Fair	
Mason, Texas	28.56	725.4	30.31	769.9	63	17.2	57	N	4	1.8		0	0			0.12	3.0	Clear	
Memphis, Tennessee	29.65	753.1	29.98	761.5	71	21.7	95	SE	4	1.8			10n		SE	0.96	24.4	Light rain	
Milwaukee, Wisconsin	29.28	743.7	30.02	762.5	43	6.1	92	N	16	7.2			10n		Calm	0.24	6.1	Light rain	
Mobile, Alabama	30.02	762.5	30.06	763.5	77	25.0	82	SE	12	5.4		2c	8s	Calm	S	0	0	Cloudy	
Montgomery, Alabama	29.87	758.7	30.10	764.5	78	25.6	61	S	6	2.7		5cs	0	Calm		0	0	Fair	
Morgantown, West Virginia	29.67	738.4	30.02	762.5	76	24.4	64	Calm	0	0		5k	0	SW		0	0	Fair	
Mt. Washington, N. H.	23.91	607.3	30.27	768.8	53	11.7	79	NW	40	17.9		5c	0	NW		0	0	Fair	
Nashville, Tennessee	29.51	749.5	30.03	762.7	73	22.8	85	Calm	0	0			10ks		S	0.67	17.0	Cloudy	
New Haven, Connecticut	29.88	758.9	29.99	761.7	78	25.6	69	S	1	0.4		2c	Haze	Calm	Calm	0	0	Hazy	
New London, Connecticut	29.95	760.7	30.00	762.0	75	23.9	72	Calm	0	0		0	Haze		Calm	0	0	Clear	

UNITED STATES SERIES—Continued.

Stations	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 1—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.95	760.7	30.01	762.2	77	25.0	86	SE	6	2.7		5cs	5s	Calm	SE	1.34	34.0	Cloudy	
Newport, Rhode Island	29.96	761.0	30.01	762.2	71.5	21.9	78	SW	1	0.4		2c	Haze	Calm		0	0	Fair	
New York, New York	29.86	758.4	30.02	762.5	75	23.9	72	SW	3	1.3		5cs	Haze	SE	Calm	0	0	Fair	
Norfolk, Virginia	30.06	763.5	30.11	764.8	82	27.8	67	SW	6	2.7		0	0			0	0	Clear	
North Platte, Nebraska	27.44	697.0	30.09	764.3	45	7.1	80	NE	16	7.2		5k	5s	NW		0	0	Cloudy	
Olympia, Washington Ter.	30.18	766.6	30.22	767.6	54.5	12.5	93	N	2	0.9		5cs	0	SW		0	0	Fair	
Omaha, Nebraska	29.10	739.1	30.22	767.6	48	8.9	78	N	8	3.6		0	0			0.82	20.8	Clear	
Oswego, New York	29.66	753.4	29.98	761.5	60	15.6	82	S	1	0.4		5c	0	SW		0.24	6.1	Fair	
Pembina, Dakota	29.53	750.0	30.38	771.6	38	3.3	91	Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa	29.90	761.7	30.04	763.0	76	24.4	77	SW	5	2.2		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28.80	731.5	30.57	776.5	62	16.7	36	SE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.92	455.2	30.13	765.3	14	—10.0	100	Calm	0	0			Fog			0.12	3.0	Foggy	
Pioche, Nevada					51	10.6	28	N	12	5.4		1c	0	NW		0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	29.99	761.7	74	23.3	68	SW	5	2.2		5ck	0	SW		0.46	11.7	Fair	
Port Huron, Michigan	29.25	742.9	29.91	759.7	47	8.3	100	N	7	3.1			Fog		Calm	1.11	28.2	Foggy	
Portland, Maine	29.86	758.4	29.91	759.7	75	23.9	72	Calm	0	0		Haze	0	Calm		0	0	Clear	
Portland, Oregon	30.19	766.8	30.27	768.8	57.5	14.2	91	S	1	0.4		1ck	0	SW		0	0	Clear	
Prescott, Arizona	24.89	632.2	30.25	768.3	45	7.2	31	NE	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.25	742.9	30.07	763.8	70	21.1	80	SE	3	1.3		0	0			Inap.	Inap.	Clear	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	74	23.3	68	E	9	4.0		0	0			0	0	Clear	
Red Bluff, California	29.73	755.1	30.08	764.0	68	20.0	60	NW	4	1.8		1c	0	NW		0	0	Clear	
Rio Grande City, Texas	29.88	758.9	30.09	764.3	74	23.3	90	Calm	0	0		2c	0	Calm		0.93	23.6	Clear	
Rochester, New York	29.35	745.5	29.93	760.2	74	23.3	72	W	2	0.9		5ck	0	W		Inap.	Inap.	Fair	
Roseburg, Oregon	29.70	754.4	30.28	769.1	53	11.7	90	Calm	0	0		1ck	0			0	0	Clear	
Sacramento, California	29.97	761.2	30.05	763.3	64	17.8	79	Calm	0	0		8c	0	Calm		0	0	Fair	
St. Louis, Missouri	29.42	747.3	29.98	761.5	57	13.9	87	N	10	4.5			10s		Calm	0.98	24.9	Cloudy	
St. Marks, Florida	30.12	765.0	30.14	765.5	73	22.8	76	SE	8	3.6		2c	1s	NW	Calm	0	0	Fair	
St. Paul, Minnesota	29.38	746.2	30.22	767.6	49	9.4	64	N	12	5.4		0	0			0	0	Clear	
Salt Lake City, Utah	25.93	658.6	30.26	768.6	54	12.2	43	NE	7	3.1		0	0			0	0	Clear	
San Antonio, Texas	29.40	746.7	29.97	761.2	69	20.6	48	N	12	5.4		5c	0	N		0	0	Fair	
San Diego, California	29.90	759.4	29.97	761.2	64	17.8	73	Calm	0	0		0	0			0	0	Clear	
Sandusky, Ohio	29.27	743.4	29.91	759.7	70	21.1	85	SW	12	5.4		10k	0	SW		0.08	2.0	Cloudy	
Sandy Hook, New Jersey	29.99	761.7	30.02	762.5	75	23.9	77	Calm	0	0		2c	Haze	NW	Calm	0	0	Hazy	
San Francisco, California	30.02	762.5	30.09	764.3	59	15.0	82	SW	1	0.4		2k	5s	W	SW	0	0	Fair	
Santa Fé, New Mexico	23.51	597.1	30.05	763.3	44	6.7	52	E	10	4.5		2k	0	W		Inap.	Inap.	Clear	
Savannah, Georgia	30.09	764.3	30.18	766.6	78	25.6	73	S	1	0.4		1c	Haze	S	Calm	0	0	Clear	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	68	20.0	74	NW	10	4.5		2c	5s	NW	NW	0.60	15.2	Fair	
Silver City, New Mexico	24.49	622.0	30.79	782.1	41	5.0	48	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.17	766.3	30.20	767.1	76	24.4	82	SW	2	0.9		5k	0	SW		0	0	Fair	
Springfield, Massachusetts	29.87	758.7	29.99	761.7	77	25.0	77	S	3	1.3		5cs	0	W		0	0	Fair	
Stockton, Texas	27.21	691.1	30.21	767.3	59	15.0	23	Calm	0	0		0	0			0	0	Clear	
Thatcher's Island, Mass	29.90	759.4	29.96	761.0	64	17.8	83	SW	8	3.6		0	0			0	0	Clear	
Toledo, Ohio	29.24	742.7	29.89	759.2	70	21.1	90	W	10	4.5			10s		SW	0.58	14.7	Cloudy	
Tucson, Arizona	27.57	700.3	30.12	765.0	57	13.9	30	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.93	760.2	30.43	772.9	56.5	13.6	78	E	4	1.8		8ck	0	W		0	0	Fair	
Uvalde, Texas	29.25	742.9	30.06	763.5	67	19.4	55	Calm	0	0		2c	0	W		0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	75	23.9	86	SW	5	2.2		5cs	2s	Calm	SW	1.06	26.9	Fair	
Virginia City, Montana	24.06	611.1	30.03	763.0	44	6.7	76	Calm	0	0		0	0			0.15	3.8	Clear	
Visalia, California	29.67	753.6	30.04	763.0	61	16.1	66	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.	29.74	755.4	30.05	763.3	79	26.1	70	SW	5	2.2		0	0			0	0	Clear	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.11	764.8	30.18	766.6	76	24.4	73	W	4	1.8		5ck	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.92	658.4	30.28	769.1	49	9.4	44	NE	12	5.4		10cs	0	NW		0	0	Cloudy	
Wood's Holl, Mass	29.96	761.0	29.99	761.7	63	17.2	88	SW	4	1.8		Haze	0	Calm		0	0	Clear	
Yankton, Dakota	29.06	738.1	30.39	771.9	42	5.6	74	NW	4	1.8		8ck	0	NW		0.02	0.5	Cloudy	
Yuma, Arizona	29.77	756.1	29.93	760.2	72	22.2	30	N	3	1.3		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark																			
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	81	27.2	74	NE	1.2	0.5		0	4ks		E	0	0	Cloudy	J. B. Gordon.
Kingston, Jamaica, W. I																			Chas. Hasselbrink.
Medellin, Colombia, S. A	25.28	642.1			66.5	19.2	85	Calm			0	0	4ks			0.06	1.5		James Gall.
Navassa, W. I	29.85	758.2	29.93	760.2	77	25.0		E								0.42	10.7	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	81	27.2	83	E			1	3c	4k	E		0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I																			O. J. Hering.
St. Thomas, W. I																			Robert Mason.
York Factory, B. A																			G. O. Gellich.
																			J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches; Boise City, 2.96 in.; Camp Grant, 4,800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.11‡	764.8‡			76	24.4	86	SE	10	4.5			5		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.10‡	764.5‡			60	15.6	88	NE			1		10n		NE	0.30	7.6			Raining	
Adams, N. 0° 16′, W. 81° 27′	30.11‡	764.8‡			75	23.9	95	W			3		8		W			Mod'ate	S;W	Fair	
Alaska, Sitka, Alaska	29.84‡	757.9‡			52	11.1	93	Calm			0					0.15	3.8			Rain and fog	
Alliance. N. 38° 22′, W 9° 10′	30.20‡	767.1‡			64	17.8	73	NW			1-2		1							Pleasant	
Colorado, New York, N. Y.	30.00‡	762.0‡			80	26.7	66	Calm	0	0			1		S;W	0	0			Clear	
Constitution, N. 39° 04′, W. 73° 47′	29.98‡	761.5‡			63	17.2	94	SW			2		0					Smooth		Hazy	
Despatch, N. 27° 05′, W. 24° 38′	30.25‡	768.3‡			71	21.7	80	ENE			3		7		Calm	0	0	Light	NNE	Fair	
Enterprise, Havre, France	29.80‡	756.9‡			60	15.6	71	W			2		8		W					Showery	
Franklin. Norfolk, Va.	30.09‡	764.3‡			77	25.0	77	WSW	8 4	3.8			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.93‡	760.2‡			52	11.1	86	WNW			4		10		W	0	0			Cloudy	
Kearsarge, Portsmouth, N. H.	29.94‡	760.5‡			73	22.8	85	Calm			0		0							Clear	
Marion, Vera Cruz, Mexico	29.91‡	759.7‡			81	27.2	91	S			2		5		Var.			Mod'ate	S;W	Cloudy	
Michigan, Erie, Pa					66	18.9	79	SW			4		10		W					Cloudy	
Monocacy. Shanghai, China	30.26‡	768.6‡			67	19.4	79	ENE			1		2		ENE					Clear	
Monongahela, Yokohama, Japan	30.09‡	764.3‡			65	18.3	84	NW			2-3		10			Mod'ate	Mod'ate			Raining	
New Hampshire, Port Royal, S. C.	30.16‡	766.1‡			78	25.6	65	S	5	2.2			2		SSE	0	0			Clear	
Onward, Callao, Peru.†	30.03‡	762.7‡			63	17.2	89	SSE			3		10					Long	W	Misty	
Palos, Shanghai, China	30.05‡	763.3‡			64	17.8	94	E			1		8							Misty	
Passaic, Washington, D. C.					73	22.8	??	SW			2		0			0	0			Clear	
Pensacola, Callao, Peru	30.04‡	763.0‡			64	17.8	89	SSE	9	4.0			10			0	0		W	Misty	
Portsmouth. N. 30° 30′, W. 75° 34′	30.13‡	765.3‡			72	22.2	??	SW			3		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.10‡	764.5‡			74	23.3	86	SW			2		0							Clear	
Quinnebaug, Smyrna, Turkey	30.00‡	762.0‡			79	26.1	58	WSW			4		0							Clear	
Ranger, Amoy, China	29.95‡	760.7‡			74	23.3	81	NE			2		10		Calm					Overcast	
Richmond, N. 38° 24′. E. 119° 39′	29.94‡	760.5‡			66	18.9	79	SSE			2		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.99‡	761.7‡			71	21.7	100	N			3		5		N	1.52	38.6			Fair	
Santee, Annapolis, Md.	30.03‡	762.7‡			79	26.1	70	Var.			1		0			0	0			Clear	
Saratoga, N. 31° 20′, W. 15° 40′	30.27‡	768.8‡			66	18.9	64	ENE			5		8		S;W	0	0	Mod'ate	ENE	D. clouds	
St. Louis, League Island, Pa	30.03‡	762.7‡			76	24.4	82	W	5	2.2			0			0	0			Clear	
Trenton, Barcelona, Spain	30.03‡	762.7‡			69	20.6	91	SW			3		5		S;W	0	0	Mod'ate	S;E	Fair	
Tuscarora, Acapulco, Mexico	29.85‡	758.2‡			82	27.8	79	Calm			0		8		Calm	0.2	5.	Smooth		Showery	
Vandalia, Key West, Fla	29.95‡	760.7‡			79	26.1	78	NNE			2		2		NE	0	0			Fair	
Wabash, Boston, Mass	29.94‡	760.5‡			72	22.2	90	W	5	2.2			0			0	0			Clear	
Wyoming, Leghorn, Italy	30.04‡	763.0‡			68	20.0	74	WSW			2		8		W			Smooth		Cloudy	
Wachusett, Boston, Mass	29.92‡	760.0‡			77	25.0	73	WSW			2		0							Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Millimeters.	Temperature of the air. Fahrenheit.	Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S. S. City of Tokio Capt. Maury N. 39° 46′, E. 151° 56′		30.26‡	768.6‡	55	12.8		E			2		10			0	Mod'ate	NE	Hazy	L. B. Walls.
S. S. Colima, N. 13° 16′, W. 89° 04′ †.		29.98‡	761.5‡	82	27.8		N			2		4		NW	0.01 in. or 0.3 mm	Mod'ate ground	SSW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, N. 45° 00′, W. 124° 47′ †.		30.26‡	768.6‡	57	13.9	94	NW			4		1		W		Light	NW	Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 10° 00′, W. 169° 29′		30.03‡	762.7‡				SSW			3				S		Mod'ate	SE	Fine	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 23° 47′, E. 117° 59′		29.87‡	758.7‡	75	23.9	95	ENE			5		4n				Mod'ate	ENE	Showery	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalfe																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Near mouth of Mississippi		29.99‡	761.7‡	72.0	22.2	68	SE			5		2		SE	0	Long	SE	Hazy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer. N. 43° 22′, W. 53° 08′		30.00‡	762.0‡	64.0	17.8	86	W			4		2		W	0	Mod'ate	W	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 40° 01′, W. 66° 09′		30.16‡	766.1‡				SW			4		8		W		3	SW	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.48‡	748.8‡	65	18.3	78	SW			3		4		SW	Mod'ate			Fair	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City La		30.02‡	762.5‡	79	26.1	82	Calm	0	0			10n			1.19 in. or 30.2 m.			Raining	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N 33° 27′, W. 78 00′....†		30.22‡	767.6‡	78	25.6		S			2		0			0	Smooth	SE	Clear	N. B. Foss.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I		29.83‡	757.7‡				NE	3	1.3			2		E	0	Long	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden N. 36° 05′. W. 57° 47′.....†		30.00‡	762.0‡	72	22.2	90	ENE			4		8		E		Smooth	E	Cloudy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith										1									L. Dunbar.
Schooner Henry Whitney, N. 32° 47′, W. 78° 55′....†		30.20‡	767.1‡	78	25.6		S						S		0	Smooth		Blue sky	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

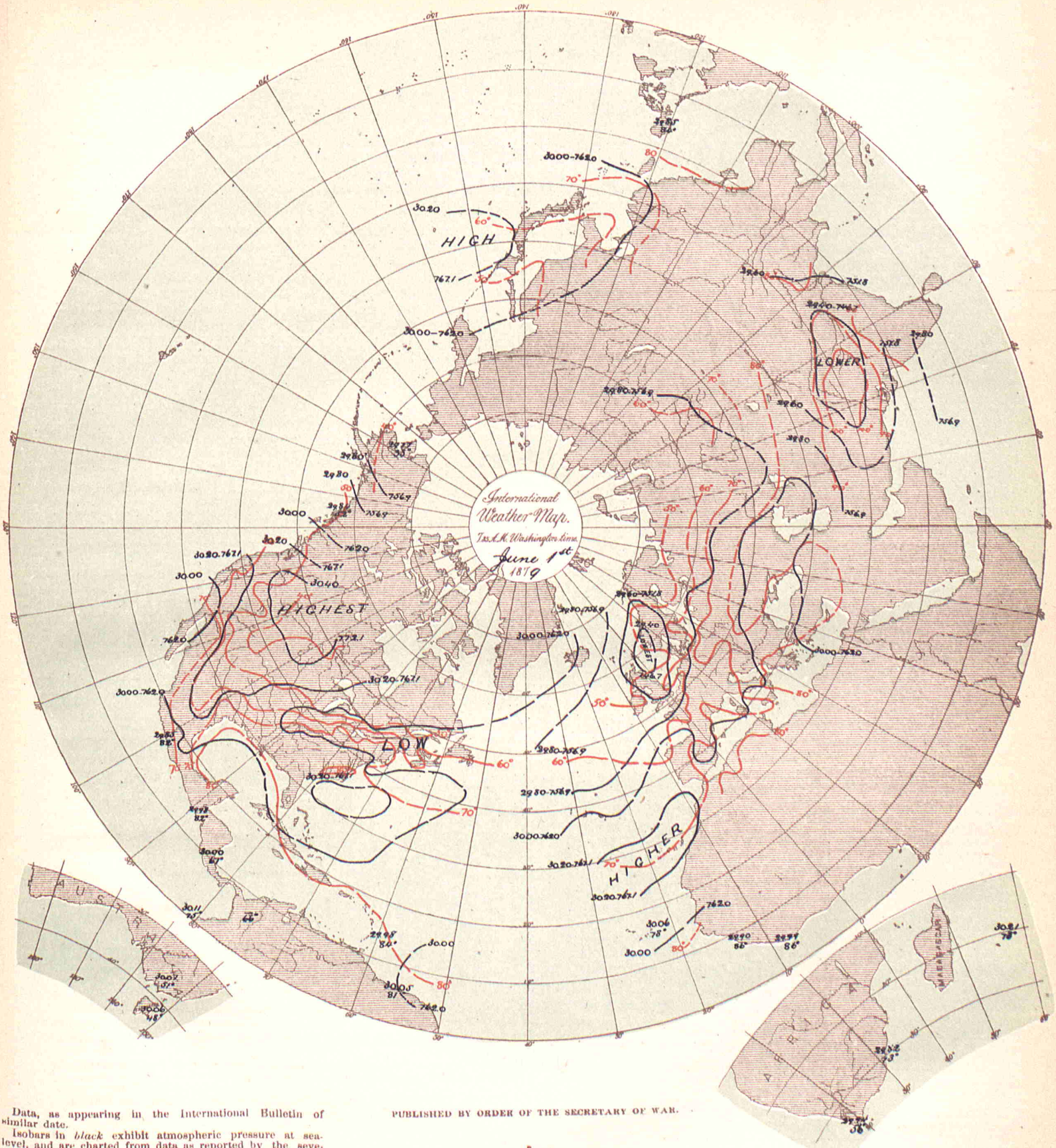
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 2, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.13	765.4	74.1	23.4	66	NNW			1		0			0	0	Clear	Kesxuche.
Algiers			30.10	764.4	70.5	21.4	57	NE			1		0			0	0	Clear.	Tourliiere.
La Calle			30.13	765.4	67.6	19.8	87	NE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.24	768.0															Gau.
Saida			30.17	766.2	81.3	27.4	1	N			1		0			0	0	Clear	Herbin.
Tebessa			30.19	766.9	84.2	29.0	29	W			2		5			0.252	6.4	Cloudy	Watrin.
Geriville			30.18	766.6	84.4	29.1	45	NW			1		2			0	0	Fair	Brugniaux.
Laghouat			30.15	765.8	86.7	30.4	33	E			3		5			0	0	Cloudy	Bertrand.
Biskra			30.16	766.0	83.8	28.8	59	SE			1		10			0	0	Covered	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.0	29.95	760.6	65.1	18.4	53	W			2		10			0.055	1.4		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.5	29.86	758.4	69.8	21.0	64	NW			3		7			0.390	9.9		Dr. Wierzbiski.
Eperies	28.93	734.9	29.78	756.3	72.3	22.4	71	S			3		10k			0.404	10.25		Julius Mikolik.
Gratz	28.75	730.3	29.98	761.4	63.5	17.5	81	E			2		8			0.094	2.4		Andreas Rospini.
Hermannstadt	28.51	724.2	29.87	758.7	77.5	25.3	63	SE			2		8			0.291	7.40		Prof. A. Gottschling.
Kremsmünster	28.67	728.2	29.98	761.4	65.3	18.5	68	WSW			3		5			1.004	25.5		Prof. C. Wagner.
Lemberg	28.84	732.5	29.78	756.4	78.4	23.0	68	S			2		7			0.803	20.4		Dr. T. Stanecki.
Pola	29.95	760.6	30.05	763.3	71.4	21.9	72	WSW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.45	747.9	29.89	759.1	79.3	26.3	58	SW			2		6			0	0		Julius Csics, S. J.
Szegedin	29.64	752.8	29.91	759.6	74.1	23.4	61	SW			1		5			0	0		Karl Stancel.
Trieste	29.96	761.0	30.06	763.6	69.8	21.0	81	SW			1		7			Inap.	Inap.	Almost cl'dy	P. Busin.
Vienna	29.26	743.2	29.95	760.8	64.9	18.3	68	W			3		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Meters.	Weather.	Observer
Aberdeen	29.46	748.3	29.56	750.8	46.5	8.1		E	15	6.7			3			0.095	2.42	Blue sky	W. Boswell.
Ardrossan	29.50	749.3	29.52	749.8	55	12.8		NW			3		3					D. clouds	Wm. Neil & G. Carrick.
Armagh, Observatory			29.60	751.8	55.7	13.2		NNW	4	1.8			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.62	752.3	53.2	11.8		W	15	6.7			1					Blue sky	John Hartnup.
Bolton (Sharples)			29.62	752.3	53.7	12.1		WSW	18	8.0			2					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.22	742.2	29.61	752.1	57.3	14.1		W			3		5			0.11	2.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	84	28.9		SE			1		6					Gloomy	Pvt. G. Surgener, A.
Cambridge, Observatory	29.58	751.3	29.67	753.6	59.0	15.0		SW			1		10					Overcast	H. Todd.
Cardington			29.64	752.8	64.0	17.8		SW			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.58	751.3	29.71	754.6	57.8	14.3		SW			2		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.55	750.6	29.60	751.8	53	11.7		WNW			3		5					D. clouds	J. Mac Gowan.
Dover	29.73	755.1	29.75	755.6	55	12.8		WSW			5		10					Raining	J. Costello.
Falmouth, Observatory	29.42	747.3	29.65	753.1	52.5	11.4		SSE			3		10					Raining	The Staff.
Fort Napier (Natal)	27.51	698.7	29.80	756.9	81.5	27.5		NW			3		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	86.5	30.5		E			1		3					D. clouds	
Galway, Queen's College			29.60	751.8	54	12.2		N			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.02	762.5	30.07	763.8	72.8	22.7		W			4		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.31	744.5	29.52	749.8	55.8	13.2		WNW			1		4					D. clouds	D. G. Maclean. [C.
Great Yarmouth	29.68	753.9	29.68	753.9	54	12.2		S			3		5					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.52	749.8	29.69	754.1	59.2	15.1		SW			4		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.50	749.3	29.72	754.9	56.5	13.6		SSE			3		10					Raining	Dr. S.E.Hoskins,F.R.S.
Helston	29.65	753.1	29.77	756.1	56	13.3		S			2		10n			0.20	5.1	Raining	M. P. Moyle.
Holyhead	29.63	752.6	29.64	752.8	56	13.3		WSW			2		0					Blue sky	John Tilston.
Jersey	29.49	749.0	29.75	756.4	54.8	12.7		SW			4		10					Raining	J. Fisher.
Kew, Observatory	29.67	753.6	29.70	754.4	54.9	12.7		W	12	5.4			10					Raining	The Meteorological Of.
Leicester, Museum	29.39	746.5	29.64	752.8	58.0	14.4		W			1		9					D. clouds	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.94	760.5	30.02	762.5	73	22.8		N			2		3k					Blue sky	A. King.
Nairn	29.49	749.0	29.58	751.3	51	10.6		NE			2		0			Blank	Blank	Clear	W. D. Penny.
Nassau (Bahamas)			30.02	762.5	77.0	25.0		E			1		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.45	748.0	29.64	752.8	62.2	16.8		SSW			4		6k;ks;ck;c]		WSW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.63	752.6	60.0	15.6		SW			3		7					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.68	753.9	53	11.7		W			1		10					Showery	H. E. Bellamy.
Plymouth	29.60	751.8	29.67	753.6	51.1	10.6		S			1		10					Raining	John Merrifield.
Prince Town	28.24	717.3	29.69	754.1	46.6	8.1		W			2		10					Raining	W. H. Tooker.
*Roche's Point	29.56	750.8	29.66	753.4	55	12.8		ESE			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.48	748.8	29.64	752.8	52	11.1		S			1		10					Gloomy	John C. Walker.
Sandwick Manse (Orkneys)			29.62	752.3	48.2	9.0		N	16	7.2			8			0	0	D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.89	759.2	29.95	760.7	74.2	23.4		SW			1		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.36	745.7	29.64	752.8	56.7	13.7		W			3		5			0.15	3.8	Overcast	W. F. Cooper.
Silloth Rectory	29.54	750.3	29.57	751.1	54.6	12.6	80	W			5		5			0.162	4.11	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.23	742.4	29.63	752.6	53.8	12.1		SW			3		5					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.44	747.8	29.66	753.4	56.9	13.8		SW			1		10					Raining	Re .C.H.Griffith,F.M.S.
Truro, Royal Institution	29.60	751.8	29.63	752.6	55	12.8		W			6		10					Raining	W. Newcombe.
Valencia, Observatory	29.55	750.6	29.57	751.1	57.4	14.1		NE	16	7.2			7					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.98	761.5	58.5	14.7	95	NW	11	4.9		10?	10			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.15	765.8	44.0	6.7	61	S			2		4k			0.02	0.5		Francis Abbott,F.R.A.S.
Leith, Restalrig Park			29.56	750.8	51.1	10.6		E			2		6k			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.19	766.7	72.7	22.6	61	E	16.0	7.2		1	2	NW	ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	51.6	10.9	90	WNW	3	1.3			10			0	0	Threatening	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.64	752.8	50	10.0		N			4	3	5	N		0.2	5.		J. Youngclause.
North Unst (Shetland Is.)			29.57	751.1	48	8.9		N			4	5	5	N					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn.."																			Capt. W. J. L. Wharton.
§Brig Alliance, N. 49 .00', W. 23° 42'			29.75‡	756.4‡	57.1	13.9		ENE			4		10					Showery	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
—— City of Agra																			Capt. Thos. Young.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N 28° 10', W. 64° 40'			30.05	763.3	75	23.9		NE			3		4		WSW	3	NNE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 40° 00', W. 70° 10'			29.97	761.2	63	17.2		S			4		2			2	SSW	Misty	Capt. W. Randall.
Barque Mertole																			Capt. E. W. Turner.
S. S. Nizam, N. 17° 07', E. 64° 08'			29.71‡	754.6‡	85	29.4		WSW			5		9k		W			Overcast	Capt. Barlow.
S. S. Royal Alexandra, N. 48° 45', W. 19° 10'			29.65	753.1	53	11.7		NNE			6		8			6	NE	Drizzling	W. P. Hughes.
S. S. Strathleven																			Capt. C. W. Pearson.
S. S. Wyberton																			Capt. W.R. McMontry.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Clouds. Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.27	667.2	29.90	761.7	68.4	20.2	93	Calm			0		10s			0	0		Federico Maison.

NOTE.—For St. Jose the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,146 meters, or 3,757 feet; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. corr. Inches.	Millimeters.	Bar. red. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Low'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.
Copenhagen	29.71	754.7	29.76	755.9	60.3	15.7	68	SSW			4		10					
Fanöe	29.68	753.9	29.70	754.4	54.8	12.4	63	WSW			4		9					
Godthaab (Greenland)	29.82	757.5	29.87	758.6	41.2	5.1	94	Calm			0		10					Raining
Stykkisholm (Iceland)	29.86	758.5	29.91	759.6	45.7	7.6	98	W			4		0					
Thorshavn (Faröe)	29.73	755.2	29.77	756.1	46.0	7.8	75	NE			2		8					
Vestervig	29.50	749.3	29.67	753.6	49.1	9.5	78	SW			4		7					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. corr. Inches.	Millimeters.	Bar. red. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Low'r 0—10.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	Observer
Alençon, Normal School	29.34	745.1	29.89	759.1	64.0	17.8	78	SW			1		8		W	0.087	2.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.59	751.6	29.66	753.3	64.8	18.2	78	S			1		5		NE	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.59	751.5	29.84	757.9	61.7	16.5	56	SW			4				W	0.883	2.1		Klein, Commandant.
Avignon, Normal School	30.01	762.2	30.09	764.2	75.2	24	51	S			1		0			0	0	Very cloudy	Giraud Director.
Bar-sur-Seine	29.41	747.1	29.95	760.8	66.7	19.3	39	SW			1		5ku		SW	0.217	5.5	Cloudy	O. Saillard, Director.
Beauvais, Normal School	29.60	751.9	29.86	758.4	64.4	18	55	SW			4		8		SW	0.28	7.	Very cloudy	Frere Eugene Marie, Dr.
Besançon, Normal School	29.11	739.5	29.98	761.6	68.7	20.4	52	S			2		2		N;SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.21	741.8	30.13	765.2	69.6	20.9	44	S			4	c		W	W	0.130	3.3		Mariot, Director
Bourges, Normal School	29.39	746.5	29.93	760.1	69.8	20.7	53	S			3		5	S	S	0	0	Cloudy	M. Gence, Director
Brest, Naval Observatory	29.41	747.1	29.66	753.3	54.7	12.6	90	SW			4		10		SW	0.089	2.25	Raining	De Kermaree, Director.
Carcassonne, Normal School	29.61	752.0	30.01	762.2	71.6	22.0	59	E			3		5	E	E	0.35	9.	Cloudy	September, Director.
Caen, Normal School	29.68	753.9	29.75	755.7	63.3	17.4	70	SW			3		5		SW	0.04	1.	Cloudy	Lair, Director.
Chartres, Normal School	29.37	745.9	29.93	760.1	61.9	16.6	92	SSW			3		10		WSW	0.445	11.3	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.64	752.8	29.95	760.6	65.5	18.6	43	SW			3		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.6	29.91	759.7	71.1	21.7	43	SW			2		10		SW	0	0		Alluard, Director.
Commercy, Normal School	29.13	739.8	29.97	761.2	64.0	17.8	49	SW			4		5kn		SW	0.094	2.4	Cloudy	Dr. Goulet, Director.
Commune de Gréasque*	29.04	737.6	30.18	766.6	71.1	21.7	39	SW			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.32	744.6	30.06	763.5	70.7	21.5	40	SW			1		5ck	W		0.114	2.90	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.62	752.3	29.83	757.6	63.0	17.2	67	SE			3		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.56	750.9	29.87	758.6	65.3	18.5	67	S			4		5	SW	SW	0.31	8.	Cloudy	Porrier, Director
Lons-Le-Saulnier, N. School	29.13	740.0	30.00	762.0	69.8	21	65	SW			2		5	SW	SW	0.12	3.	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.68	753.9	29.78	756.4	55.4	13.0	90	S			5				S	0.165	4.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory	29.53	757.6	30.10	764.6	70.0	21.1	61	WSW			1		2			0	0	Slightly cl'dy	E. Stephan, Director
Mirecourt, Normal School	28.98	736.2	30.02	762.5	65.1	18.4	51	NNE			1		5		NNE	0	0	Cloudy	Barbier, Director.
Nismes, Normal School	29.87	758.6	30.07	763.6	75.2	24	51	SW			1		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	29.05	737.9	30.05	763.2	70.7	21.5	46	NW			1		n	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.16	639.0			44.2	6.8	91	S			4		8			0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.75	755.7	29.78	756.5	68.4	20.2	67	S			3		10	S	S	0.12	3.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.77	756.1	29.85	758.3	58.6	14.8	75	SE			2		8		S	0.091	2.3	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.78	755.2	29.76	756.0	59.9	15.5	63	SW			6		8	SW	SW	0.405	10.28	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.3	29.90	759.5	61.9	16.6	62	SSW			2-3				SSW	0.051	1.3		E. Renou, Director.
Tarbes, Normal School	29.06	738.1	30.09	764.3	75.2	24	60	SW			2		2	W	SSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.30	744.2	30.02	762.6	72.0	22.2	56	SSE			3		4			0	0		M. Julier Mercadier.
Versailles, Observatory	29.40	746.8	29.89	759.3	62.2	16.8	59	SW			4					0.051	1.30		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.25	742.9	29.93	760.3	74.3	23.5	80	SE			3		5		NE	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	82.4	28										0	0		L'Abbé [illegible]
Lyons Obs'y (Park Station)	29.42	747.2	30.02	762.4	71.2	21.8	84	S			2	8c				0.048	1.10		Ch. André, Director.
Mont-Louis	24.93	633.1	30.24	768.1	55.4	13.0	52	SW	24.2	10.8			3		W	0.433	11.0		M. Cave.
Nice			30.05	763.2	69.8	21.0	65	S			6		2			0	0	¼ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y																0.047	1.2		Marié Davy, Director.
Perpignan	29.92	760.0	30.03	762.7	69.6	21.0	64	SE	7.4	3.3			1			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.55	572.7			33.8	1.0		SW			4		10			0.017	0.42	Threatening	Gen'l de Nansouty.
Tours	29.66	753.8	29.85	758.3	68.2	20.1	41	S			3		10		SSW	0.067	1.7		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	30.04	763.0	30.07	763.7	63.0	17.2	91	ENE	5.6	2.5			1k			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a.m., except St. Maur 10 p. m., local time, and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.3	29.99	761.7	66.9	19.4	45	SW			4		6	SW		0.039	1.9		Prof. Dr. Hoh.
Berlin	29.73	755.1	29.89	759.3	70.5	21.4	42	W			4		7			0	0		Prof. Dr. Arndt.
Breslau	29.41	747.0	29.94	760.4	70.0	21.1	44	WNW			2		10			0	0		Royal University Obs'y.
Carlsruhe	29.58	751.2	29.99	761.8	65.5	18.6	52	SW			2		10	SW		0	0		Albert Sens.
Cassel	29.36	745.7	29.96	761.0	63.0	17.2	51	WSW			7		5	SW		0.058	1.36		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	64.2	17.9	51	S			7		9			0	0		Director Lose.
Emden			29.81	757.2	56.5	13.6	81	SW			2		10			0.445	11.3		Prof. Dr. Prestel.
Frankfort on the Main	29.63	752.3	29.98	761.5	66.2	19.0		SSW			5		8			0.008	0.2		Physical Society.
Freienwalde on the Oder	29.84	757.8	29.87	758.8	72.3	22.4	40	WSW			5		7k;ks	WSW		0	0		Dr. Assmann.
Friedrichshafen	28.62	727.0	30.04	762.9	61.7	16.5	70	SSW			3		2	W		0	0		M. Wilhelm.
Hamburg	29.76	755.9	29.83	757.7	61.9	16.6	71	SW			5		8kn	SW		0.051	1.3	Squally	Captain F. Hegema.
Kiel	29.76	756.0	29.78	756.4	56.8	13.5	82	SW			4		7			0.481	12.22		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.77	756.2	29.85	758.3	68.5	20.3	68	NE			3		6			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.51	749.5	29.91	759.8	70.9	21.6	34	SW			4		8	WSW					Prof. Bruhns, Privy Counsellor.
Memel	29.81	757.2	29.56	758.4	63.1	17.3	68	WNW			2		9s;n			0	0		Skalweit.
Munich (München)	28.21	716.6	30.08	764.0	63.9	17.7	49	W			4		5	W		0.571	14.5	Raining	Dr. C. Lang.
Neufahrwasser	29.82	757.5	29.84	757.9	68.0	20.0	67	ENE			3		8			0.094	2.4		A. Lothes.
Posen	29.62	752.3	29.89	759.3	73.0	22.8	38	SW			4		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.48	748.7	30.01	762.3	66.9	19.4	44	W			3		7	W		0	0		Imp. University Observatory.
Stuttgart	29.05	737.8	29.96	761.0	68.9	20.5	34	W					5	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.50	724.0	29.97	761.2	64.2	17.9	56	W	11	5			6ck	W	W	0.472	12.0		T. Hopfner.
Wustrow	29.80	756.9	29.82	757.5	60.1	15.6	75	SW			3		8cs			0	0		E. Schultz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.6	30.01	762.2	84.6	29.2		SW			2.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.47	748.6	29.52	749.9	91.1	32.8	65	SW					5			0	0	D. clouds	
Deesa	29.07	738.4	29.53	750.0	96.3	35.7	35	SW	28.9	12.9			0			0	0	Squally	
Bombay	29.70	754.2	29.73	755.2	84.3	29.1	83	SW	14.0	6.3			10		SW	0.12	3.0	Overcast	
Poona	27.70	703.4	29.68	753.9	80.4	26.9	65	WSW					2		WSW	0	0	D. clouds	
Lahore	25.54	726.0	29.23	742.5	106.3	41.3	25	Calm	4.3	1.9						0	0	Misty	
Belgaum	27.27	692.6	29.81	757.3	74.5	23.6	84	W	14.0	6.3			8	W	W	0.01	0.3	Showery	
Roorkee	28.46	722.8	29.32	744.6	94.8	34.9	48	SE	1.0	0.7			0			0.35	8.9		
Agra	28.77	730.7	29.29	744.0	107.6	42.0	25	NW					1			0	0		
Nagpur	28.54	724.8	29.56	750.8	83.7	28.7	77	Calm	8.2	3.7			9		E	0	0	Gloomy	
Lucknow	28.99	736.3	29.35	745.4	95.1	35.1	50	SSE	2.0	0.9			0			0	0	Blue sky	
Allahabad	29.08	738.5	29.37	746.1	96.3	35.7	53	ESE	2.8	1.2			2			0.01	0.3	D. clouds	
Patna	29.21	741.8	29.39	746.4	80.9	27.2	87	SW	2.1	0.9			8	SW	SW	0.17	4.3	D. clouds	
Hazaribagh	27.39	695.7	29.38	746.2	76.3	24.6	92	WNW	7.8	3.5			10			1.10	27.9	Raining	
Cuttack	29.42	747.2	29.50	749.2	86.3	30.2	63	W	9.0	4.0			6					Drizzling	
Calcutta (Alipore)	29.43	747.5	29.45	748.1	84.7	29.3	79	S	10.0	4.5			10	SSW	SSW	0	0	Overcast	
Goalpara	29.12	739.7	29.51	749.6	73.8	23.2	97	NE	8.2	3.7			10			4.94	125.5	Raining	
Chittagong	29.51	749.6	29.60	751.9	81.4	27.4	91	SSE	8.3	3.7			10			0	0	Gloomy	
Sibsagar	29.23	742.3	29.56	750.7	81.5	27.5	89	NW	2.9	1.3			10	W	W	0.12	3.0	Gloomy	
Jubbulpore	28.14	714.8	29.48	748.7	86.3	30.2	64	SW	9.9	4.4			10			2.89	73.4	Misty	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for u-m'ta error and temperature. Inches.	Barometer. Corrected for u-m'ta error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.63	752.6	30.03	762.7	64.2	17.9	75	SE	1.8	0.8			9			0.492	12.5		Prof. Giovanni Clodig.
Milan	29.52	749.7	30.03	762.8	71.4	21.9	53	SW			2		5	W		0	0		Prof. Schiaparelli.
Padua	29.91	759.8	30.02	762.5	70.0	21.1	55	W	18.6	8.3			5	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.5	30.04	762.9	67.3	19.6	62	SSE	3.1	1.4			3			0	0		Prof. P. F. Denza.
Genoa	29.93	760.1	30.11	764.9	66.7	19.3	62	SE	13.7	6.1			4	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.14	714.7	30.00	761.9	66.0	18.9	64	SE			4		0?	WNW		0	0		Prof. D. C. Bruno.
Pesaro	30.00	762.1	30.05	763.3	74.8	23.8	48	SW	17.4	7.8			2	S		0	0		Prof. Luigi Guidi.
Florence	29.88	759.0	30.13	765.3	71.6	22.0	54	W			4		5			0	0		Cav. F. Meucci.
Leghorn	30.03	762.8	30.11	764.9	68.0	20.0	55	NW			6		3			0	0		Prof. P. Monte.
Rome	29.97	761.3	30.15	765.7	72.5	22.5	58	W	11.9	5.3			1			0	0		Prof. P. S. Ferrari.
Lecce	29.83	757.6	30.08	763.9	73.4	23.0	58	NNE	12.5	5.6			0			0	0		Prof. C. De Giorgi.
Cosenza	29.20	741.6	30.06	763.5	79.9	26.6	68	SE	4.3	1.9			0			0	0		Prof. D. Conti.
Cagliari	29.94	760.5	30.13	765.3	78.4	25.8	38	?			2		3	W		0	0		Prof. A. Pacinotti.
Palermo	29.89	759.2	30.14	765.5	68.9	20.5	60	NE	4.3	1.9			2			0	0		Prof. G. Cacciatore.
Syracuse	30.00	762.0	30.07	763.8	72.3	22.4	62	NNE	7.4	3.3			8	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.61	752.0	30.16	766.1	72.1	22.3	70	ENE	7.4	3.3			4	SW		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.07	763.8	30.08	764.0	65.1	18.4	87	Calm	0	0			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.82	757.4	30.02	762.5	67.0	19.4	86	N	1.6	0.7			10cs;s			0.100	2.54	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.09	764.3	30.16	766.0	60.8	15.7	92	NE	3.3	1.5			10s			0.015	0.38	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.11	637.8	30.11	764.7	59.9	15.5	63	E			2	0	8		E	0	0	Cloudy	Prof. L. Perez.
Leon	24.48	621.7	30.11	764.7	60.4	15.8	76	E			3	4c	4k	Calm	NE	0.008	0.2	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.8	30.20	767.1	52.2	11.2	85	NW	3.1	1.4			10ks			0.52	13.3	Covered	The Staff.
Pabellon (Aguascalientes)					61.2	16.2	69	NE			2		10k		NE	0	0	Covered	M. V. de Leon, M. E.
Tlacotalpam	30.02	762.5	30.03	762.8	73.9	23.3	89	N			4	4	6	SW	N	0.69	17.6	Rainy	M. M. Cházaro.
San Luis Potosi	24.26	616.1	30.17	766.4	62.4	16.9	64	ESE			1		10		E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.4	30.18	766.6	52.9	11.6	84	ENE			3		10k		NE	0	0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.48	596.5	30.25	768.3	53.6	12.0	84	NW	13.9	6.2		1	0	E		0.11	2.8	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.2	29.96	760.9	81.7	27.6	76	Calm			0	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.78	756.4	30.07	763.7	76.1	24.5	89	Calm			0	0	3			0	0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8m., or 7,111.3 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.81	757.1	29.81	757.1	59.4	15.2		WSW								0.079	2.0		
Groningen	29.69	754.2	29.75	755.6	55.9	13.3		SW			4					0.339	8.6		
Helder	29.75	755.6	29.75	755.6	55.2	12.9		SW			4					0.512	13.0		
Hellevoetsluis	29.78	756.5	29.78	756.5	55.0	12.8	87	SW			3					0.118	3.0		
Utrecht	29.78	756.3	29.82	757.5	55.9	13.3	84	SW			4		10			0.165	4.2	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.43	747.6	29.49	749.0	52.5	11.4	83	S	12.3	5.5	.....	.....	8	.....	.....	0.055	1.4	Light rain...	
Brönö	29.57	751.0	29.61	752.0	53.8	12.1	53	N	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.42	747.3	29.57	751.0	55.6	13.1	76	S	7	3	.....	.....	9	.....	.....	0.087	2.2	.....	
Tromsö	29.76	756.0	29.81	757.1	41.0	5.0	91	NE	38	17	.....	.....	9	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m., local time.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.72	755.0	29.91	759.8	64.0	17.8	88	SW	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.09	738.7	30.09	764.2	72.1	22.3	30	SW	11.2	5.0	.....	.....	3	WNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.13	765.2	30.21	767.4	68.0	20.0	58	SW	11.9	5.3	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.1	30.13	765.2	63.1	17.3	77	SSW	23.7	10.6	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.92	759.9	29.98	761.7	64.8	18.2	94	SW	16.1	7.2	.....	.....	10	.....	.....	0.083	2.1	Light rain..	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from —	Weather.	Observer.
PORTUGUESE NAVAL SERIES. VESSELS.																			
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. } N. 4° 22'. W. 8° 07'.	.....	.....	29.96	760.9	81.5	27.5	.....	Calm	.....	.....	0	.....	6	.....	S;SSW	0	.....	D. clouds....	H. C. e Athayde.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando	.....	.....	29.88	758.9	79.2	26.2	.....	W	.....	.....	3	.....	6	.....	WNW	1	W	D. clouds....	J.C. M. Cabrate, 1st Lt.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands.	.....	.....	30.00	762.1	79.5	26.4	.....	NNE	.....	.....	2	.....	0	.....	.....	1	NNE	Blue sky.....	P. de Fairi.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.97	761.1	75.2	24.0	.....	N	.....	.....	5	.....	10	.....	.....	3	N	Overcast.....	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.42	747.2	29.83	757.6	65.7	18.7	70	NNW	11	5	.....	.....	8ks;k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.38	746.3	29.79	756.6	65.7	18.7	73	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.63	752.6	29.87	758.6	70.9	21.6	44	WSW	7	3	.....	.....	7ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.83	757.7	29.85	758.1	61.5	16.4	57	NW	16	7	.....	.....	1ks;cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.7	29.79	756.7	83.1	28.4	48	SW	9	4	.....	.....	8k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.99	761.7	30.06	763.5	82.6	28.1	42	SSW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.00	762.1	30.02	762.6	77.4	25.2	59	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.38	746.3	29.91	759.7	69.3	20.7	63	SSE	7	3	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.75	755.7	29.95	760.6	89.6	32.0	30	SSW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.63	752.5	29.65	753.0	49.8	9.9	84	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.62	726.9	29.96	761.0	81.7	27.6	40	E	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.12	765.1	30.04	763.0	84.7	29.3	27	SSW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.51	749.6	29.77	756.1	72.6	22.6	48	W	9	4	.....	.....	7	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.64	727.6	29.57	751.0	67.6	19.8	39	W	13	6	.....	.....	8ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.75	755.6	29.97	761.2	84.0	28.9	25	NNW	4	2	.....	.....	1s	.....	.....	.....	.....	.....	
Tashkend	28.32	719.2	29.79	756.7	83.1	28.4	47	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.03	737.4	29.52	749.7	58.1	14.5	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.27	743.5	29.56	750.8	46.6	8.1	86	WNW	18	8	.....	.....	10	.....	.....	.....	Raining.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.81	757.2	29.95	760.8	78.8	26.0	39	S	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.02	762.6	30.12	765.1	51.4	10.8	98	E	4	2	.....	.....	10k	.....	.....	.....	Foggy	.....	
Nikolaievsk, on the Amoor	29.41	746.9	29.85	758.2	78.8	26.0	41	NW	9	4	.....	.....	2k	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.98	761.5	30.08	764.1	69.8	21	59	S	2.1	0.92	.....	.....	2k;ck	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.78	756.5	29.84	757.9	71.1	21.7	60	S	3.2	1.41	.....	2	7	NW	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.7	.....	.....	69.1	20.6	32	SW	10.0	4.46	.....	.....	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.7	30.00	762.1	72.9	22.7	52	W	12.0	5.34	.....	3	6	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.91	759.7	30.06	763.4	73.8	23.2	92	NE	3.9	1.75	.....	1	3	ESE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.87	733.4	29.76	755.8	59.9	15.5	78	SW	26.2	11.7	.....	.....	7	.....	.....	0.972	24.7	Rainy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.93	760.1	29.99	761.8	81.4	27.4	74	ESE	3.4	1.5	.....	0	6k	.....	E	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.79	756.7	29.84	758.0	82.1	27.8	82	SW	7.4	3.3	.....	.....	5kn	.....	SW	0.114	2.9	Covered?.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764.3	30.19	766.8	69.6	20.9	66	WNW	11.2	5.0	.....	0	4	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.83	757.6	29.92	759.9	82.4	28.0	79	SE	3.1	1.37	.....	3s	1k	SE	SE	1.398	35.50	D. clouds.....	Leonardo de Tejeda, Ch't Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.78	756.4	29.82	757.4	46.9	8.3	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.75	755.6	29.80	756.9	45.0	7.2	83	E	.....	.....	2	.....	10	.....	.....	0.220	5.6	.....	
Hernosand	29.69	754.2	29.74	755.5	50 7	10.4	76	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.60	751.8	29.78	756.3	62.4	16.9	51	SSW	.....	.....	4	.....	2	.....	.....	0.067	1.7	.....	
Wisby	29.69	754.2	29.75	755.7	68.0	20.0	49	SSW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.65	753.0	29.72	754.9	63.7	17.6	56	S	15.0	6.7	.....	.....	7	SW	SW	0.051	0.13	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.42	721.8	30.02	762.4	66.9	19.4	50	W	.....	.....	2	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.99	761.7	75.7	24.3	53	ESE	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92	760.0	104.0	40.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.0	85.3	29.1	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.76	755.9	29.87	758.8	81.0	27.2	65	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.65	753.1	29.95	760.7	55	12.8	.....	Calm	0	0	.....	.....	10s	.....	NE	0.81	20.6	Cloudy	W. R. Bigg.
*Chatham, N. B	29.94	760.5	30.00	762.0	47	8.3	92	NE	10	4.5	.....	.....	10n	.....	NE	0.23	5.8	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.92	760.0	29.96	761.0	46	7.8	94	N	5	2.2	.....	.....	10n	.....	.....	0.370	9.40	Sprinkling	H J. Cundall, C. E.
Cornwall, Ontario	29.71	754.6	29.90	759.4	53.0	11.7	96	NE	.....	.....	1	.....	10n	.....	.....	0.740	18.80	Overcast	James Smith, M. A.
Dalhousie, N. B	29.87	758.7	30.03	762.7	47.8	8.8	87	E	.....	.....	1	.....	10n	.....	.....	.....	.....	Light rain	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.98	761.5	30.00	762.0	46	7.8	84	NE	32	14.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.92	760.0	51.5	10.8	90	E	15	6.7	.....	.....	10n	.....	NE	0.820	20.83	Raining	Prof. Harrison.
*Fort Garry, Manitoba	29.24	742.7	30.06	763.5	54	12.2	87	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.90	734.0	30.01	762.2	47	8.3	100	W	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Overcast	James Grant.
*Halifax, N. S	29.75	755.6	29.88	758.9	57	13.9	78	SE	5	2.2	.....	.....	10ks	.....	SE	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.02	762.5	54.7	12.6	91	NW	.....	.....	1	10cs	0	NW	.....	0.25	6.3	Raining	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.61	752.1	29.94	760.5	55	12.8	95	NW	6	2.7	.....	.....	10n	.....	NW	0.33	8.4	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.72	754.9	29.92	760.0	53	11.7	89	NE	12	5.4	.....	.....	10s	.....	.....	1.06	26.9	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.03	762.7	49	9.4	89	N	12	5.4	.....	5k	5ks	NE	NE	0.49	12.4	Cloudy	Rev. R. Mosly.
Peterboro, Ontario	29.23	742.4	29.98	761.5	53.5	11.9	93	Calm	.....	.....	0	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.32	744 7	30.02	762.5	50	10.0	93	SW	4	1.8	.....	.....	Haze	.....	.....	0.13	3.3	Cloudy	H. Morgan.
Port Hastings, N. S	29.87	758.7	29.92	760.0	50.6	10.3	.....	N	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.03	762.7	48	8.9	94	W	6	2.7	.....	.....	10n	.....	NW	0.41	10.4	Cloudy	M. Payne.
*Quebec, Quebec	29.64	752.8	29.96	761.0	51	10.6	86	NE	.....	.....	6	.....	10n	.....	NE	1.08	27.4	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.58	751.3	30.03	762.7	51	10.6	82	Calm	0	0	.....	.....	8s	.....	SW	0.56	14.2	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.80	756.9	29.85	758.2	52	11.1	91	SE	.....	.....	1	.....	10n	.....	.....	0.34	8.6	Cloudy	Dr. Gove.
St. John, N. B	29.72	754.9	29.88	758.9	55	12.8	100	E	6	2.7	.....	.....	10ks	.....	.....	0.07	1.8	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.05	763.3	47	8.3	92	N	9	4.0	.....	.....	10ks	.....	.....	0.32	8.1	Cloudy	K. Stewart.
Stayner, Ontario	29.23	742.4	30.02	762.5	47	8.3	96	Calm	0	0	.....	.....	10n	.....	Calm	0.65	16.5	Light rain	R. J. Cole.
Stratford, Ontario	28.69	728.7	29.98	761.5	47.0	8.3	93	NW	8	3.6	.....	.....	10s	.....	.....	0.159	4.04	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.89	759.2	29.93	760.2	48	8.9	96	N	1	0.4	.....	.....	10n	.....	.....	0.14	3.6	Light rain	T. C. Hill.
*Toronto, Ontario	29.62	752.3	30.00	762.0	52	11.1	90	NW	10	4.5	.....	.....	10n	.....	NW	0.57	14.5	Cloudy	Magnetic Observatory.
Windsor, N. S	29.82	757.4	29.91	759.7	56.0	13.3	81	E	2	0.9	.....	.....	10k;ks	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.78	756.4	30.03	762.7	46.0	7.8	70	NE	.....	.....	.....	10k?	10s?	.....	.....	0	0	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.68	753.9	29.90	759.4	70	21.1	90	Calm	0	0			10s		W.	0.02	0.5	Cloudy	
Alpena, Michigan	29.44	747.8	30.09	764.3	49	9.4	71	NW	5	2.2		0	0			0.37	9.4	Clear	
Atka, Aleutian Islands					44	6.7	100	Calm			0		10n		Calm	0.12	3.0	Cloudy	
Atlanta, Georgia	28.86	733.0	29.96	761.0	76	24.4	60	SE	6	2.7		10k	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	29.97	761.2	29.98	761.5	76	24.4	49	SW	10	4.5		0	0			0	0	Clear	
Augusta, Georgia	29.90	759.4	30.08	764.0	72	22.2	54	Calm	0	0		Haze	2ks	Calm	Calm	0	0	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	77	25.0	69	W	4	1.8		5c;k	Sme'	W	Calm	0	0	Fair	
Barnegat, New Jersey	29.91	759.7	29.93	760.2	67	19.4	69	S	10	4.5		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	28.42	721.9	30.28	769.1	53	11.7	79	NW	4	1.8		1c	0	Calm		0	0	Clear	
Boerne, Texas	28.78	731.0	30.11	764.8	59	15.0	38	N	8	3.6		0	0			0	0	Clear	
Boise City, Idaho	27.37	695.2	30.33	770.4	55	12.8	50	S	3	1.3		0	0			0	0	Clear	
Boston, Massachusetts	29.72	754.9	29.86	758.4	79	26.1	62	W	6	2.7		2c	1ks	W	Calm	0	0	Fair	
Brackettville, Texas	29.12	739.6	30.15	765.8	63	17.2	33	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	29.16	740.7	30.16	766.1	51	10.6	72	W	9	4.0		2c	0	Calm		0	0	Clear	
Brownsville, Texas	30.08	764.0	30.13	765.3	71	21.7	80	N	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.29	744.0	29.99	761.7	49	9.4	100	SW	12	5.4			10s; fg		SW; Calm	0.45	11.4	Cloudy	
Burkes, Arizona					84	28.9	17	NW			1	0	0			0	0	Clear	
Burlington, Vermont	29.65	753.1	29.94	760.5	54	12.2	93	N	8	3.6			10n		NW	0.56	14.2	Light rain	
Cairo, Illinois	29.80	756.9	30.19	766.8	57	13.9	81	NW	8	3.6			10n		NW	1.31	33.3	Light rain	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.32	643.1	30.12	765.0	63	17.2	24	E	40	17.9		0	0			0	0	Clear	
Camp Verde, Arizona					58	14.4	45	N			2	0	0			0	0	Clear	
Campo, California	27.47	697.7	30.04	763.0	48	8.9	49	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.09	764.3	74	23.3	76	SW	11	4.9		Haze	1ks		W	0	0	Hazy	
Cape Henry, Virginia	29.99	761.7	30.00	762.0	74	23.3	72	SW	16	7.2		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.07	763.8	30.08	764.0	76	24.4	69	SW	12	5.4		0	0			0	0	Clear	
Cape May, New Jersey	29.90	759.4	29.92	760.0	71	21.7	75	S	8	3.6		0	Haze			0	0	Clear	
Castroville, Texas	28.46	748.3	30.16	766.1	63	17.2	67	NW	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	30.03	762.7	30.08	764.0	77	25.0	65	SW	6	2.7		2k	0	W		0	0	Fair	
Charlotte, North Carolina	29.20	741.7	29.98	761.5	75	23.9	68	SW	5	2.2		5ck	0	NW		0	0	Fair	
Chattanooga, Tennessee	29.22	742.2	29.99	761.7	69	20.6	85	Calm	0	0			10n		W	0.03	0.8	Light rain	
Cheyenne, Wyoming	24.38	619.2	30.32	770.1	39	3.9	82	NW	7	3.1		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.42	747.3	30.12	765.0	46	7.8	92	N	7	3.1			10s		Calm	0.09	2.3	Light rain	
Cincinnati, Ohio	29.41	747.0	30.05	763.3	57	13.9	87	NW	7	3.1			10n		NW	0.41	10.4	Light rain	
Cleveland, Ohio	29.33	745.0	30.06	763.5	50	10.0	86	NW	6	2.7			10s		Calm	0.54	13.7	Cloudy	
Coleman City, Texas	28.55	723.9	30.18	766.6	59	15.0	54	N	8	3.6		0	0			0	0	Clear	
Columbus, Ohio	29.19	741.4	30.01	762.2	58	14.4	82	N	6	2.7			10n		NW	0.04	1.0	Light rain	
Concho, Texas	28.39	721.1	30.10	764.5	56	13.3	57	N	5	2.2		0	0			0	0	Clear	
Corsicana, Texas	29.78	756.4	30.26	768.6	56	13.3	75	N	10	4.5		0	0			0	0	Clear	
Davenport, Iowa	29.55	749.3	30.15	765.8	53	11.7	80	NW	5	2.2			10s		NW	0	0	Cloudy	
Deadwood, Dakota	25.69	652.5			46	7.8	77	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	29.14	740.1	30.31	769.9	60	15.6	82	NE	16	7.2		0	0			0	0	Clear	
Denison, Texas	29.49	749.0	30.30	769.6	55	12.8	74	N	4	1.8		0	0			0	0	Clear	
Denver, Colorado	25.14	638.5	30.36	771.1	45	7.2	92	S	4	1.8		0	0			0.13	3.3	Clear	
Des Moines, Iowa	29.33	745.0	30.21	767.3	52	11.1	73	NW	6	2.7		0	0			0	0	Clear	
Detroit, Michigan	29.39	746.5	30.07	763.8	46	7.8	92	N	5	2.2			10c		N	0.52	13.2	Cloudy	
Dodge City, Kansas	27.77	705.4	30.09	764.3	55	12.8	56	N	4	1.8		2ck	0		N	0	0	Fair	
Dubuque, Iowa	29.46	748.3	30.16	766.1	52	11.1	79	NE	6	2.7			10ks		NE	0	0	Cloudy	
Duluth, Minnesota	29.47	748.5	30.15	765.8	50	10.0	79	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.50	749.3	30.23	767.8	62	16.7	56	NW	1	0.4		0	0			0	0	Clear	
Eastport, Maine	29.79	756.7	29.86	758.2	48	8.9	93	E	22	9.8			10s; hz		E	0.07	1.8	Threatening	
Edinburg, Texas					71	21.7	80	N			1	5c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.49	672.8			57	13.9	30	E	6	2.7		0	0			0	0	Clear	
Erie, Pennsylvania	29.31	744.5	30.02	762.5	53	11.7	86	SW	7	3.1			10s		SW	0.11	2.8	Cloudy	
Escanaba, Michigan	29.50	749.3	30.16	766.1	46	7.8	62	NE	11	4.9		0	0			0	0	Clear	
Florence, Arizona	28.45	723.4	30.08	764.0	80	26.7	25	E	12	5.4		0	0			0	0	Clear	
Fort Buford, Dakota	28.18	715.8			51	10.6	78	SW	6	2.7		0	0			0	0	Clear	
Fort Craig, New Mexico	25.78	654.8	29.84	757.9	53	11.7	54	N	4	1.8		2k	0		Calm	Inap	Inap.	Clear	
Fort Davis, Texas	25.47	646.9	30.43	772.9	55	12.8	45	N	4	1.8		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.75	755.6	30.30	769.6	54	12.2	74	N	5	2.2		0	0			0	0	Clear	
Fort Griffin, Texas	29.10	739.1	30.40	772.1	55	12.8	68	NE	4	1.8		0	0			0	0	Clear	
Fort Keogh, Montana	27.66	702.6			54	12.2	73	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	28.02	711.7	29.96	761.0	57	13.9	58	NE	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.64	752.8	29.68	753.9	34	1.1	100	SE	9	4.0			10n		SE	0.07	1.8	Raining	
Fort Sill, Indian Territory	29.12	739.6	30.24	768.1	55	12.8	68	NW	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.37	720.6			51	10.6	78	W	4	1.8		1c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.50	723.9	30.05	763.3	69	20.6	56	N	4	1.8		0	0			0	0	Clear	
Galveston, Texas	30.09	764.3	30.13	765.3	65	18.3	84	N	20	8.9		10k	0	N		0	0	Cloudy	
Graham, Texas	29.25	742.9	30.32	770.1	58	14.4	64	N	2	0.9		0	0			0	0	Clear	
Grand Haven, Michigan	29.46	748.3	30.12	765.0	51	10.6	72	E	4	1.8			10s		Calm	0.45	11.4	Cloudy	
Henrietta, Texas	29.37	746.0	30.32	770.1	55	12.8	74	NE	6	2.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.29	744.0	30.07	763.8	51	10.6	90	NW	5	2.2			10n		NW	0.34	8.6	Light rain	
Indianola, Texas	30.15	765.8	30.18	766.6	65	18.3	68	N	29	13.0		1c	0	NW		0	0	Clear	
Jacksboro, Texas	29.18	741.1	30.31	769.9	63	17.2	72	NW	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.09	764.3	77	25.0	65	SE	4	0.4		0	0			0	0	Clear	
Keokuk, Iowa	29.52	749.8	30.14	765.5	53	11.7	81	NW	7	3.1		5k	0	N		0	0	Fair	
Key West, Florida	29.98	761.5	30.01	762.2	80	26.7	66	E	6	2.7		5k	0	E		0	0	Fair	
Kittyhawk, North Carolina	30.03	762.7	30.05	763.3	73	22.8	69	SW	20	8.9		0	0			0	0	Clear	
Knoxville, Tennessee	29.03	737.3	29.99	761.7	70	21.1	75	N	3	1.3			10s		SW	0	0	Threatening	
La Crosse, Wisconsin	29.43	747.5	30.18	766.6	48	8.9	56	N	5	2.2		0	0			0	0	Clear	
La Mesilla, New Mexico	26.28	667.5	30.43	772.9	60	15.6	24	E	2	0.9		0	0			0	0	Clear	
Laredo, Texas	29.54	757.9	30.18	766.6	70	21.1	53	NE	7	3.1		5k	0	E		0	0	Fair	
Leavenworth, Kansas	29.43	747.5	30.28	769.1	50	10.0	79	NW	6	2.7		0	0			0	0	Clear	
Los Angeles, California	29.59	751.6	29.92	760.0	70.0	21.1	28	NE	6	2.7		0	0			0	0	Clear	
Louisville, Kentucky	29.51	749.5	30.06	763.5	54	12.2	87	NW	11	4.9			10n		NW	0.08	2.0	Light rain	
Lynchburg, Virginia	29.31	744.5	29.96	761.0	77	25.0	61	S	2	0.9		8cs	0	SW		0	0	Fair	
Madison, Wisconsin	29.15	740.4	30.14	765.5	50	10.0	65	E	4	1.8		10k	0	NE		0.03	0.8	Cloudy	
Marquette, Michigan	29.44	747.8	30.15	765.8	45	7.2	61	NW	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.64	727.4	30.43	772.9	56	13.3	63	N	7	3.1		0	0			0	0	Clear	
Memphis, Tennessee	29.82	757.4	30.16	766.1	56	13.3	93	NW	15	6.7			10s		NW	0.58	14.7	Cloudy	
Milwaukee, Wisconsin	29.40	746.7	30.13	765.3	48	8.9	56	N	5	2.2		5ck	0	Calm		0.06	1.5	Fair	
Mobile, Alabama	29.98	761.5	30.02	762.5	76	24.4	86	SE	8	3.6			10s		S	0	0	Cloudy	
Montgomery, Alabama	29.81	757.2	30.04	763.0	76	24.4	76	S	4	1.8			10s		SW	0	0	Cloudy	
Morgantown, West Virginia	29.04	737.6	29.98	761.5	69	20.6	80	SW	2	0.9			10n		SW	0.08	2.0	Light rain	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	52	11.1	100	NW	50	22.4			Fog		NW	0.39	9.9	Foggy	
Nashville, Tennessee	29.54	750.3	30.07	763.8	57	13.9	87	NW	3	1.3			10s		Calm	0.42	10.7	Cloudy	
New Haven, Connecticut	29.78	756.4	29.98	758.9	77	25.0	69	S	2	0.9		2c	Haze	Calm	Calm	0	0	Hazy	
New London, Connecticut	29.85	758.2	29.90	759.4	79	26.1	62	SW	5	2.2		1c	Haze	W	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.94	760.5	30.00	762.0	78	25.6	82	SE	6	2.7			10n		SE	1.03	26.2	Light rain	
Newport, Rhode Island	29.84	757.9	29.89	759.2	68.5	20.3	77	SW	2	0.9		2c	Haze	N		0	0	Fair	
New York, New York	29.76	755.9	29.93	760.2	74	23.3	72	W	5	2.2		0	16;Hz			0	0	Fair	
Norfolk, Virginia	29.98	761.5	30.03	762.7	80	26.7	69	SW	8	3.6		0	0			0	0	Clear	
North Platte, Nebraska	27.43	696.7	30.10	764.5	41	5.0	82	Calm	0	0		0	0			0	0	Clear	
Olympia, Washington Ter.	30.22	767.6	30.26	768.6	55	12.8	84	S	2	0.9			10s		SW	0	0	Cloudy	
Omaha, Nebraska	29.14	740.1	30.26	768.6	50	10.0	72	NW	6	2.7		0	0			0	0	Clear	
Oswego, New York	29.66	753.4	29.97	761.2	52	11.1	100	W	5	2.2			10n		Calm	0.47	11.9	Light rain	
Pembina, Dakota	29.24	742.7	30.06	763.5	53	11.7	86	S	3	1.3		0	0			0	0	Clear	
Philadelphia, Pa	29.90	759.4	29.94	760.5	78	25.6	69	W	8	3.6		5cs	Haze	Calm	Calm	0	0	Clear	
Phœnix, Arizona	28.76	730.5	30.51	774.9	70	21.1	24	W	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.96	456.2	30.17	766.3	14	—10.0	82	N	4	1.8			Fog			0.26	6.6	Foggy	
Pioche, Nevada					52	11.1	23	N	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.20	741.7	29.98	761.5	67	19.4	84	SW	8	3.6			10n		SW	0.25	6.3	Light rain	
Port Huron, Michigan	29.38	746.2	30.05	763.3	45	7.2	92	N	16	7.2			10ks		N	0.57	14.5	Cloudy	
Portland, Maine	29.79	756.7	29.84	757.9	67	19.4	84	Calm	0	0		0	Fog			0.14	3.6	Clearing	
Portland, Oregon	30.23	767.8	30.30	769.6	60.0	15.6	80	NW	1	0.4			10s		NW	0	0	Cloudy	
Prescott, Arizona	24.88	631.9	30.24	768.1	45	7.2	24	NE	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.37	746.0	30.19	766.8	66	18.9	68	N	3	1.3		0	0			0	0	Clear	
Punta Rassa, Florida	30.03	762.7	30.04	763.0	75	23.9	72	NE	7	3.1		2c	0	W		0	0	Clear	
Red Bluff, California	29.66	753.4	30.01	762.2	71	21.7	51	N	6	2.7		1c	0	N		0	0	Clear	
Rio Grande City, Texas	30.03	762.7	30.25	768.3	72	22.2	67	N	3	1.3		5c	0	Calm		0	0	Fair	
Rochester, New York	29.36	745.7	29.97	761.2	56	13.3	87	W	10	4.5			10n		W	1.33	33.8	Light rain	
Roseburg, Oregon	29.73	755.1	30.30	769.6	52	11.1	93	Calm	0	0			10s		Calm	0	0	Cloudy	
Sacramento, California	29.91	759.7	29.99	761.7	70	21.1	85	NE	2	0.9		2c	0	Calm		0	0	Clear	
St. Louis, Missouri	29.61	752.1	30.19	766.8	53	11.7	80	NW	8	2.7			10ks		NW	0.02	0.5	Cloudy	
St. Marks, Florida	30.05	763.3	30.07	763.8	73	22.8	81	SE	6	2.7		2k	0	S		0	0	Fair	
St. Paul, Minnesota	29.32	744.7	30.15	766.8	49	9.4	71	SW	4	1.8		0	0			0	0	Clear	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	55	12.8	56	Calm	0	0		0	0			0	0	Clear	
San Antonio, Texas	29.55	750.6	30.13	765.3	66	18.9	64	N	8	3.6		0	0			0	0	Clear	
San Diego, California	29.86	758.4	29.93	760.2	69	20.6	35	Calm	0	0		0	0			0	0	Clear	
Sandusky, Ohio	29.40	746.7	30.07	763.8	51	10.6	86	N	9	4.0			10s		N	0.73	18.5	Threatening	
Sandy Hook, New Jersey	29.88	758.9	29.91	759.7	82	27.8	79	W	7	3.1		1k	0	Calm		0	0	Clear	
San Francisco, California	29.94	760.5	30.00	762.0	62	16.7	72	Calm	0	0		5c	0	Calm		0	0	Fair	
Santa Fé, New Mexico	28.58	598.9	30.12	765.0	40	4.4	82	E	1	0.4		0	0			0.43	10.9	Clear	
Savannah, Georgia	30.00	762.0	30.09	764.3	82	27.8	60	SW	3	1.3		1c	Sm'e	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.97	761.2	30.19	766.8	63	17.2	72	N	10	4.5			10s		N	Inap.	Inap.	Cloudy	
Silver City, New Mexico	24.52	622.8	30.70	779.8	50	10.0	58	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.08	764.0	30.11	764.8	76	24.4	73	SW	8	3.6		2k	0	SW		0	0	Fair	
Springfield, Massachusetts	29.77	756.1	29.89	759.2	76	24.4	78	N	2	0.9		2c	Sm'e	S		0.01	0.3	Fair	
Stockton, Texas	27.28	692.9	30.28	769.1	55	12.8	89	NW	4	1.8		5cs	0			0	0	Fair	
Thatcher's Island, Mass	29.81	757.2	29.86	758.4	62	16.7	83	SW	7	3.1		10cs	0	Calm		0	0	Cloudy	
Toledo, Ohio	29.38	746.2	30.06	763.5	50	10.0	86	N	6	2.7			10s		N	0.43	10.9	Cloudy	
Tucson, Arizona	27.55	699.8	30.10	764.5	75	23.9	36	SE	10	4.5		0	0			0	0	Clear	
Umatilla, Oregon	29.80	756.9	30.29	769.4	60.0	15.6	82	Calm	0	0		0	8ck		W	0	0	Fair	
Uvalde, Texas	29.36	745.5	30.16	766.1	65	18.3	54	N	1	0.4		0	0			0	0	Clear	
Vicksburg, Mississippi	29.89	759.2	30.14	765.5	64	17.8	89	N	9	4.0			10s		N	0.26	6.6	Cloudy	
Virginia City, Montana	24.55	623.6	30.03	762.7	47	8.3	55	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.61	752.1	29.97	761.2	68	20.0	51	SE	3	1.3		0	0			0	0	Clear	
Washington, D. C.	29.87	758.7	29.98	761.5	79	26.1	66	SW	6	2.7		5c;ck	0	NW;Calm		0	0	Fair	
Wickenburg, Arizona																			
Wilmington, N. Carolina	30.01	762.2	30.09	764.3	77	25.0	69	SW	2	0.9		0	0			0	0	Clear	
Winnemucca, Nevada	29.89	657.6	30.25	768.3	53	11.7	25	NE	12	5.4		1c	Haze	W	Calm	0	0	Clear	
Wood's Holl, Mass	29.86	758.4	29.90	759.4	64	17.8	89	SW	10	4.5		8cs	0	SW		0	0	Cloudy	
Yankton, Dakota	29.02	737.1	30.32	770.1	52	11.1	66	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Yuma, Arizona	29.75	755.6	29.90	759.4	76	24.4	41	E	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	82	27.8	70	E	2.4	1.1		0	4ks		E	0	0	Smoky	Chas. Hasselbr nk.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.56	641.6			68.0	20.0	83	Calm			0	1cs	3ks			0.34	8.6		Thomas Herran.
Navassa, W. I.	29.84	757.9	29.92	760.0	78	25.6		NE								0.42	10.7	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	80	26.7	82	E			2	2c	5k	E		0.40	10.2	Fair	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.486 in., or 88.6 mm.. Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm. Florence, 1.60 in., or 40.6 mm.. Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla	30.05‡	763.3‡			76	24.4	91	SE	12	5.4			8		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.12‡	765.0‡			62	16.7	88	NE			1		10ks		SW	0.29	7.4			Overcast	
Adams, N. 3° 09′, W. 80° 54′	30.12‡	765.0‡			76	24.4	95	SW			3		10		SW			Mod'ate	S;W	Fair?	
Alaska, Sitka, Alaska	30.06‡	763.5‡			48	8.9	85	Calm			0		5			0.125	3.18			D. clouds	
Alliance, Lisbon, Portugal	30.13‡	765.3‡			65	18.3	73	WSW			3–5		9		W					Cloudy	
Colorado, New York, N. Y.	29.93‡	760.2‡			76	24.4	73	SSW	2	0.9			2		SE	0	0			Clear	
Constitution, N. 38° 40′, W. 74° 32′	29.90‡	759.4‡			65	18.3	94	SSW			4		1		Calm			Smooth		Clear	
Despatch, N. 25° 28′, W. 27° 12′	30.25‡	768.3‡			75	23.9	72	E			2		5		Calm	0	0	Light	ESE	Fair	
Enterprise, N. 50° 08′, Long. 0°, 0′ ?	29.82‡	757.4‡			56	13.3	87	SSW			4		10		S					Overcast	
Franklin, Norfolk, Va.	30.01‡	762.2‡			76	24.4	73	SSW	10.8	4.8			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.95‡	760.7‡			57	13.9	63	SSE			3		5		SE	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.87‡	758.7‡			72	22.2	90	Calm			0		10		Calm					Rainy	
Marion, Vera Cruz, Mexico	30.04‡	763.0‡			78	25.6	86	NNW			5		10		S			Rough	S	Light rain	
Michigan, Erie, Pa					51	10.6	93	W			4		10							Overcast	
Monocacy, Shanghai, China	30.27‡	768.8‡			66	18.9	84	E			2		8		E					Cloudy	
Monongahela, Yokohama, Japan	30.13‡	765.3‡			64	17.8	89	NE			0–1		10			Very light	Very light			Overcast	
New Hampshire, Port Royal, S. C.	30.07‡	763.8‡			77	25.0	69	S	10	4.5			2		SW	0	0			Clear	
Onward, Callao, Peru †	30.02‡	762.5‡			64	17.8	83	SSE			2		10					Long	W	Misty	
Palos, Shanghai, China	30.06‡	763.5‡			63	17.2	94	ENE			3		2		W					Fair	
Passaic, Washington, D. C.					77	25.0	93	W			3		5		E					Fair	
Pensacola, Callao, Peru	30.03‡	762.7‡			63	17.2	89	SE	3	1.3			10			0	0			Misty	
Portsmouth, Hampton Roads, Va.	30.03‡	762.7‡			74	23.3	72	SW			3		1			0	0	Smooth		Clear	
Powhattan, Hampton Roads, Va.	30.04‡	763.0‡			73	22.8	85	SW			2		2		Calm	0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.93‡	760.2‡			80	26.7	55	WSW			4		0							Clear	
Ranger, Amoy, China	29.99‡	761.7‡			69	20.6	85	NE			2		10		Calm					Raining	
Richmond, Taku Bar, China	29.94‡	760.5‡			71	21.7	66	SE			3		2		SE	0	0	Mod'ate	SE	Clear	
Rio Bravo, Brownsville, Texas	30.08‡	764.0‡			69	20.6	95	NW			2		2		N	0	0			Fair	
Santee, Annapolis, Md.	29.98‡	761.5‡			77	25.0	69	WSW			1		2			0	0			Clear	
Saratoga, Off Lanzarote I'd, Canaries	30.24‡	768.1‡			66	18.9	68	ENE			5		8		Calm	0	0	Mod'ate	ENE	D. clouds	
St. Louis, League Island, Pa	29.96‡	761.0‡			73	22.8	85	SW	3	3.6			8		SSW	0	0			Cloudy	
Trenton, Barcelona, Spain	30.13‡	765.3‡			66	18.9	74	WSW			2–3		5			0	0	Mod'ate	S;E	Fair	
Tuscarora, Acapulco, Mexico	29.89‡	759.2‡			77	25.0	91	NE			3–5		10		SE	1.1	27.9	Smooth		Overcast	
Vandalia, Key West, Fla	29.97‡	761.2‡			80	26.7	91	ENE			1		2		N	0	0	Smooth		Fair	
Wabash, Boston, Mass	29.87‡	758.7‡			75	23.9	86	W	4	1.8			5			0	0			Hazy	
Wyoming, Leghorn, Italy	30.12‡	765.0‡			68	20.0	60	W			2		2		W			Smooth		Clear	
Wachusett, Boston, Mass	29.87‡	758.7‡			77	25.0	73	WNW			2		0							Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. ‡Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 41° 52′, E. 156° 47′		30.26‡	768.6‡	54	12.2		NW			4		0			0	Mod'ate	NW	Blue sky	L. B Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, Esquimault, Vancouver I.†		30.32‡	770.1‡	57	13.9	87	Calm			0		1		W			NW	Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 5° 28′, W. 167° 49′		29.97‡	761.2‡				SE			3				SE		Mod'ate	Var.	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 25° 41′, E. 121° 04′		29.98‡	761.5‡	70	21.1	80	NE			5		3n				Mod'ate	NE	Raining	D. A. Joyce, 2nd Officer.
S. S Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 26° 06′, W. 85° 50′		29.97‡	761.2‡	80.0	26.7	82	SE			3		5		SE	0	Long	SE	Clear?	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 42° 26′, W. 58° 01′		29.98‡	761.5‡	66.0	18.9	97	W			2		10			6h'rs	mod'ate	W	Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 15′, W. 60° 49′		30.05‡	763.8‡				SW			3		5		W		3	SW	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.56‡	750.8‡	71	21.7	66	WNW			3		2		W	0			Clear	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES. (Miscellaneous.) Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City, La		30.04‡	763.0‡	75	23.9	81	N	9	4.0			8d		N	0.69 in. or 17.5mm			Cloudy	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N 33° 20', W. 78 35 ...†		30.12‡	765.0‡	77	25.0		SW			1		2		WSW		Smooth	S	Fair	N. B. Foss.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I.		29.78‡	756 4‡				NE	2	0.9			2		E	0.5 in. or 13 mm.	Long	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden ..., N. 34° 55', W. 56° 19'.....†		29.94‡	760.5‡	69	20.6	97	NE			4		10		ENE		Smooth	E	Light rain	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
Schooner Henry Whitney, N. 32° 18', W. 79° 13'....†		30.12‡	765.0‡	74	23.3		SSW			2	c		S		0	Smooth		Blue sky	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 128 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 3, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.09	764.3	73.8	23.2	70	Calm			0		8			0	0	Very cloudy	Kesxuche.
Algiers			30.00	762.1	79.2	26.2	45	NE			1		0			0	0	Clear	Tourilière.
La Calle			30.05	763.3	73.4	23.0	77	NNE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.21	767.2															Gau.
Saida			30.13	765.2	84.6	29.2	9	NW			1		0			0	0	Clear	Herbin.
Tebessa			30.18	766.6	86.4	30.2	17	SW			1		0			0	0	Clear	Watrin.
Geriville			30.17	766.3	87.3	30.7	49	SE			3		2			0	0	Fair	Brugniaux.
Laghouat			30.12	765.0	93.6	34.2	22	S			2		2			0	0	Fair	Bertrand.
Biskra			30.15	765.7	96.4	35.8	32	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.39	746.6	29.92	759.9	76.5	24.8	45	NW			4		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.7	29.90	759.4	73.4	23.0	59	E			1		9			0.031	0.8		Dr. Wierzbiski.
Eperies	29.04	737.6	29.89	759.1	70.2	21.2	64	Calm			0		2c			0.446	11.33		Julius Mikolik.
Gratz	28.69	728.6	29.89	759.1	72.5	22.5	59	SSW			3		2			0.157	4.0		Andreas Rospini.
Hermannstadt	28.52	724.5	29.90	759.5	72.1	22.3	52	NW			2		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.52	724.3	29.80	756.8	73.0	22.8	50	NE			2		7			0	0		Prof. C. Wagner.
Lemberg	28.89	733.9	29.85	758.1	68.1	20.1	71	S			1		8			0	0		Dr. T. Stanecki.
Pola	29.94	760.4	30.05	763.2	71.2	21.8	59	SSW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.50	749.3	29.95	760.7	71.6	22.0	58	W			3		5			0	0		Julius Csics, S. J.
Szegedin	29.66	753.4	29.93	760.2	74.3	23.5	50	W			1		5			0	0		Karl Stancel.
Trieste	29.95	760.6	30.05	763.2	70.9	21.6	74	W			1		1			0	0	Fair	P. Busin.
Vienna	29.20	741.8	29.90	759.4	73.8	23.2	53	SE			1		0			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R S E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.50	749.3	29.60	751.8	49.3	9.6		SSE	11	4.9			6			0.465	11.81	D. clouds	W. Boswell.
Ardrossan	29.62	752.3	29.64	752.8	55	12.8		NW			4		5					D. clouds	Wm.McNeil &G.Carrick.
Armagh, Observatory			29.71	754.6	54.3	12.4		NNW	5	2.2			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.62	752.3	53.4	11.9		WNW	22	9.8			1					Blue sky	John Hartnup.
Bolton (Sharples)			29.60	751.8	48.5	9.2		NNE	12	5.4			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.62	752.3	51.4	10.8		N			1		10			0.03	0.8	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	29.99	761.7	30.02	762.5	85	29.4		NE			2		6					Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.48	748.8	29.58	751.3	51.5	10.8		N			2		10			Blank	Blank	Overcast	H. Todd.
Cardington			29.60	751.8	52.4	11.3		N			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.44	747.8	29.57	751.1	54.6	12.6		NW			3		10					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.65	753.1	29.69	754.1	52	11.1		NNE			4		0					Blue sky	J. Mac Gowan.
Dover	29.57	751.1	29.59	751.6	55	12.8		W			2		10					Showery	J. Costello.
Falmouth, Observatory	29.55	750.6	29.78	756.4	56.3	13.5		NW			3		4					D. clouds	The Staff.
Fort Napier (Natal)	27.70	703.6	30.00	762.0	68.0	20.0		N			2		9					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	87	30.6		E			1		3					D. clouds	
Galway, Queen's College			29.71	754.6	60	15.6		NNW			2		7					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	30.02	762.5	71.9	22.2		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.41	747.0	29.62	752.3	54.8	12.7		WSW			2		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.52	749.8	29.52	749.8	49	9.4		NW			3		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.44	747.8	29.61	752.1	51.5	10.8		N			2		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.50	749.3	29.72	754.9	54	12.2		WNW			5		7					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.79	756.7	29.91	759.7	59	15.0		N			2		2ck			0.40	10.2	Fine	M. P. Moyle.
Holyhead	29.69	754.1	29.71	754.6	51	10.6		NNE			3		0					Blue sky	John Tilston.
Jersey	29.47	748.5	29.76	755.9	54.7	12.6		W			6		9			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.56	750.8	29.60	751.8	52.1	11.2		NNW	11	4.9			10					Misty	The Meteorological Of
Leicester, Museum.	29.35	745.5	29.60	751.8	51.8	11.0		NW			1		10					Overcast	Wm,J.Harrison,F.G.S
Malta, Mediterranean	30.01	762.2	30.09	764.3	74	23.3		N			2		3k					Blue sky	A. King.
Nairn	29.53	750.0	29.62	752.3	50	10.0		NNW			1		10					Raining	W. D. Penny.
Nassau (Bahamas)			30.00	762.0	78.5	25.8		E			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.42	747.2	29.61	752.1	55.2	12.9		N			3		3k		NNE	0.217	5.51	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	738.9	29.60	751.8	54.2	12.3		WNW			1		8					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.64	752.8	50	10.0		ENE			3		10					Threatening	H. E. Bellamy.
Plymouth	29.63	752.6	29.71	754.6	61.4	16.3		NW			3		7					D. clouds	John Merrifield.
Prince Town	28.28	718.3	29.74	755.4	51.0	10.6		N			1		5					Fine	W. H. Tooker.
*Roche's Point	29.70	754.4	29.81	757.2	56	13.3		NNW			5		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.6	52	11.1		NNW			2		4					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.61	752.1	46.2	7.9		NW	25	11.2			10			0.70	17.8	Raining	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	80.4	26.9		NE			2		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.37	746.0	29.65	753.1	51.9	11.1		N			1		10			0.06	1.5	Overcast	W. F. Cooper.
Silloth Rectory	29.61	752.1	29.64	752.8	55.6	13.1	62	E			2		0			0.010	0.25	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.23	742.4	29.63	752.6	54.9	12.7		ESE			1		10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.39	746.5	29.60	751.8	51.8	11.0		NW			1		10					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.80	756.9	29.82	757.4	60	15.6		W			6		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.80	756.9	29.83	757.7	54.0	12.2		NW	18	8.0			4					D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.22	742.2	30.26	768.6	59.5	15.3	62	SE	16	7.2		8?	6?			0	0	Cloudy	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.05	763.3	45.0	7.2	87	NE			1		10kn			0	0	Clouded	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.65	753.1	53.3	11.8		NE			2		5k	NW		0.22	5.6		Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.22	767.5	70.0	21.1	73	ESE	24.0	10.7		2	4		ESE	0.06	1.53	Squally	C. Meldrum.
Melbourne, Observatory	29.98	761.5	30.07	763.8	46.6	8.1	90	SSE	4	1.8			4			0.04	1.02	Dense fog	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.73	755.1	51	10.6		N			4	3	5	N		0.1	3.		J. Youngclause.
North Unst (Shetland Is.)			29.57	751.1	46	7.8		N			4		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 41° 00′. E. 29° 00′			29.90‡	759.4‡	71.5	21.9		NE			5		3					D. clouds	Capt. W. J. L. Wharton.
Agnes Wilson, N. 17° 25′, W. 83° 05′			29.91	759.7	83	28.3		ESE			2		7				SSW	D. clouds	Capt. H. W. Dyke
§Brig Alliance, N. 50° 21′, W. 29° 25′			30.01‡	762.2‡	58.3	14.6		ENE			4		8					Showery	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Astarte, S. 11° 15′, W. 10° 03′ *.			30.12‡	765.0‡	79.3	26.3		SE			2		3					D. clouds	Capt. Parson.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore.																			Capt. J. W. Thorne.
British Peer, N. 0° 30′, W. 25° 25′			30.04‡	763.0‡	82.5	28.1		NE			2		2					Blue sky	Capt. Greig.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 29° 35′, W. 65° 45′			30.07	763.8	74	23.3		NE			4		7			3	NE	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 40° 25′, W. 67° 20′			30.06	763.5	66	18.9		SW			3		2			2	SSW	Misty	Capt. W. Randall.
S. S. Nizam, N. 16° 50′, E. 61° 27′			29.70‡	754.4‡	83	28.3		WSW			5		8			High		Misty	Capt. Barlow.
S. S. Royal Alexandra, N. 48° 40′, W. 18° 55′			29.94	760.5	51	10.6		NE			3		7			5	NE	D. clouds	W. P. Hughes.
Theophane, S. 10° 05′, E. 93° 15′			29.99‡	761.7‡	80.3	26.8		SSE			2		5					D. clouds	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometr from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.26	667.0	29.98	761.5	69.4	20.8	89	NW			1	8cs	1s;sm'c	NE		0.7	18.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.56	750.8	29.61	752.0	62.6	17.0	67	SSE			4		10						
Fanöe	29.42	747.2	29.44	747.7	55.6	13.1	89	WSW			4		7						
Godthaab (Greenland)	29.67	753.5	29.71	754.6	40.8	4.6	94	NE			2		10						
Stykkisholm (Iceland)	29.88	758.9	29.92	760.0	43.2	6.2	97	E			4		8						
Thorshavn (Faröe)	29.76	756.0	29.80	756.9	46.4	8.0	76	NE			2		10						
Vestervig	29.24	742.7	29.41	747.0	50.4	10.2	95	N			4		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.26	743.3	29.82	757.3	62.6	17	73	SW			3		8	NW	W	0.110	2.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.56	750.8	29.67	753.5	61.5	16.4	67	W			4		8		ESE	0.283	7.2	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.39	746.5	29.64	752.9	57.2	14.0	69	WNW			6				NW	0.098	2.5		Klein, Commandant.
Avignon, Normal School	29.97	761.2	30.05	763.2	72.7	22.6	58	S			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.36	745.4	29.89	759.3	61.5	16.4	61	WSW			3		10		SW	0.091	2.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.44	747.8	29.71	754.5	60.6	15.9	72	WNW			3		8			0.12	3.	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	29.04	737.6	29.91	759.6	69.1	20.6	60	SW			4		8		SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.13	740.0	30.06	763.4	70.3	21.3	55	S			4		ckn	SW	S	0	0		Marlot, Director.
Bourges, Normal School	29.38	746.2	29.92	759.9	62.2	16.8	72	W			4		5	W	W	0.059	7.5	Cloudy	M. Gence, Director
Brest, Naval Observatory	29.53	750.1	29.78	756.3	60.4	15.8	78	WNW			2		10		NW	0.551	14.00	Misty	De Rermaree, Director.
Carcassonne, Normal School	29.64	752.9	30.04	763.1	75.2	24	46	NNE			3		5	W	NNE	0	0	Cloudy	September, Director.
Caen, Normal School	29.69	754.1	29.76	755.9	63.7	17.6	65	SW'			3		5		W	0.089	2.25	Cloudy	Lair, Director.
Chartres, Normal School	29.24	742.8	29.80	757.0	59.4	15.2	96	SSW			3		10			0.16	4.	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.2	29.77	756.1	61.3	16.3	85	SW			6		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.6	29.97	761.1	66.6	19.2	46	SW			3		8		SW	0	0		Alluard, Director.
Commercy, Normal School	28.95	735.2	29.79	756.7	59.0	15	87	WSW			6		10n		WSW	0.228	5.8	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.99	736.4	30.13	765.4	67.8	19.9	46	SE			3		2		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.24	742.7	29.99	761.8	66.6	19.2	63	WNW			2		8ks		WSW	0	0	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.74	755.4	29.95	760.8	59.7	15.4	75	WSW			4		8		SW	0.028	0.7	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.52	749.9	29.83	757.6	59.0	15	78	SW			4		5	WSW	WSW	0.59	1.5	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.00	736.6	29.89	759.2	71.4	21.9	46	S			6		kn	SW	SW	0	0		A. Baudry, Director.
Lorient, Naval Observatory	29.75	755.6	29.85	758.1	61.2	16.2	79	WSW			6				SW	0.339	8.6		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.78	756.5	30.05	763.2	68.7	20.4	63	S			2		9			0	0	Cloudy	E. Stephan, Director
Mirecourt, Normal School	28.83	732.2	29.84	758.0	65.5	18.6	56	NE			4		10		NE	0	0	Covered	Barbier, Director.
Nismes, Normal School	29.83	757.7	30.03	762.7	74.8	23.8	60	SE			3		2		N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.99	736.3	29.98	761.6	70.7	21.5	62	NW			1		n	NW	NW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.14	638.5			43.2	6.2	94	SW			6					0.008	0.2	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.98	761.6	30.02	762.4	61.7	16.5	56	SW			8		8	SW	SW	0.04	1.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.64	752.9	29.73	755.1	58.8	14.9	72	W			2		8		SW	0.272	6.9	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.74	755.3	29.77	756.1	57.2	14.0	92	W			2		8	WSW	WSW	0.077	1.96	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.61	752.1	29.78	756.3	57.9	14.4	72	WSW			3-4		10		W	0.240	6.1	Covered	E. Renou, Director.
Tarbes, Normal School	28.85	732.9	29.89	759.1	77.0	25	66	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.39	746.6	30.12	765.0	70.0	21.1	52	NW			3		6			0	0		M. Julier Mercadier.
Versailles, Observatory	29.29	743.9	29.78	756.4	58.6	14.8	66	W			3					0.148	3.75		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.21	741.9	29.89	759.3	72.1	22.3	35	WSW			3		8		SW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.79	756.6	29.82	757.3	80.6	27										0.08	2.		L'Abbé Marel ésl.
Lyons Obs'y (Park Station)	29.36	745.8	29.97	761.1	69.6	20.9	52	SSW			1		9		W	0	0	Very cloudy	Ch. André, Director.
Mont-Louis	24.91	632.8	30.23	767.8	60.8	16.0	46	SW	24.2	10.8			4		W	0	0		M. Cave.
Nice			30.13	765.2	69.4	20.8	63	S			2		5			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.48	748.9			58.8	14.9	70	W			4		10		W	0.035	0.9		Marié Davy, Director.
Perpignan	29.95	760.8	30.06	763.5	69.8	21.0	65	S	5.6	2.5			4		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.61	574.2			41.2	5.1		S			1		3			0	0	Clear	Gen'l de Nansouty.
Tours	29.68	753.9	29.88	758.9	64.0	17.8	42	W			8		9		W	0.024	0.6		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.99	761.7	30.01	762.3	64.4	18.0	81	NE	4.0	1.8		2c		NW		0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1	Clouds. Amount. Up'er (1-10)	Clouds. Amount. Low'r (1-10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	26.94	735.0	29.78	756.3	70.0	21.1	45	W			8		9	W		0.039	1.0	Raining	Prof. Dr. Hoh.
Berlin	29.57	751.0	29.73	755.2	71.4	21.9	45	W			5		10			0	0		Prof. Dr. Arndt.
Breslau	29.34	745.3	29.87	758.7	75.9	24.4	37	S			4		7			0.011	0.27		Royal University Obs'y.
Carlsruhe	29.33	745.0	29.74	755.4	69.1	20.6	62	SW			9		10	SW		0.031	0.8	Light rain	Albert Senz.
Cassel	29.08	738.7	29.69	754.0	65.8	18.8	67	SW			5		8	SW		0.144	3.65		Dr. H. Möhl.
Crefeld	29.37	746.0	29.53	750.1	65.8	18.8	65	SW			7		8ks			0	0		Director Lose.
Emden			29.45	747.9	60.1	15.6	89	SW			2		5			0.512	13.0		Prof. Dr. Prestel.
Frankfort on the Main	29.34	745.2	29.70	754.3	68.0	20.0		S			4		6			0.315	8.0		Physical Society.
Freienwalde on the Oder	29.69	754.1	29.73	755.1	75.4	24.1	44	SSW			4		7cs;ck	SSW		0	0		Dr. Assmann.
Friedrichshafen	28.46	722.9	29.85	758.3	65.8	18.8	61	SW			4		9	SW		0.130	3.3	Raining	M. Wilhelm.
Hamburg	29.45	748.1	29.52	749.8	66.9	19.4	53	SSW			6		8cs			0.047	1.2	Squally	Captain F. Hegemann.
Kiel	29.46	748.3	29.48	748.7	66.7	19.3	61	S			3		8			0.136	3.45		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.77	756.1	29.85	758.1	71.6	22.0	45	SW			3		4			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.28	743.8	29.69	754.0	69.1	20.6	53	S			3		9	SW		0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.82	757.5	29.87	758.7	70.5	21.4	50	WSW			1		9s;n						Skalweit.
Munich (München)	28.06	712.6	29.91	759.7	72.9	22.7	36	W			2		9	W		0	0		Dr. C. Lang.
Neufahrwasser	29.80	757.0	29.82	757.4	73.4	23.0	43	S			4		8			0	0		A. Lothes.
Posen	29.58	751.3	29.85	758.3	76.1	24.5	36	S			5		9			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.28	743.6	29.81	757.1	68.7	20.4	48	SW			5		10	SW				Raining	Imp. University Observatory.
Stuttgart	28.86	733.0	29.76	755.8	73.8	23.2	36	SW					4	W		0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.35	720.1	29.80	757.0	67.5	19.7	51	SW	4	2			10		W	0	0		T. Hopfner.
Wustrow	29.48	748.8	29.54	750.4	71.4	21.9	56	SW			5		10cs			0.157	4.0		E. Seubiz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.50	749.3	29.87	758.8	82.9	28.8		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.8	29.53	750.0	89.1	31.7	64	WSW					3	Calm		0	0	D. clouds	
Deesa	29.12	739.8	29.58	751.4	96.8	36.0	39	SW	26.3	11.8			1	SW		0	0	Misty	
Bombay	29.72	754.8	29.75	755.7	83.9	28.8	83	SSW	18.0	8.0			4	SW		0.07	1.8	D. clouds	
Poona	27.76	705.0	29.74	755.4	81.4	27.4	58	WSW					4		WSW	0	0	D. clouds	
Lahore	28.64	727.3	29.34	745.1	102.3	39.1	28	Calm	7.6	3.4			10			0	0	Misty	
Belgaum	27.31	693.6	29.86	758.3	73.9	23.3	87	W	13.0	5.8			9	W	W	0.08	2.0	Showery	
Roorkee	28.54	725.0	29.42	747.2	86.8	30.4	59	NE	2.1	0.9			0			0	0		
Agra	28.87	733.3	29.40	746.7	106.6	41.4	21	W								0	0		
Nagpur	28.57	725.8	29.59	751.5	91.2	32.9	49	Calm	5.5	2.5			5	SE		0	0	D. clouds	
Lucknow	29.04	737.7	29.40	746.9	96.1	35.6	32		4.0	1.8						0	0	Gloomy	
Allahabad	29.15	740.4	29.45	748.1	93.5	34.2	45	Calm	4.9	2.2			10			0	0	Misty	
Patna	29.28	743.8	29.46	748.2	92.9	33.8	54	ENE	0.3	0.1			2	NE	NE	0.02	0.5		
Hazaribagh	27.52	698.9	29.46	748.4	89.3	31.8	61	W	9.0	4.0			4			0.23	5.8	Raining	
Cuttack	29.46	748.3	29.54	750.3	90.1	32.3	65	SW	4.0	1.8			5			0.01	0.3	D. clouds	
Calcutta (Allipore)	29.51	749.5	29.53	750.0	87.2	30.7	74	SSW	10.0	4.5			10	SW		0	0	Overcast	
Goalpara	29.18	741.0	29.57	751.0	74.0	23.3	98	E	11.4	5.1			10			2.89	73.4	Raining	
Chittagong	29.52	749.9	29.62	752.3	80.0	26.8	96	S	8.8	3.9			10			2.50	63.5	Raining	
Sibsagar	29.28	743.7	29.62	752.2	77.6	25.3	94	ENE	2.2	1.0			10	SW	SW	0.97	24.6	D. clouds	
Jubbulpore	28.21	716.4	29.52	749.9	93.9	34.4	49	SW	7.8	3.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.4	30.02	762.5	72.0	22.2	66	SW	4.8	1.9			9			0.193	4.9		Prof. Giovanni Clodig.
Milan	29.52	749.8	30.03	762.8	71.8	22.1	51	SW			2		6	WSW		0	0		Prof. Schiaparelli.
Padua	29.92	760.0	30.03	762.7	72.3	22.4	53	W	6.9	3.1			0?	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.0	29.98	761.4	67.5	19.7	63	ESE	4.3	1.9			6	ENE		0	0		Prof. P. F. Denza.
Genoa	29.94	760.5	30.13	765.3	64.6	18.1	73	S	6.3	2.8			6	S		0	0		Prof. G. M. Garibaldi
Mondovi	28.11	714.1	29.97	761.3	67.3	19.6	65	WNW			2		7	W		0	0		Prof. D. C. Bruno.
Pesaro	30.00	761.9	30.04	763.1	70.5	21.4	49	NE	8.7	3.9			0			0	0		Prof. Luigi Guidi.
Florence	29.86	758.4	30.11	764.7	74.3	23.5	46	W			2		3			0	0		Cav. F. Meucci.
Leghorn	30.03	762.8	30.11	764.9	69.1	20.6	73	NW			6		3			0	0		Prof. P. Monte.
Rome	29.96	760.9	30.13	765.3	77.0	25.0	59	W	3.1	1.4			0			0	0		Prof. P. S. Ferrari.
Lecce	29.82	757.3	30.07	763.6	75.2	24.0	46	WNW	15.0	6.7			0			0	0		Prof. C. De Giorgi.
Cosenza	29.21	742.0	30.08	763.9	75.6	24.2	69	NW	3.1	1.4			0			0	0		Prof. D. Conti.
Cagliari	29.89	759.3	30.08	764.1	64.8	18.2	85	S			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.90	759.5	30.15	765.8	68.9	20.5	69	ENE	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	30.06	763.4	30.13	765.3	72.5	22.5	66	NNE	9.8	4.4			10	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.8	30.15	765.9	73.0	22.8	63	WNW	1.3	0.6			2	W		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	63.0	17.2	87	NE	5.9	2.6			10n			1.195	30.35	Rainy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	64.5	18.1	72	NE	10.2	4.5			9ck,s			0.050	1.27	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.11	764.8	59.7	15.4	96	NNE	9.2	4.1			10n		NE	3.930	99.82	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.15	638.9	30.24	768.1	52.7	11.5	70	NW			2		10		NE	0.008	0.2	Covered	Prof. L. Perez.
Leon	24.52	622.9	30.30	769.5	54.1	12.3	86	W			2		10n			0.27	6.8	Raining	Prof. M. Leal.
Mexico, Central Obs'y	23.17	588.5	30.26	768.6	50.7	10.4	75	Calm	0	0			10k			0.03	0.7	Covered	The Staff.
Pabellon (Aguascallentes)					54.5	12.5	74	NNW			1		10n			Inap.	Inap.	Rainy	M. V. de Leon, M. E.
Tlacotalpam	30.06	763.5	30.07	763.8	75.2	24.0	81	NW			3	0	10		N	0.77	19.5	Threatening	M. M. Chàzaro.
San Luis Potosi	24.32	617.6	30.35	770.8	55.0	12.8	51	ESE			1		10		E	0.03	0.8	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.5	30.23	767.8	46.4	8.0	89	ENE			5		10n		NE	Inap.	Inap.	Covered	J. C. Castrillon.
Puebla (Catholic Institute)	23.48	596.5	30.25	768.3	48.2	9.0	82	N	5.4	2.4			10		Calm	0.56	14.2	Covered	Prof. P. Spina.
Colima	28.34	719.8	29.95	760.7	80.6	27.0	56	NNE			4	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.79	756.7	30.09	764.2	75.9	24.4	85	SE			1	6	0	NW		0	0	Fair	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.51	749.6	29.51	749.6	59.7	15.4		W								0.402	10.2		
Groningen	29.39	746.5	29.45	747.9	58.1	14.5					4					0.189	4.8		
Helder	29.42	747.2	29.42	747.2	57.2	14.0		SSW			4					0.346	8.8		
Hellevoetsluis	29.46	748.3	29.46	748.3	57.0	13.9	85	WSW			6					0.386	9.8		
Utrecht	29.42	747.2	29.47	748.4	62.1	16.7	83	WSW			5		8			0.322	8.2	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.53	750.1	29.59	751.5	53.6	12.0	58	NNW	2.9	1.3			3			0	0		
Brönö	29.52	749.7	29.56	750.7	57.7	14.3	48	NE	7	3			6			0	0		
Christiania	29.43	747.6	29.58	751.3	55.8	13.2	54	SSW	4	2			10			0.012	0.3		
Trömsö	29.78	756.3	29.82	757.4	43.9	6.6	54	NE	25	11			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.58	751.3	29.77	756.2	62.2	16.8	80	NNW	13.7	6.1			6			0.591	15.0		Dr. J. A. Sampaio.
Campo Major	29.13	739.9	30.13	765.3	73.4	23.0	39	SSE	3.1	1.4			3			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.09	764.3	30.17	766.4	67.8	19.9	61	SW	11.2	5.0			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.81	757.2	30.17	766.3	65.1	18.4	69	SW	11.2	5.0			3	WSW		0.059	1.5		The Staff.
Ponta Delgada (Azores)	29.69	754.2	29.76	756.0	64.4	18.0	80	NW	32.2	14.4			10			0.370	9.4	Light rain	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 4° 10,′ W. 7° 46′			30.00	762.0	80.4	26.9		S			2		7		S;SSW	1		D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.87	758.8	81.5	27.5		W			2		3		WNW	1	W	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.04	763.0	78.3	25.7		NNE			4		0			3	NNE	Blue sky	P. de l air.
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.96	761.0	82.4	28.0		E			3		5		E	2	SE	D. clouds	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.46	748.5	29.87	758.6	73.2	22.9	47	SSW	2	1			7ks						Astronomical Obs.
Wilna	29.48	748.7	29.88	759.0	69.6	20.9	48	WNW	2	1			6					Light clouds	Astronomical Obs.
Dorpat	29.61	752.2	29.85	758.2	70.5	21.4	43	W	7	3			2k						Prof. Dr. Weihrauch.
St. Petersburg	29.81	757.1	29.82	757.5	62.6	17.0	53	NW	13	6			2k;ks						Central Physical Obs.
Kieff	29.15	740.4	29.75	755.6	78.3	25.7	56	SW	7	3			6k;ks						Physical Cabinet.
Nikolaiev	29.86	758.4	29.93	760.2	83.8	28.8	43	SSW	9	4			0						Kurdakof.
Kertch	29.84	757.8	29.85	758.3	79.2	26.2	72	NE	7	3			0						Lagorio.
Moscow	29.28	743.6	29.81	757.2	60.8	16.0	81	WNW	4	2			8kb						Meteorological Obs.
Lugan	29.60	751.7	29.79	756.6	87.8	31.0	35	Calm	0	0			6			Blank	Blank		Meteorological Obs.
Archangel	29.78	756.3	29.80	756.8	44.4	6.9	73	WNW	13	6			8k						Capt. Sseliwerstow.
Tiflis	28.50	723.9	29.85	758.1	79.3	26.3	40	Calm	0	0			8k						Physical Observatory.
Astrakhan	29.99	761.8	29.91	759.7	87.3	30.7	23	S	9	4			0						Capt. Wisganow.
Krotkowo*	29.34	745.3	29.79	756.7	71.6	22.0	65												Cand. Fatjanow.
Kasan	29.56	750.8	29.82	757.5	63.1	17.3	76	Calm	0	0			9						Physical Cabinet.
Ekaterinburg	28.78	730.9	29.71	754.6	63.9	17.4	42	W	23	10			6k;kb						Meteorological Obs.
Nukuss	29.67	753.7	29.89	759.3	87.6	30.9	31	NNW	4	2			1k						
Tashkend	28.29	718.6	29.76	755.9	84.6	29.2	46	Calm	0	0			0						Teich, A. M.
Barnaul	29.03	737.4	29.52	749.7	59.9	15.5	79	SW	4	2			8						Meteorological Obs.
Yeniseisk	29.40	746.7	29.68	753.9	54.0	12.2	44	NNW	9	4			2						Marks.
Irkutsk																			
Peking (China)	29.72	754.8	29.86	758.4	78.8	26.0	41	Calm	0	0			4cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	30.00	762.0	30.10	764.5	51.4	10.8	98	SE	4	2			10n					Foggy	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.92	760.0	30.02	762.6	75.6	24.2	57	SSW	1.6	0.72			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.0	30.10	764.4	74.8	23.8	54	W	4.2	2.29		4	2	W		0	0	Clou d	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.2			68.9	20.5	53	SW	18.1	8.08		0	0			0.020	0.5	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708.9	30.05	763.3	77.0	25.0	54	SW	12.7	5.66		1	1	SW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.92	759.9	30.06	763.5	90.1	32.3	32	S	4.0	1.78		1	3	NE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.03	762.7	60.1	15.6	76	SW	16.8	7.5			10			0.622	15.8	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.91	759.8	29.98	761.4	78.7	25.9	75	E	1.1	0.5		0	1k;s			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.86	758.6	29.91	759.9	83.0	28.3	84	SW	8.5	3.8		3c	6ks	NE	SW	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.03	762.8	30.13	765.3	69.4	20.8	69	WNW	11.5	5.1		0	9		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.84	757.9	29.93	760.2	83.1	28.4	80	SE	4.1	1.83		6ks	4k	SE	SE	1.220	31.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.80	757.0	29.84	758.0	50.4	10.2	.....	NE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Umea	29.73	755.1	29.78	756.4	39.2	4.0	100	NE	.....	.....	7	.....	10	.....	.....	0.343	8.7	.....	
Hernosand	29.67	753.5	29.72	754.8	50.4	10.2	87	E	.....	.....	4	.....	8	.....	.....	0.327	8.3	.....	
Stockholm	29.57	751.1	29.75	755.6	61.3	16.3	59	S	.....	.....	4	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.67	753.7	29.73	755.2	66.9	19.4	58	SW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.62	752.4	29.70	754.3	59.5	15.3	59	S	15.7	7.0	.....	.....	9	SSW	S	0.122	0.31	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.29	718.5	29.87	758.6	72.7	22.6	48	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing; but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.6	75.7	24.3	46	N	14	6.5	.....	.....	1	.....	W	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	80.6	27.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.0	72.9	22.7	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.74	755.4	29.85	758.2	84.2	29.0	65	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.71	754.6	30.02	762.5	55	12.8	.....	NE	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B	30.11	764.8	30.17	766.3	50	10.0	75	E	2	0.9	.....	8cs	2ks	E	E	0.25	6.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.09	764.3	30.13	765.3	47	8.3	77	NE	9	4.0	.....	.....	10s	.....	.....	0.130	3.30	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.77	756.1	29.96	761.0	54.9	12.7	89	E	.....	.....	2	.....	10s	.....	.....	0.009	0.23	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.99	761.7	30.16	766.1	47.2	8.4	90	W	.....	.....	2	.....	5ks	.....	.....	0.04	1.0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.11	764.8	30.13	765.3	46	7.8	88	W	11	4.9	.....	2c	2s	W	Calm	Inap.	Inap.	Clear	J. McWilliams.
Fredericton, N. B	30.11	764.8	30.17	766.3	48.3	9.1	69	NE	6	2.7	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.92	734.6	29.72	754.9	61	16.1	68	SW	10	4.5	.....	2c	5ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.85	732.8	29.94	760.5	53	11.7	100	N	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.93	760.2	30.06	763.5	53	11.7	88	NE	3	1.3	.....	.....	10n	.....	E	0.020	0.51	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.61	752.1	29.98	761.5	52.3	11.3	94	NW	.....	.....	2	10cs	0	NW	.....	0	0	Misty	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.65	753.1	29.98	761.5	56	13.3	91	NE	10	4.5	.....	.....	10ks	.....	NE	0.14	3.6	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.83	757.7	30.02	762.5	55	12.8	88	NE	9	4.0	.....	.....	10ks	.....	NE	0.01	0.3	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.32	744.7	30.00	762.0	58	14.4	75	E	4	1.8	.....	2cs	0	NE	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.24	742.7	29.98	761.5	58.7	14.8	88	E	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.93	760.2	54	12.2	100	NE	7	3.1	.....	.....	10n	.....	SW	0	0	Threatening	H. Morgan.
Port Hastings, N. S	30.06	763.5	30.10	764.5	50.1	10.1	.....	S	2	0.9	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.93	760.2	55	12.8	92	E	3	1.3	.....	.....	10n	.....	E	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.79	756.7	30.11	764.8	52	11.1	79	E	.....	.....	3	.....	10n	.....	E	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.60	751.8	30.06	763.5	50	10.0	93	Calm	0	0	.....	.....	8s	.....	E	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.04	763.0	30.09	764.3	47	8.3	84	NE	.....	.....	1	.....	10n	.....	.....	0.02	0.5	Cloudy	Dr. Gove.
St. John, N. B	29.95	760.7	30.12	765.0	47	8.3	84	Calm	0	0	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.27	743.4	29.97	761.2	55	12.8	74	N	4	1.8	.....	8k	0	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.19	741.4	29.96	761.0	54	12.2	87	Calm	0	0	.....	.....	8n	.....	E	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.66	728.0	29.94	760.5	53.3	11.8	95	SE	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.14	765.5	45	7.2	90	NE	6	2.7	.....	.....	10n	.....	.....	0.10	2.5	Cloudy	T. C. Hill.
*Toronto, Ontario	29.60	751.8	29.98	761.5	55	12.8	93	E	8	3.6	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	30.01	762.2	30.10	764.5	50.5	10.3	86	NE	3	1.3	.....	.....	10k;n	.....	.....	0.01	0.3	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.99	761.7	30.25	768.3	43.0	6.1	82	NE	.....	.....	.....	5k	5s	.....	.....	0.13	3.3	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.78	756.4	30.00	762.0	56	13.3	94	N	5	2.2			10n		Calm	0.34	8.6	Light rain	
Alpena, Michigan	29.35	745.5	30.00	762.0	49	9.4	71	NW	4	1.8			8s		N	0	0	Cloudy	
Atchá, Aleutian Islands					35	1.7	100	NW			7		10n		NW	0.32	8.1	Cloudy	
Atlanta, Georgia	28.88	733.5	30.02	762.5	58	14.4	76	NW	15	6.7		8ck	2s	SW	NW	0	0	Cloudy	
Atlantic City, New Jersey	29.94	760.5	29.95	760.7	63	17.2	94	SE	5	2.2		2ck	5ks	NW	NW	0.15	3.8	Cloudy	
Augusta, Georgia	29.82	757.4	29.90	759.4	74	23.3	68	Calm	0	0		2cs	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	29.89	759.2	29.94	760.5	70	21.1	95	NE	3	1.3			10n		Calm	0.74	18.8	Light rain	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	62	16.7	100	SE	9	4.0			10ks;fg		SE	0.34	8.6	Cloudy	
Bismarck, Dakota	28.10	713.7	29.96	761.0	62	16.7	66	W	2	0.9		1c	0	Calm		0	0	Clear	
Boerne, Texas	28.79	731.3	30.12	765.0	56	13.3	75	N	4	1.8		0	0			0	0	Clear	
Boise City, Idaho	27.22	691.4	30.18	766.6	62	16.7	55	SE	3	1.3		5k	0	SW		0	0	Fair	
Boston, Massachusetts	29.94	760.5	30.09	764.3	50	10.0	100	NE	11	4.9			10n		NE	0.25	6.3	Light rain	
Brackettville, Texas	29.14	740.1	30.18	766.6	62	16.7	46	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	56	13.3	81	SE	4	1.8		1c	0	Calm		0.02	0.5	Clear	
Brownsville, Texas	30.09	764.3	30.14	765.5	68	20.0	79	N	4	1.8		10ck	0	N		0	0	Cloudy	
Buffalo, New York	29.23	742.4	29.91	759.7	56	13.3	90	E	10	4.5			10s;fg		E;Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona					69	20.6	39	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.73	755.1	30.02	762.5	55	12.8	93	N	6	2.7			10s		Calm	0.02	0.5	Cloudy	
Cairo, Illinois	29.79	756.7	30.18	766.6	60	15.6	71	SW	3	1.3		0	0			0.01	0.3	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.37	644.4	30.17	766.3	64	17.8	30	E	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					61	16.1	35	NW			1	0	0			0	0	Clear	
Campo, California	27.45	697.2	30.02	762.5	48	8.9	56	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.06	763.5	30.06	763.5	76	24.4	73	SW	15	6.7		5cs	5ks	W	W	0	0	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.97	761.2	73	22.8	72	SW	16	7.2		5cs	2s	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.03	762.7	30.05	763.3	76	24.4	69	SW	15	6.7		8ck	0	SW		0	0	Cloudy	
Cape May, New Jersey	29.86	758.4	29.88	758.9	65	18.3	89	S	18	8.0			10ks		S	0.01	0.3	Cloudy	
Castroville, Texas	29.46	748.3	30.16	766.1	68	20.0	38	E	6	2.7		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	29.97	761.2	30.02	762.5	78	25.6	61	SW	9	4.0		2k	0	W		0	0	Fair	
Charlotte, North Carolina	29.13	739.9	29.92	760.0	67	19.4	89	S	5	2.2			10n		W	0.26	6.6	Light rain	
Chattanooga, Tennessee	29.39	744.2	30.09	764.3	60	15.6	71	Calm	0	0		1k	0	NW		0.19	4.8	Clear	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	54	12.2	26	NW	12	5.4		0	0			0	0	Clear	
Chicago, Illinois	29.31	744.5	29.99	761.7	54	12.2	74	W	5	2.2			10s		W	0.07	1.8	Cloudy	
Cincinnati, Ohio	29.41	747.0	30.06	763.5	57	13.9	72	W	7	3.1		5k	2s	NW	NW	0.01	0.3	Clearing	
Cleveland, Ohio	29.22	742.2	29.93	760.2	54	12.2	87	NW	7	3.1			10n		NW	0.22	5.6	Light rain	
Coleman City, Texas	28.46	722.9	30.11	764.8	65	18.3	49	Calm	0	0		2cs	0	Calm		0	0	Fair	
Columbus, Ohio	29.13	739.9	29.96	761.0	57	13.9	81	W	4	1.8			10n		W	0.18	4.6	Light rain	
Concho, Texas	28.37	720.6	30.06	763.5	58	14.4	64	NW	1	0.4		0	0			0	0	Clear	
Corsicana, Texas	29.79	756.7	30.27	768.8	55	12.8	74	N	5	2.2		0	0			0	0	Clear	
Davenport, Iowa	29.40	746.7	30.04	763.0	56	13.3	69	W	5	2.2		0	0			Inap.	Inap.	Clear	
Deadwood, Dakota	25.45	646.7			57	13.9	52	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	29.07	738.4	30.24	768.1	60	15.6	71	SE	4	1.8		0	0			0	0	Clear	
Denison, Texas	29.46	748.3	30.25	768.3	59	15.0	70	NW	1	0.4		0	0			0	0	Clear	
Denver, Colorado	24.99	634.7	30.21	767.3	50	10.0	58	S	12	5.4		0	0			0	0	Clear	
Des Moines, Iowa	29.15	740.4	30.02	762.5	57	13.9	87	Calm	0	0		5k	0	W		0.02	0.5	Fair	
Detroit, Michigan	29.28	743.7	29.94	760.5	49	9.4	93	NE	4	1.8			10s		NE	0	0	Cloudy	
Dodge City, Kansas	27.60	701.0	29.88	758.9	56	13.3	63	NW	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.33	745.0	30.02	762.5	55	12.8	68	N	1	0.4		0	Haze		Calm	Inap.	Inap.	Clear	
Duluth, Minnesota	29.25	742.9	29.92	760.0	53	11.7	80	NE	2	0.9		0	0			0.10	2.5	Clear	
Eagle Pass, Texa	29.50	749.3	30.22	767.6	64	17.8	58	E	1	0.4		2c	0	SW		0	0	Fair	
Eastport, Maine	30.04	763.0	30.11	764.8	46	7.8	84	N	6	2.7			10s			0.05	1.3	Cloudy	
Edinburg, Texas					68	20.0	88	Calm			0	5ck	5s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.45	671.8			63	17.2	46	NE	6	2.7		2ks	0	NE		0.06	1.5	Fair	
Erie, Pennsylvania	29.20	741.7	29.90	759.4	52	11.1	100	NE	9	4.0			10n		Calm	0.01	0.3	Light rain	
Escanaba, Michigan	29.37	746.0	30.01	762.2	56	13.3	63	SE	1	0.4		0	0			0	0	Clear	
Florence, Arizona	28.52	724.4	30.12	765.0	78	25.6	49	NE	4	1.8		0	0			0	0	Clear	
Fort Buford, Dakota	27.85	707.4			58	14.4	81	SW	8	3.6		8cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.75	654.3	29.82	757.4	51	10.6	59	W	5	2.2		0	1s			Inap.	Inap.	Clear	
Fort Davis, Texas	25.45	646.4	30.41	772.4	54	12.2	49	W	3	1.3		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.68	753.9	30.22	767.6	58	14.4	76	Calm	0	0		0	0			0	0	Clear	
Fort Griffin, Texas	29.02	737.1	30.32	770.1	52	11.1	66	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.42	696.5			61	16.1	66	N	2	0.9			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	28.00	711.2	29.95	760.7	52	11.1	41	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.68	753.9	29.71	754.6	37	2.8	100	S	7	3.1			10ks		E	0.27	6.9	Cloudy	
Fort Sill, Indian Territory	29.03	737.3	30.14	765.5	61	16.1	66	Calm	0	0		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2			60	15.6	70	SW	2	0.9		4c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.50	723.9	30.05	763.3	68	20.0	42	N	1	0.4		2cs	0			0	0	Fair	
Galveston, Texas	30.16	766.1	30.21	767.3	66	18.3	73	NE	16	7.2		10ck;cs	0	NW;Calm		0	0	Cloudy	
Graham, Texas	29.19	741.4	30.27	768.8	53	11.7	73	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.34	745.2	29.99	761.7	50	10.0	72	W	8	3.6			10s		W	0.03	0.8	Cloudy	
Henrietta, Texas	29.31	744.5	30.26	768.6	53	11.7	73	Calm	0	0		0	0			0	0	Clear	
Indianapolis, Indiana	29.25	742.9	30.02	762.5	54	12.2	80	Calm	0	0		2ck	1s	W	Calm	Inap.	Inap.	Fair	
Indianola, Texas	30.13	765.3	30.22	767.6	65	18.3	73	NE	24	10.7		10c	0	W		0	0	Cloudy	
Jacksboro, Texas	29.14	740.1	30.26	768.6	65	18.3	44	S	5	2.2		0	0			0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.03	762.7	77	25.0	65	SE	8	3.6		0	0			0	0	Clear	
Keokuk, Iowa	29.42	747.3	30.02	762.5	59	15.0	70	NW	3	1.3		1k	0	NW		0	0	Clear	
Key West, Florida	29.97	761.2	30.01	762.2	78	25.6	69	E	9	4.0		2k	2ks	SE	SE	0	0	Fair	
Kittyhawk, North Carolina	29.99	761.7	30.01	762.2	74	23.3	76	SW	18	8.0		8cs	0	SW		0	0	Fair	
Knoxville, Tennessee	29.09	738.9	30.09	764.3	60	15.6	71	NW	6	2.7			10ks		SW	0.48	12.2	Cloudy	
La Crosse, Wisconsin	29.26	743.2	29.99	761.7	57	13.9	75	S	6	2.7		0	0			0	0	Clear	
La Mesilla, New Mexico	26.28	667.5	30.43	772.9	55	12.8	45	Calm	0	0		5cs	0	NW		0	0	Fair	
Laredo, Texas	29.84	757.9	30.18	766.6	70	21.1	48	NE	1	0.4		0	0			0	0	Clear	
Leavenworth, Kansas	29.25	742.9	30.08	764.0	60	15.6	60	S	3	1.3		1k	0	NW		0	0	Clear	
Los Angeles, California	29.50	750.8	29.89	759.2	65.0	18.3	35	E	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.50	749.3	30.05	763.3	60	15.6	65	SW	4	1.8		0	Sm'e		Calm	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.27	743.4	29.93	760.2	69	20.6	90	S	2	0.9			10n		SW	0.45	11.4	Light rain	
Madison, Wisconsin	29.01	736.5	29.98	761.5	55	12.8	74	NW	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.26	743.2	29.86	758.4	50	10.0	65	W	1	0.4		0	0			0	0	Clear	
Mason, Texas	28.63	727.2	30.41	772.4	55	12.8	56	N	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.85	758.2	30.19	766.8	59	15.0	70	NW	2	0.9		0	0			Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.25	742.9	29.98	761.5	52	11.1	79	W	3	1.3			10s		NW	0	0	Cloudy	
Mobile, Alabama	30.06	763.5	30.10	764.5	63	17.2	78	N	16	7.2			10s		N	0.01	0.3	Cloudy	
Montgomery, Alabama	29.87	758.7	30.10	764.5	64	17.8	72	N	10	4.5		5c;k	0	W		0.12	3.0	Fair	
Morgantown, West Virginia	28.97	735.8	29.93	760.2	64	17.8	73	W	8	3.6			10s		W	1.12	28.4	Cloudy	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	47	8.3	92	SW	5	2.2			Fog		SW	0.88	22.4	Foggy	
Nashville, Tennessee	29.61	752.1	30.14	765.5	60	15.6	60	W	4	1.8		0	0			0	0	Clear	
New Haven, Connecticut	29.92	760.0	30.03	762.7	64	17.8	89	SE	6	2.7			10s		NE	0.44	11.2	Cloudy	
New London, Connecticut	29.99	761.7	30.04	763.0	59	15.0	88	N	6	2.7			10s		NE	1.44	36.6	Cloudy	

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STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Upper. 0—10	Amount. Lower. 0—10	Direction. Upper. From—	Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
New Orleans, Louisiana	30.05	763.3	30.11	764.8	71	21.7	59	N	14	6.3		5cs	2s	W	N	0.78	19.8	Fair	
Newport, Rhode Island	29.98	761.5	30.03	762.7	66	13.3	94	N	5	2.2			10s		Calm	0.70	17.8	Light rain	
New York, New York	29.81	757.2	29.99	761.7	67	19.4	94	E	10	4.5			10s;fg			0.49	12.4	Cloudy	
Norfolk, Virginia	29.93	760.2	29.98	761.5	74	23.3	80	SW	12	5.4			10s		W	0	0	Cloudy	
North Platte, Nebraska	27.20	690.9	29.78	756.4	49	9.4	64	W	8	3.6		0	0			0	0	Clear	
Olympia, Washington Ter.	30.20	767.1	30.24	768.1	43	6.1	93	NW	2	0.9		2k	0	W		0	0	Fair	
Omaha, Nebraska	28.89	733.8	29.96	761.0	62	16.7	67	W	4	1.8		0	0			0	0	Clear	
Oswego, New York	29.68	753.9	30.01	762.2	55	12.8	87	N	2	0.9			10s		Calm	Inap.	Inap.	Cloudy	
Pembina, Dakota	28.96	735.6	29.76	755.9	55	12.8	74	S	6	2.7		5c	0			0	0	Fair	
Philadelphia, Pa	29.89	759.2	29.94	760.5	68	20.0	95	E	9	4.0			10n		E	1.11	28.2	Light rain	
Phœnix, Arizona	28.80	731.5	30.54	775.7	71	21.7	18	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	21	— 6.1	16	NE	24	10.7		0	0			0.08	2.0	Clear	
Pioche, Nevada					55	12.8	17	Calm	0	0		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.11	739.4	29.90	759.4	57	13.9	87	W	8	3.6			10n		Calm	0.89	22.6	Light rain	
Port Huron, Michigan	29.27	743.4	29.93	760.2	47	8.3	92	N	8	3.6			10n		Calm	0.03	0.8	Light rain	
Portland, Maine	30.05	763.3	30.10	764.5	53	11.7	93	E	4	1.8			10n		Calm	0.74	18.8	Light rain	
Portland, Oregon	30.20	767.1	30.27	768.8	53	11.9	64	NW	10	4.5		2ck	2s	SW	SW	0	0	Fair	
Prescott, Arizona	24.90	632.4	30.26	768.6	46	7.8	26	SE	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.50	749.3	30.32	770.1	64	17.8	52	SE	1	0.4		0	0			0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	76	24.4	73	E	5	2.2		2k	0	E		0.10	2.5	Clear	
Red Bluff, California	29.57	751.1	29.92	760.0	71	21.7	49	N	4	1.8		2c	0	W		0	0	Fair	
Rio Grande City, Texas	30.06	763.5	30.27	768.8	70	21.1	40	N	12	5.4		8cs	0	Calm		0	0	Fair	
Rochester, New York	29.36	745.7	29.97	761.2	55	12.8	87	E	5	2.2			10s		E	0.01	0.3	Cloudy	
Roseburg, Oregon	29.65	753.1	30.22	767.6	55	12.8	74	Calm	0	0			10s		Calm	0	0	Cloudy	
Sacramento, California	29.81	757.2	29.89	759.2	70	21.1	70	S	2	0.9		0	0			0	0	Clear	
St. Louis, Missouri	29.52	749.8	30.10	764.5	56	13.3	69	W	11	4.9		0	0			0	0	Clear	
St. Marks, Florida	30.00	762.0	30.02	762.5	73	22.8	85	NW	4	1.8		0	9s		NW	0	0	Cloudy	
St. Paul, Minnesota	29.10	739.1	29.92	760.0	55	12.8	86	S	2	0.9		0	0			0	0	Clear	
Salt Lake City, Utah	25.81	655.6	30.14	765.5	60	15.6	39	Calm	0	0		10c	0	Calm		0	0	Cloudy	
San Antonio, Texas	29.57	751.1	30.15	765.8	63	17.2	57	N	4	1.8		0	0			0	0	Clear	
San Diego, California	29.84	757.9	29.90	759.4	70	21.1	36	NE	6	2.7		0	0			0	0	Clear	
Sandusky, Ohio	29.28	743.7	29.94	760.5	57	13.9	81	N	5	2.2			10s		N	Inap.	Inap.	Threatening	
Sandy Hook, New Jersey	29.93	760.2	29.96	761.0	64	17.8	100	E	10	4.5			Fog		Calm	0.22	31.0	Foggy	
San Francisco, California	29.86	758.4	29.92	760.0	61	16.1	71	SW	12	5.4		0	0			0	0	Clear	
Santa Fé, New Mexico	23.55	598.2	30.09	764.3	43	6.1	52	NW	2	0.9		0	0			Inap	Inap.	Clear	
Savannah, Georgia	29.94	760.5	30.03	762.7	83	28.3	60	S	10	4.5		5ck	Sm'e	SW	Calm	0	0	Fair	
Shreveport, Louisiana	30.02	762.5	30.24	768.1	61	16.1	66	N	4	1.8		0	0			0	0	Clear	
Silver City, New Mexico	24.51	622.1	30.72	780.3	48	8.9	49	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.02	762.5	30.06	763.5	76	24.4	77	S	14	6.3		6c;k	0	SW;S		0	0	Fair	
Springfield, Massachusetts	29.91	759.7	30.04	763.0	57	13.9	94	NE	9	4.0			10n		NE	0.53	13.5	Light rain	
Stockton, Texas	27.24	691.9	30.24	768.1	61	16.1	40	SE	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	30.06	763.5	30.11	764.8	59	10.0	100	NE	16	7.2			10n		NE	0.33	8.4	Light rain	
Toledo, Ohio	29.27	743.4	29.94	760.5	55	12.8	87	N	2	0.9			10n		Calm	Inap.	Inap.	Light rain	
Tucson, Arizona	27.54	699.5	30.09	764.5	70	21.1	32	S	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.77	756.1	30.25	768.3	59.0	15.0	65	Calm	0	0			10s		Calm	0	0	Cloudy	
Uvalde, Texas	29.37	746.0	30.19	766.8	62	16.7	67	NE	2	0.9		1c	0	Calm		0	0	Clear	
Vicksburg, Mississippi	29.97	761.2	30.23	767.8	59	15.0	76	NE	5	2.2		5c	0	SW		0	0	Fair	
Virginia City, Montana	24.38	619.2	29.86	758.4	56	13.3	46	W	4	1.8		0	0			0	0	Clear	
Visalia, California	29.52	749.8	29.88	758.9	67	19.4	55	SE	2	0.9		Haze	0	Calm		0	0	Clear	
Washington, D. C.	29.81	757.2	29.92	760.0	68	20.0	95	E	2	0.9			10s		E	1.39	35.3	Cloudy	
Wickenburg, Arizona					62	16.7	27	N			2	0	0			0	0	Clear	
Wilmington, N. Carolina	29.95	760.7	30.02	762.5	75	23.9	68	SW	6	2.7		5c	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	51	10.6	84	Calm	0	0		5c	0	Calm		0	0	Fair	
Wood's Holl, Mass	29.99	761.7	30.03	762.7	55	12.8	87	N	8	3.6			10n		NE	0.07	1.8	Light rain	
Yankton, Dakota	28.72	729.5	29.98	761.5	56	13.3	75	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona	29.71	754.6	29.87	758.7	75	23.9	56	NE	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.93	760.2	29.98	761.5	80	26.7	72	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.24	641.1			67.0	19.4	80	SW			1	2k	3ks			0.11	2.8		Thomas Herran.
Navassa, W. I	29.82	757.4	29.90	759.4	79.5	26.4		NE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.05	763.3	30.06	763.5	84	28.9	71	NE			2	3c	5k	NE		1.45	36.8	½ clouded	O. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.10‡	764.5‡			67	19.4	84	N	10	4.5			8		W	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.09‡	764.3‡			60	15.6	97	NE			4		10n		NE	0.47	11.9			Raining	
Adams, N. 5° 56′, W. 79° 59′	30.08‡	764.0‡			79	26.1	91	W			2		10		W			Mod'ate	S;W	Cloudy	
Alaska, Sitka, Alaska	29.98‡	761.5‡			48	8.9	85	E			3		5		NE	0.012	0.30			D. clouds	
Alliance, Lisbon, Portugal	30.16‡	766.1‡			66	18.9	74	WNW			2		7							Pleasant	
Colorado, New York, N. Y.	29.93‡	760.2‡			69	20.6	95	SE	7	3.1			10			0.342	8.69			Rainy	
Constitution, Delaware river, near Wilmington, Del.	29.85‡	758.2‡			68	20.0	95	NNE			2		10		Calm			Smooth		Raining	
Despatch, N. 24° 55′, W. 27° 55′	30.26‡	768.6‡			72	22.2	80	ENE			2		9		Calm	0	0	Light	ESE	Cloudy	
Enterprise, River Sheldt, Holland	29.47‡	748.5‡			61	16.1	77	SW			4–6		10		S					Raining	
Franklin, Norfolk, Va.	29.96‡	761.0‡			73	22.8	76	SSW	16	7.2			10		Calm	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	30.07‡	763.8‡			52	11.1	86	NW			3		2		NW	0	0			Fair	
Kearsarge, Portsmouth, N. H.	30.07‡	763.8‡			53	11.7	86	NE			2		10		NE					Heavy rain	
Marion, Vera Cruz, Mexico	30.10‡	764.5‡			80	26.7	66	NNW			3		8		Var.			Mod'ate	S	Cloudy	
Michigan, Erie, Pa					53	11.7	86	NE			4		10		S					Cloudy	
Monocacy, Shanghai, China	30.27‡	768.8‡			65	18.3	84	NE			1		2		NE					Clear	
Monongahela, Yokohama, Japan	30.06‡	763.3‡			63	17.2	83	NE			2		10			Heavy	Heavy			Raining	
New Hampshire, Port Royal, S. C.	29.99‡	761.7‡			76	24.4	73	SW	10	4.5			2		Calm	0	0			Clear	
Onward, Callao, Peru †	30.01‡	762.2‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	30.05‡	763.3‡			64	17.8	89	NE			2		0							Clear	
Passaic, Washington, D. C.					72	22.2	90	Calm			0		10							Cloudy	
Pensacola, Callao, Peru	30.03‡	762.7‡			60	15.6	88	Calm	0	0			10			0	0			Misty	
Portsmouth, N. 35° 10′, W. 74° 58′	29.97‡	761.2‡			67	19.4	89	S			4		8		SSW	0	0	Mod'ate	SSE	Cloudy	
Powhatan, Hampton Roads, Va.	29.98‡	761.5‡			71	21.7	85	SSW			4		8		Calm	0	0			Cloudy	
Quinnebaug, Smyrna, Turkey	29.80‡	756.9‡			82	27.8	60	W			3		0							Hazy	
Ranger, Amoy, China	29.93‡	760.2‡			75	23.9	72	NE			1		10		Calm					Cloudy	
Richmond, Taku Bar, China	29.87‡	758.7‡			71	21.7	71	SSE			3		2		SSE	0	0	Smooth	SSE	Clear	
Rio Bravo, Brownsville, Texas	30.11‡	764.8‡			68	20.0	95	NW			1		10		NW	0	0			Cloudy	
Santee, Annapolis, Md.	29.91‡	759.7‡			70	21.1	90	E			0–1		10		SW	0.22	5.6			Light rain	
Saratoga, N. 28° 32′, W. 15° 00′	30.22‡	767.6‡			69	20.6	61	NE			5		8		ENE	0	0	Mod'ate	E	D. clouds	
St. Louis, League Island, Pa	29.94‡	760.5‡			71	21.7	90	ENE	6	2.7			10		SE	0.83	21.1			Cloudy	
Trenton, Barcelona, Spain	30.05‡	763.3‡			68	20.0	74	WSW			3–4		5			0	0	Smooth		Fair	
Tuscarora, Acapulco, Mexico	29.94‡	760.5‡			76	24.4	91	NE			2–4		10		SE	1.95	49.5	Smooth		Raining	
Vandalia, Key West, Fla	29.92‡	760.0‡			79	26.1	78	ENE			1		8		E	0	0	Smooth		Cloudy	
Wabash, Boston, Mass.	30.04‡	763.0‡			51	10.6	93	NE	10	4.5			10			0.02	0.5			Raining	
Wyoming, Leghorn, Italy	30.12‡	765.0‡			69	20.6	70	SSW			2		2		S			Smooth	S	Clear	
Wachusett, Boston, Mass.	30.06‡	763.5‡			56	13.3	87	ENE			3		10		WSW					Drizzling	

NOTE.—The originals generally give the wind-force, by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 48° 03′, E. 162° 27′		30.24‡	768.1‡	46	7.8		ENE			2		10			0	Mod'ate	NE	Overcast	L. B Walls.
S. S. Colima, N. 14° 24′, W. 93° 12′...†.		29.96‡	761.0‡	82	27.8		NW			5		3		NW		Heavy ground.	WNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†.		30.26‡	768.6‡	57	13.9	94	E			4		1		W		Smooth	NW	Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 1° 20′, W. 167° 10′		29.95‡	760.7‡				NE			5				Var.		Rough	NE	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; F. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. N. 27° 29′, E. 124° 59′		29.91‡	759.7‡	73	22.8	72	NNE			5		7k			0	Mod'ate	NE	D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, El Morro, Havanna		30.05‡	763.3‡	79.0	26.1	74	ESE			3		2		SE	0	Smooth	SE	Clear	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer. N. 41° 03′, W. 63° 12′		30.04‡	763.0‡	66.0	18.9	86	Calm			0		0			16h'rs	Smooth		Foggy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 22′, W. 55° 36′		30.09‡	764.3‡				W			3		5		W		3	W	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool, Eng		29.63‡	752.6‡	65	18.3	84	NW			5		4		NW	0			Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City, La		30.13‡	765.3‡	64	17.8	73	N	12	5.4			2cK		N	0			Clear	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax",																			
Schooner Charley Buck, N 33° 03', W. 78° 45'....†		30.07‡	763.8‡	76	24.4		SSW			5		2		WSW				Fair	N. B. Foss.
Schooner Harry and Fred, Maunabo, Porto Rico, W.I.		29.76‡	755.9‡				NE	1	0.4			8			1. in. or 25. mm.			Raining	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden. N. 34° 00'. W. 54° 55'....†		29.96‡	761.0‡	73	22.8	95	NE			2		10		E		Smooth	ENE	Cloudy	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, N. 32° 04', W. 80° 31'....†		30.04‡	763.0‡	78	25.6		SSW			3	c		S		0	Smooth		Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 4, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.02	762.5	71.2	21.8	74	NNW			2		8			0	0	Very cloudy	Kesxuche.
Algiers			29.87	758.8	73.0	22.8	72	WNW			1		5			0	0	Cloudy	Tourlière.
La Calle			29.95	760.6	75.2	24.0	93	E			1		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.15	765.7															Gau.
Saida			30.03	762.8	99.5	37.5	9	S			7		8			0	0	Very cloudy	Herbin.
Tebessa			30.06	763.6	87.8	31.0	21	W			6		5			0	0	Cloudy	Watrin.
Geriville			30.09	764.2	86.2	30.1	45	SW			2		2			0.016	0.4	Fair	Brugniaux.
Laghouat			29.99	761.8	94.6	34.8	20	E			6		2			0	0	Fair	Bertrand.
Biskra			30.05	763.3	100.4	38.0	35	SE			2		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.45	748.1	29.98	761.5	76.5	24.7	46	SE			1		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.15	740.5	29.90	759.4	67.6	19.8	63	WSW			3		5			0.213	5.4		Dr. Wierzbiski.
Eperies	29.03	737.3	29.87	758.6	70.3	21.3	65	Calm			0		10ks		NE	0	0		Julius Mikolik.
Gratz	28.79	731.2	30.02	762.5	61.3	16.3	81	NW			2		10			0	0		Andreas Rospini.
Hermannstadt	28.52	724.4	29.88	758.9	77.0	25.0	42	NW			2		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.62	726.9	29.93	760.1	64.8	18.2	58	WSW			3		7			0.031	0.8		Prof. C. Wagner.
Lemberg	28.87	733.3	29.82	757.4	70.2	21.2	64	W			2		3			0.008	0.2		Dr. T. Stanecki.
Pola	29.92	760.0	30.03	762.8	73.0	22.8	73	SW			1		10			0	0		I.R.Hydrographic Office.
Szathmar	29.47	748.5	29.91	759.7	78.8	26.0	51	S			3		5			0.417	10.6		Julius Osics, S. J.
Szegedin	29.63	752.6	29.90	759.4	73.4	23.0	51	SW			2		5			0	0		Karl Stancel.
Trieste	29.92	760.0	30.02	762.6	68.0	20.0	90	W			1		1			0	0	Fair	P. Busin.
Vienna	29.26	743.3	29.96	760.9	67.6	19.8	52	W			3		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.65	753.1	29.75	755.6	48.2	9.0		NW	22	9.8			7			0	0	Squally	W. Boswell.
Ardrossan	29.76	755.9	29.78	756.4	58	14.4		NW			3		1					Blue sky	Wm. McNeil & G. Carrick.
Armagh, Observatory			29.89	759.2	52.8	11.6		NW	4	1.8			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			29.87	758.7	52.4	11.3		W	23	10.3			1					Blue sky	John Hartnup.
Bolton (Sharples)			29.86	758.4	49.2	9.6		WNW	30	13.4			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.43	747.5	29.83	757.7	52.1	11.2		W			3		10			0.07	1.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.99	761.7	30.02	762.5	84.5	29.2		NE			2		6					Gloomy	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	29.76	755.9	29.86	758.4	61.0	16.1		WNW			1		5			Blank	Blank	D. clouds	H. Todd.
Cardington			29.85	758.2	61.0	16.1		W			1		6					D. clouds	John McLaren.
Chatham, School M. E.	29.77	756.1	29.90	759.4	58.2	14.6		W			2		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.82	757.4	29.86	758.4	52	11.1		NNW			2		2					D. clouds	J. Mac Gowan.
Dover	29.90	759.4	29.92	760.0	56	13.3		WSW			5		3					¾ clouded	J. Costello.
Falmouth, Observatory	29.72	754.9	29.94	760.5	58.2	14.6		SSW			2		8					Overcast	The Staff.
Fort Napier (Natal)	27.59	708.4	30.16	766.6	56.6	13.7		SE			1		10					Drizzling	Pvt. G. Salmon, A. H. C.
Free Town (Sierra Leone)	29.70	754.4	29.93	760.2	87	30.6		E			0		3					D. clouds	
Galway, Queen's College			29.87	758.7	55	12.8		NW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.86	758.4	29.91	759.7	69.9	21.1		W			3		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.55	750.6	29.76	755.9	59.7	15.4		WSW			4		5					D. clouds	D. G. Maclean.
Great Yarmouth	29.83	757.7	29.84	757.9	53	11.7		W			4		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.72	754.9	29.89	759.2	64.4	18.0		SW			3		4					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.75	755.6	29.97	761.2	57	13.9		SSW			1		3					D. clouds	Dr. S. E. Hoskins, F. R. S.
Helston	29.96	761.0	30.08	764.0	60	15.6		SW			2	3c				0	0	Fine	M. P. Moyle.
Holyhead	29.88	758.9	29.90	759.4	57	13.9		WSW			3		3					D. clouds	John Tilston.
Jersey	29.72	754.9	30.02	762.5	55.8	13.2		Calm			0		8					Gloomy	J. Fisher.
Kew, Observatory	29.85	758.2	29.89	759.2	60.2	15.7		SW	18	8.0			6					D. clouds	The Met'g'l Office.
Leicester, Museum	29.60	751.8	29.85	758.2	57.7	14.3		W			2		7					D. clouds	Wm. J. Harrison, F. G. S.
Malta, Mediterranean	29.94	760.5	30.02	762.5	73.6	23.1		NW			2		2ck					Blue sky	A. King.
Nairn	29.67	753.6	29.76	755.9	51	10.6		Calm			0		8					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	79.0	26.1		E			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.68	753.9	29.86	758.4	58.0	14.4		NW			3		10k;d		W	0.023	0.59	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.34	745.2	29.86	758.4	57.0	13.9		W			4		8					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.90	759.4	57	13.9		W			1		10					Showery	H. E. Bellamy.
Plymouth	29.86	758.4	29.93	760.2	58.8	14.9		S			2		10					Overcast	John Merrifield.
Prince Town	28.47	723.1	29.95	760.7	53.4	11.9		W			1		6					Fine	W. H. Tooker.
*Roche's Point	29.85	758.2	29.96	761.0	61	16.1		SW			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.75	755.6	29.91	759.7	53	11.7		NW			1		2						John C. Walker.
Sandwick Manse (Orkneys)			29.74	755.4	46.6	8.1		NW	24	10.7			10			0	0	Misty	Rev C. Clouston, L. L. D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.90	759.4	75.8	24.3		SW			1		2			Blank	Blank	D. clouds	Serg't W. H. Lyne.
Sheffield	29.57	751.1	29.85	758.2	55.0	12.8		SW			3		8			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.76	755.9	29.79	756.7	55.9	13.3	74	NW			4		7			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.46	748.3	29.86	758.4	50.3	10.2		W			3		10					Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	29.69	754.1	29.90	759.4	61.3	16.3		W			3		5					D. clouds	Rev. O. H. Griffith, F. M. S.
Truro, Royal Institution	29.92	760.0	29.94	760.5	63	17.2		S			4		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.89	759.2	29.91	759.7	54.0	12.2		NNW	10	4.5			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.16	766.1	30.20	767.1	63.5	17.5	69	SE	7	3.1		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.12	765.0	40.0	4.5	87	NW			1		10k			0.04	1.0	Covered	Francis Abbott, F. R. A. S.
Leith, Restalrig Park			29.78	756.4	61.2	16.2		NW			2		4k			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.20	767.0	71.0	21.7	80	NNE	18.0	8.0			9		ENE	0.08	2.05	Raining	C. Meldrum.
Melbourne, Observatory	30.04	763.0	30.13	765.3	44.0	6.7	91	WNW	3	1.3			0			0	0	Dense fog	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.83	757.7	54	12.2		N			4	3	2	NW		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.65	753.1	47	8.3		N			4	5?	7	NW					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.																Sea or swel Height scale 0—9	Sea or swel Direction from—		
H. M. S. "Fawn," N. 40° 55′. E. 27° 55′			29.95‡	760.7‡	72	22.2		SW			1		3					D. clouds	Capt. W. J. L. Wharton.
Agnes Wilson, N. 17° 55′, W. 80° 30′			29.93‡	760.2	81	27.2		ESE			4		6			3	SSW	D. clouds	Capt. H. W. Dyke
§Brig Alliance, N. 51° 14′, W. 29° 32′			29.89‡	759.2‡	55.8	13.2		ESE			2		10					Overcast	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Astarte, S. 10° 00′, W. 11° 50′ *			30.10‡	764.5‡	79.5	26.4		SE			4		2					Blue sky	Capt. Parson.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
British Peer																			Capt. Greig.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 29° 55′, W. 66° 20′			30.15‡	765.8‡	73	22.8		NE			3		5		SW	1		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 41° 00′, W. 68° 35′			30.16	766.1	66	18.9		SE			1		8			2	SSW	Raining	Capt. W. Randall.
S. S. Nizam, N. 18° 29′, E. 58° 38′			29.69‡	754.1‡	83	28.3		SW			5		2					Misty	Capt. Barlow.
S. S. Royal Alexandra, N. 49° 10′, W. 15° 30′			29.85	758.2	54	12.2		NE			6		10			5	N;E	Overcast	W. P. Hughes.
Theophane, S. 11° 40′, E. 90° 40′			29.92‡	761.7‡	79.4	26.3		SSE			5		5					D. clouds	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometr from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.28	667.5	30.00	762.0	66.2	19.0	92	Calm			0	9ck;cs				1.1	28.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.60	751.8	29.65	753.0	57.2	14.0	46	WNW			4		8						
Fanöe	29.62	752.4	29.64	752.9	52.7	11.5	83	WSW			6		9						
Godthaab (Greenland)	29.89	759.3	29.94	760.4	34.9	1.6	96	S			4		10						Raining
Stykkisholm (Iceland)	29.82	757.5	29.87	758.6	45.0	7.2	83	NW			4		0						
Thorshavn (Faröe)	29.76	755.8	29.79	756.7	46.2	7.9	67	NNE			2		5						
Vestervig	29.37	746.1	29.54	750.4	48.6	9.2	89	SW			6		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.8	30.03	762.8	61.5	16.4	77	SSW			1		5		W	0.378	9.6	Cloudy	Collignon, Director.
Amiens, Normal School	29.87	758.7	29.98	761.4	67.3	19.6	63	WSW			3		5		S	0	0	Cloudy	Honvallet, Director.
Arras, Engin'r School	29.60	751.7	29.84	758.0	66.2	19.0	50	SE			1				WSW	0	0		Klein, Commandant.
Avignon, Normal School	29.94	760.4	30.02	762.4	80.6	27	50	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.47	748.6	30.02	762.5	64.8	18.2	48	SW			1		8kn		SW	0.110	2.8	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.72	754.9	29.98	761.5	64.9	18.3	48	WSW			2		8		WSW	0.295	7.5	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	29.19	741.4	30.07	763.8	64.0	17.8	67	S			2		8		SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.20	741.7	30.13	765.4	75.4	24.1	47	S			1		ck	SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.45	748.1	29.99	761.8	68.4	20.2	64	N			1		10	N	N	0.012	0.3	Covered	M. Gence, Director
Brest, Naval Observatory	29.66	753.3	29.90	759.5	56.1	13.4	86	SSE			1		10		SE	0.010	0.25	Raining	De Rermaree, Director.
Carcassonne, Normal School	29.53	750.0	29.93	760.1	79.0	26.1	44	NE			3		1			0	0	V. slightly cloudy	September, Director.
Caen, Normal School	29.89	759.3	29.97	761.1	62.2	16.8	53	N			1		5		NW	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.39	746.5	29.94	760.5	69.1	20.6	68	SSW			1		7		N	0.91	23.	Cloudy	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.72	754.8	30.03	762.7	61.9	16.6	50	WSW			2		5	WSW	WSW	0.08	2.	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.4	29.93	760.2	76.3	24.6	49	SW			1		8		SW	0	0		Alluard, Director.
Commercy, Normal School.	29.17	740.8	30.02	762.5	58.6	14.8	53	W			3		5kn		W	0.567	14.4	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.6	30.10	764.6	77.5	25.3	42	NW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.27	743.4	30.01	762.2	73.4	23	52	W			1		2cs		N	0.020	0.5	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.84	758.0	30.05	763.3	65.8	18.8	72	SE			1		8		SE	0.031	0.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.71	754.7	30.02	762.4	62.8	17.1	81	SW			4		8		SW	0.031	0.8	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.13	739.8	30.03	762.7	67.1	19.5	57	SSE			1		8k	W	W	0.030	0.75	Very cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.92	759.9	30.02	762.4	59.0	15.0	82	SSE			3				SSE	0.008	0.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.75	755.6	30.01	762.2	80.1	26.7	40	W			0–1					0	0		E. Stephan, Director
Mirecourt, Normal School	28.93	734.8	29.96	760.9	63.1	17.3	63	NE			3		5		NE	0	0	Cloudy	Barbier, Director.
Nismes, Normal School	29.81	757.2	30.00	762.1	83.1	28.4	51	SE			1		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.99	736.3	29.98	761.6	70.7	21.5	62	W			1	c		W	W	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.23	640.9			51.8	11.0	75	S			2		8			0.055	1.4	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.6	29.98	761.4	73.0	22.8	60	SW			1		5	W	S	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.91	759.6	29.99	761.8	58.6	14.8	60	W			2		2		SW	0.248	6.3	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.94	760.4	29.97	761.2	61.2	16.2	67	S			1		8	S	S	0.054	1.37	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.85	758.1	30.01	762.3	63.5	17.5	57	S			2				WSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.89	733.9	29.95	760.6	68.0	20	64	WNW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.28	743.6	30.00	761.9	77.7	25.4	49	SSE			3		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.52	749.7	30.01	762.2	63.7	17.6	41	WSW			2					0.008	0.20		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.34	745.3	30.03	762.7	75.7	24.3	39	E			1		8		W	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	82.8	28.2										0.08	2.		L'Abbé Marchesi.
Lyons Obs'y (Park Station)	29.41	747.0	30.00	762.0	75.6	24.2	38	SE			1	5c			W	0	0	Cloudy	Ch. André, Director.
Mont-Louis	24.95	633.8	30.27	768.8	66.2	19.0	43	SW	18.6	8.3			0			0	0		M. Cave.
Nice			30.07	763.7	68.9	20.5	72	E			3		0			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.73	755.1			65.1	18.4	51	SW			3		5		WSW	0.110	2.8		Marié Davy, Director.
Perpignan	29.92	760.0	30.03	762.7	71.1	21.7	62	SE	11.2	5.0			0			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.61	574.2			48.2	9.0		S			1		4			0	0	Clear	Gen'l de Nansouty.
Tours	29.81	757.1	30.00	762.1	65.3	18.5	63	ESE			1		10		W	0.039	1.0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.84	757.8	29.86	758.4	67.6	19.8	92	SE	7.4	3.3		10ck		W		Covered			MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	739.8	29.97	761.2	63.9	17.7	45	W			6		6	W		0.157	4.0		Prof. Dr. Hoh.
Berlin	29.67	753.5	29.84	757.8	65.1	18.4	41	SW			5		7			0.094	2.4	Raining	Prof. Dr. Arndt.
Breslau	29.38	746.2	29.91	759.6	61.5	16.4	62	WNW			5		8			Blank	Blank		Royal University Obs'y
Carlsruhe	29.57	751.1	29.99	761.7	63.7	17.6	56	SW			7		5	SW		0	0		Albert Senz.
Cassel	29.34	745.3	29.95	760.7	57.6	14.2	59	WNW			4		7	W		0.054	1.38		Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	61.0	16.1	56	SW			5		8k;ks			0.12	3.		Director Lose.
Emden			29.78	756.5	57.9	14.4	64	W			5		4			0.016	0.4		Prof. Dr. Prestel.
Frankfort on the Main	29.59	751.5	29.95	760.7	64.2	17.9		WSW			4		4			0.075	1.9		Physical Society.
Freienwalde on the Oder	29.78	756.3	29.82	757.3	64.4	18.0	44	W			3	4c		W		0.031	0.8		Dr. Assmann.
Friedrichshafen	28.67	728.1	30.10	764.4	57.2	14.0	83	W			2		10	W		0.209	5.3	Raining	M. Wilhelm.
Hamburg	29.71	754.5	29.78	756.3	57.4	14.1	60	WSW			4		6k	W		0.311	7.9	Squally	Captain F. Hegemann.
Kiel	29.72	754.9	29.74	755.3	58.5	14.7	52	WSW			6		7			0.105	2.66		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.67	753.6	29.75	755.7	60.4	15.8	67	NW			2		4			0.138	3.5		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.46	748.2	29.87	758.7	62.6	17.0	54	W			4		7	WSW		0.102	2.6		Prof. Bruhns, Privy Counsellor.
Memel	29.70	754.4	29.75	755.6	58.6	14.8	71	WSW			5		7s						Skalweit.
Munich (München)	28.21	716.4	30.07	763.7	59.4	15.2	60	W			6		10	W		0.039	1.0		Dr. C. Lang.
Neufahrwasser	29.74	755.5	29.76	755.9	59.0	15.0	76	NW			2		10			0.035	0.9		A. Lothes.
Posen	29.58	751.2	29.85	758.3	65.3	18.5	48	W			6		9			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.48	748.8	30.02	762.5	64.2	17.9	50	WNW			2		7	SW		0.038	0.96		Imp. University Observatory.
Stuttgart	29.05	737.9	29.98	761.5	61.7	16.5	50	W					4	W		0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.4	29.97	761.2	59.5	15.3	57	W	20	9			6ck		SW	0.035	0.9		T. Hopfner.
Wustrow	29.70	754.4	29.72	755.0	53.6	12.0	73	SW			6		10cs			0.008	0.2		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.0 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.94	760.5	84.7	29.3		SW			2.0		k					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.49	748.9	29.54	750.2	87.9	31.1	63	SSW					3			0	0	D. clouds	
Deesa	29.11	739.4	29.57	751.0	96.8	36.0	32	SW	25.2	11.3			7	SW		0	0	Misty	
Bombay	29.72	754.8	29.76	755.8	84.3	29.1	83	SSW	12.0	5.4			5		SW	0.01	0.3	D. clouds	
Poona	27.77	705.4	29.75	755.7	82.3	27.9	58	WSW					4	Calm	WSW	0	0	D. clouds	
Lahore	28.73	729.7	29.46	748.3	81.0	27.2	59	NE	5.0	2.2			8			0.31	7.9	Raining	
Belgaum	27.30	693.5	29.86	758.5	71.5	21.9	90	W	12.0	5.4			10	W	W	0.26	6.6	Showery	
Roorkee	28.65	727.8	29.54	750.4	79.8	26.6	52	N	4.4	2.0			10			0.03	0.8		
Agra	28.86	732.9	29.39	746.4	102.6	39.2	23	S								0	0		
Nagpur	28.59	726.1	29.60	751.8	91.7	33.2	43	W	6.0	2.7			3	E		0	0	D. clouds	
Lucknow	29.08	738.6	29.44	747.7	100.0	37.8	30	NNW	3.5	1.6			10	Calm		0.11	2.8	Overcast	
Allahabad	29.16	740.6	29.45	748.1	104.1	40.1	28	W	6.3	2.8			7			0.01	0.3	D. clouds	
Patna	29.27	743.2	29.44	747.7	97.2	36.2	43	NNE	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	27.53	699.2	29.45	748.1	96.0	35.6	37	W	12.9	5.8			8			0	0		
Cuttack	29.46	748.2	29.54	750.2	98.1	33.9	53	SW	8.0	3.6			2			0	0	D. clouds	
Calcutta (Alipore)	29.47	748.5	29.49	749.0	88.8	31.6	57	SSW	10.0	4.5			7	SW		0	0	D. clouds	
Goalpara	29.12	739.6	29.50	749.4	79.2	26.2	89	Calm	6.9	3.1			6		SW	1.21	30.7	D. clouds	
Chittagong	29.53	750.1	29.62	752.5	80.3	26.8	88	SSE	3.8	1.7			10			0	0	Misty	
Sibsagar	29.24	742.6	29.57	751.0	78.5	25.8	93	ENE	1.6	0.7			10			0.68	17.3	D. clouds	
Jubbulpore	28.23	717.0	29.55	750.4	94.8	34.6	42	W	9.0	4.0			2		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or u-n'ta error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.62	752.3	30.02	762.4	71.4	21.9	70	SW	3.8	1.7			8			0.024	0.6		Prof. Giovanni Clodig.
Milan	29.49	749.0	30.00	762.0	74.8	23.8	48	W			2		5	SW		0	0		Prof. Schiaparelli.
Padua	29.91	759.6	30.01	762.3	73.8	23.2	58	SSW	2.5	1.1			5	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.8	30.01	762.2	71.2	21.8	71	ESE	2.5	1.1			5	S		0	0		Prof. P. F. Denza.
Genoa	29.90	759.5	30.09	764.2	65.5	18.6	75	S	4.9	2.2			10	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.12	714.3	29.98	761.5	67.5	19.7	62	NE			2		1			0	0		Prof. D. C. Bruno.
Pesaro	29.98	761.5	30.03	762.7	69.4	20.8	60	NE	7.4	3.3			0			0	0		Prof. Luigi Guidi.
Florence	29.83	757.6	30.08	763.9	74.3	23.5	48	SW			2		0			0	0		Cav. F. Meucci.
Leghorn	29.98	761.5	30.07	763.6	69.8	21.0	72	WSW			4		4			0	0		Prof. P. Monte.
Rome	29.93	760.1	30.10	764.5	75.6	24.2	45	SSW	5.6	2.5			1			0	0		Prof. P. S. Ferrari.
Lecce	29.81	757.2	30.06	763.4	78.8	26.0	42	NW	9.4	4.2			1			0	0		Prof. C. De Giorgi.
Cosenza	29.18	741.1	30.04	763.0	81.0	27.2	68	SE	5.6	2.5			0			0	0		Prof. D. Conti.
Cagliari	29.87	758.7	30.06	763.5	68.9	20.5	60	SE			2		8	NW		0	0		Prof. A. Pacinotti.
Palermo	29.86	758.5	30.11	764.8	70.2	21.2	60	NE	7.4	3.3			8			0	0		Prof. G. Cacciatore.
Syracuse	30.00	762.1	30.08	763.9	76.3	24.6	50	ESE	2.5	1.1			5	NNE		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.7	30.15	765.8	72.5	22.5	70	SSW	3.1	1.4			2			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.67	753.6	29.68	753.9	60.9	16.1	93	Calm	0	0			10s;ks		SW	0.325	8.25	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.59	751.6	29.79	756.6	59.7	15.4	89	N	0.6	0.3			2c;cs			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.61	752.1	29.68	753.9	65.7	18.7	97						10s			0.270	6.86	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.17	639.2	30.35	770.8	45.0	7.2	65	SW			1	0	6		S	0.41	10.4	½ clouded	Prof. L. Perez.
Leon	24.50	622.4	30.31	769.8	51.4	10.8	88	SW			1		10m		E	0.44	11.2	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.6	30.26	768.7	47.8	8.8	79	N	1.1	0.5			10kn			0.13	3.3	Light rain	The Staff.
Pabellon (Aguascalientes)					52.5	11.4	73	NW			1	5c	4ks			0.31	7.8	Cloudy	M. V. de Leon, M. E.
Tlacotalpam	30.05	763.2	30.06	763.5	77.0	25.0	68	N			2	3	2		N	0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.26	616.1	30.32	770.1	52.0	11.1	52	ESE			1		10		E	0.17	4.2	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.8	30.25	768.3	47.5	8.6	86	ENE			1	3c	1s	ENE	ENE	0	0	Fair	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.5	30.21	767.3	51.8	11.0	84	NW	3.1	1.4		9	0	SE		Inap	Inap.	Cloudy	Prof. P. Spina.
Colima	28.35	722.0	30.07	763.7	76.5	24.7	61	NNE			3	0	2			1.06	27.0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.86	758.5	30.15	765.9	77.7	25.4	73	SE			1	5	0			0	0	Light fog	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.92	760.0	29.92	760.0	59.4	15.2		W								0.102	2.6		
Groningen	29.75	755.6	29.80	757.0	54.9	12.7		WSW			1					0.094	2.4		
Helder	29.80	757.0	29.80	757.0	53.1	11.7		SW			5					0.094	2.4		
Hellevoetsluis	29.87	758.8	29.87	758.8	57.2	14.0	59	WSW			4					0.201	5.1		
Utrecht	29.83	757.7	29.88	758.9	60.8	16.0	55	W			5		5			0.336	8.5	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.34	745.1	29.39	746.5	57.6	14.2	49	W	16.1	7.2			3			0	0		
Brönо	29.49	749.0	29.53	750.0	50.0	10.0	61	NE	7	3			8			0.087	2.2		
Christiania	29.17	740.9	29.32	744.6	51.3	10.7	91	NE	4	2			10			0.705	17.9	Raining	
Tromsö	29.72	754.8	29.76	755.9	47.8	8.8	55	NE	34	15			1			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p.m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.80	757.0	30.00	761.9	63.3	17.4	76	WNW	7.4	3.3			4			0	0		Dr. J. A. Sampaio.
Campo Major	28.88	733.6	29.87	758.7	79.5	26.4	27	S	13.0	5.8			5	W		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	29.90	759.5	29.99	761.7	69.1	20.6	62	WSW	15.0	6.7			2			0.354	9.0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.59	751.5	29.94	760.5	64.2	17.9	77	SSW	18.6	8.3			10			0.004	0.1		The Staff.
Ponta Delgada (Azores)	29.93	760.1	30.00	761.9	66.9	19.4	53	NW	13.0	5.8			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 3° 52,′ W. 6° 52′			30.00	762.1	82.4	28		SW			3		10			3	SW	Raining, 1 hr's [rain.	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.87	758.7	80.6	27.0		W			3		2			1	W	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.07	763.6	81.0	27.2		NE			5		0			2	NE	Blue sky	P. de Fair[illegible]
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimarães. Macao, China			29.88	759.0	77.9	25.5		ESE			2		5		SE	1		D. clouds	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.42	747.2	29.83	757.6	68.4	20.2	51	WSW	11	5			9ks;k						Astronomical Obs.
Wilna	29.34	745.2	29.74	755.5	66.0	18.9	71	SSW	4	2			8					Heavy clouds	Astronomical Obs.
Dorpat	29.43	747.4	29.66	753.3	77.2	25.1	59	S	9	4			9ck						Prof. Dr. Weihrauch.
St. Petersburg	29.67	753.6	29.69	754.0	73.9	23.3	43	SSE	9	4			4k						Central Physical Obs.
Kieff	29.14	740.2	29.74	755.4	75.0	23.9	51	NNE	2	1			5k;ks						Physical Cabinet.
Nikolaiev	29.78	756.3	29.85	758.1	81.5	27.5	47	NW	13	6			4kn						Kurdakof.
Kertch	29.81	757.2	29.83	757.7	73.4	23.0	74	SE	9	4			8						Lagorio.
Moscow	29.26	743.3	29.80	756.8	63.3	17.4	84	S	11	5			9ks						Meteorological Obs.
Lugan	29.45	747.9	29.64	752.8	83.3	28.5	39	W	18	8			8			Blank	Blank		Meteorological Obs.
Archangel	29.87	758.6	29.89	759.1	50.5	10.3	49	W	2	1			10						Capt. Sselliwerstow.
Tiflis	28.45	722.6	29.80	757.0	73.6	23.1	54	NW	9	4			10n						Physical Observatory.
Astrakhan	29.86	758.5	29.78	756.4	86.2	30.1	33	SE	11	5			3ćs						Capt. Wisganow.
Krotkowo*	29.35	745.6	29.80	757.0	71.5	22.1	75	N	0	0			1k						Cand. Fatjanow.
Kasan	29.53	750.1	29.79	756.6	73.2	22.9	48	SE	2	1			4						Physical Cabinet.
Ekaterinburg	28.78	730.9	29.71	754.5	65.3	18.5	43	WNW	31	14			8k;ck;ks]						Meteorological Obs.
Nukuss	29.54	750.3	29.76	755.9	90.1	32.3	29	NNE	13	6			1ks						
Tashkend	28.26	717.9	29.72	755.0	85.6	29.8	44	Calm	0	0			0						Teich, A. M.
Barnaul	28.99	736.3	29.48	748.7	53.4	11.9	86	WNW	9	4			10					Raining	Meteorological Obs.
Yeniseisk	29.21	741.8	29.48	748.9	57.4	14.1	48	N	4	2			9						Marks.
Irkutsk																			
Peking (China)	29.52	749.9	29.67	753.5	79.0	26.1	37	Calm	0	0			1c						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.59	761.6	29.69	754.1	51.4	10.8	92	SE	4	2			6k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.90	759.4	30.00	762.1	72.3	22.4	55	ENE	2.3	1.03		1c				0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.79	756.6	29.84	758.0	89.4	31.9	33	SE	2.7	1.19		6	2	NW		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.3			79.9	26.6	40	S	0.6	0.29			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.70	703.6	29.79	756.6	85.6	29.8	41	S	12.0	5.34		1	1	W		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.80	757.0	29.95	760.6	85.1	29.5	36	SW	4.2	1.89		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.91	734.3	29.78	756.5	65.5	18.6	82	SW	7.4	3.3			10			0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.5	30.00	762.1	80.1	26.7	70	E	3.6	1.6		0	1ks			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.85	758.4	29.91	759.8	85.1	29.5	77	SSW	11.9	5.3		4cs	3k	NE	SW	0.217	5.5	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.7	30.01	762.2	67.3	19.6	73	WSW	10.1	4.5		0	10		SW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.92	760.0	30.01	762.3	77.0	25.0	84	SE	2.8	1.25		6kn	5kn	SE	SE	0.098	2.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.76	755.8	29.80	756.8	52.5	11.4		E			4		7			0	0		
Umea	29.58	751.4	29.63	752.7	52.2	11.2	83	NNE			4		10			0.795	20.2		
Hernosand	29.44	747.7	29.49	749.0	46.8	8.2	92	NE			4		10			0.374	9.5		
Stockholm	29.21	741.8	29.38	746.3	53.6	12.0	89	SSE			2		10			0.055	1.4		
Wisby	29.46	748.2	29.52	749.7	53.6	12.0	74	W			7		10			0.055	1.4		
Sub-Series.																			
Upsala	29.25	743.0	29.33	744.9	56.8	13.8	93	S	13.9	6.2			10		SSE	0.283	7.17	Raining	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.44	722.3	30.07	763.5	58.3	14.6	76	W			2		10			0	0	Covered	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.97	761.2	77.7	25.4	48	E	7	3.0			4		WSW	0	0		The Observatory.
Fao, Persian Gulf			30.00	762.0	98.6	37.0		NW			1		0						
Valona			30.14	765.6	74.8	23.8		W			1		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.78	756.4	29.89	759.2	84.6	29.2	63	W			2		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.52	749.8	29.82	757.4	63	17.2		SW	6	2.7		0	2s		SW	0.09	2.3	Clear	W. R. Bigg.
*Chatham, N. B	30.08	764.0	30.14	765.5	52	11.1	93	Calm	0	0			10n		SE	Inap.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.16	766.1	30.20	767.1	47	8.3	95	SE	12	5.4			10n					Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.78	756.4	55.3	12.9	88	W			1		9s			0.260	6.60	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.94	760.5	30.11	764.8	47.7	8.7	96	E			4		10n					Light rain	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	30.01	762.2	30.04	763.0	48	8.9	96	NE	15	6.7			10n		Calm	0.10	2.5	Light rain	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.12	765.0	51.0	10.6	94	SE	10	4.5			10n			0.660	16.24	Raining	Prof. Harrison.
*Fort Garry, Manitoba	29.04	737.6	29.86	758.4	47	8.3	81	N	8	3.6		5k	5ks	N	N	0.070	1.78	Cloudy	James Stewart.
Granton, Ontario	28.73	729.7	29.82	757.4	52	11.1	100	SW			1		10n			0.68	17.3	Overcast	James Grant.
*Halifax, N. S	30.05	763.3	30.10	766.8	45	7.2	97	SE	10	4.5			10n			0.143	3.64	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.82	757.4	55.3	12.9	88	SW			2	10cs	0	SW		0.56	14.2	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.51	749.5	29.84	757.9	57	13.9	81	S	6	2.7		1c	0	Calm		0.22	5.6	Clear	S. Woods, M. A.
Little Glace Bay, N. S																			C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.65	753.1	29.84	757.9	56	13.3	99	SW	5	2.2			Fog			0.10	2.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.06	738.1	29.74	755.4	56	13.3	93	W	4	1.8		5k	5ks	W	W	0.08	2.0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.06	738.1	29.80	756.9	53.7	12.1	93	SE			1	0	0			1.27	32.3	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.83	757.7	54	12.2	93	SW	9	4.0			10n		SW	0.56	14.2	Threatening	H. Morgan.
Port Hastings, N. S	30.18	766.6	30.23	767.8	45.1	7.3		S	4	1.8		0	0			0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.21	741.9	29.85	758.2	54	12.2	96	W	14	6.3			10n		SW	0.40	10.2	Light rain	M. Payne.
*Quebec, Quebec	29.63	752.6	29.95	760.7	53	11.7	97	NE			1	Haze	Fog	Calm	NE	0.32	8.1	Heavy rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.28	743.7	29.73	755.1	55	12.8	90	S	2	0.9			10s		SW	0.10	2.5	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.02	762.5	30.07	763.8	47	8.3	92	SE			2		Haze			0.07	1.8	Hazy.	Dr. Gove.
St. John, N. B	29.97	761.2	30.14	765.5	48	8.9	92	E	6	2.7			10n			0.76	19.3	Showery	G. Murdock, C. E.
*Saugeen, Ontario	29.08	738.6	29.78	756.4	51	10.6	85	SW	9	4.0			10ks			0.34	8.6	Cloudy	K. Stewart.
Stayner, Ontario	28.97	735.8	29.74	755.4	54	12.2	87	Calm	0	0			10n		W	0.50	12.7	Cloudy	R. J. Cole.
Stratford, Ontario	28.53	724.6	29.60	756.9	50.7	10.4	97	W	8	3.6			10s			0.764	19.40	Light rain	C. J. MacGregor, M. A.
*Sydney, C. B	30.23	767.8	30.27	768.8	46	7.8	89	E	6	2.7			10n			0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.44	747.8	29.82	757.4	53	11.7	92	SW	10	4.5			10ks		SW	0.50	12.7	Cloudy	Magnetic Observatory.
Windsor, N. S	30.07	763.8	30.17	766.3	48.5	9.2	96	E	8	3.6			10n			0.09	2.3	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.14	765.5	30.40	772.1	48.0	8.9	70	SE				0	0			0	0	Fair?	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.91	759.7	59	15.0	94	S	2	0.9			10n		Calm	0.46	11.7	Light rain	
Alpena, Michigan	29.12	739.6	29.75	755.6	55	12.5	56	W	4	1.8		0	5s		W	0	0	Fair	
Atka, Aleutian Islands					34	1.1	100	W			4		10s		W	0.10	2.5	Cloudy	
Atlanta, Georgia	28.99	736.3	30.12	765.0	60	15.6	55	NW	7	3.1		8c	0	SW		0	0	Fair	
Atlantic City, New Jersey	29.96	761.0	29.97	761.2	61	16.1	94	S	3	1.3			10s		SW	1.07	27.2	Cloudy	
Augusta, Georgia	29.94	760.5	30.11	764.8	66	18.9	50	NW	4	1.8		2cs	0	NW		Inap.	Inap.	Fair	
Baltimore, Maryland	29.97	761.2	30.01	762.2	66	18.9	59	NW	7	3.1		0	2s		W	0.46	11.7	Fair	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	60	15.6	100	S	4	1.8			10s		SW	1.08	27.4	Cloudy	
Bismarck, Dakota	28.08	713.2	29.94	760.5	57	13.9	87	NW	10	4.5		5c	0	W		0.05	1.3	Fair	
Boerne, Texas	28.70	729.0	30.04	763.0	51	10.6	65	NW	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.21	691.1	30.17	766.3	55	12.8	50	SW	2	0.9		5cs	0	SW		0	0	Fair	
Boston, Massachusetts	29.86	758.4	30.01	762.2	52	11.1	100	E	6	2.7			10n		E	0.62	15.7	Heavy rain	
Brackettville, Texas	29.02	737.1	30.05	763.3	59	15.0	48	Calm	0	0		0	0			0	0	Clear	
Breckenridge, Minnesota	28.76	730.5	29.72	754.9	59	15.0	82	N	14	6.3			10ks		NW	0.05	1.3	Cloudy	
Brownsville, Texas	30.07	763.8	30.12	765.0	69	20.6	80	N	2	0.9		10cs	0	NW		0	0	Cloudy	
Buffalo, New York	29.15	740.4	29.84	757.9	52	11.1	86	S	10	4.5			10s		S	0.43	10.9	Cloudy	
Burkes, Arizona					65	18.3	26	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.60	751.8	29.88	758.9	56	13.3	94	SW	6	2.7			10n		SW	0.30	7.6	Light rain	
Cairo, Illinois	29.73	755.1	30.11	764.8	67	19.4	64	S	4	1.8		0	0			0.18	4.6	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.33	643.4	30.13	765.3	67	19.4	25	NE	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona					60	15.6	34	N			1	0	0			0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	50	10.0	32	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.00	762.0	74	23.3	81	SW	15	6.7			10s		SW	0.02	0.5	Threatening	
Cape Henry, Virginia	30.00	762.0	30.01	762.2	64	17.8	73	NW	24	10.7			10n		NW	0.56	14.2	Light rain	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	75	23.9	81	SW	20	8.9			10ks		W	0	0	Threatening	
Cape May, New Jersey	29.92	760.0	29.95	760.7	62	16.7	88	NW	6	2.7			10ks		NW	1.89	48.0	Cloudy	
Castroville, Texas	29.37	746.0	30.08	764.0	60	15.6	49	W	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	30.00	762.0	30.06	763.5	72	22.2	76	NW	5	2.2		5ck	2s	S	Calm	0.22	5.6	Cloudy	
Charlotte, North Carolina	29.26	743.2	30.06	763.5	65	18.3	58	N	4	1.8		0	0			0.18	4.6	Clear	
Chattanooga, Tennessee	29.36	745.7	30.15	765.8	60	15.6	71	SW	3	1.3		0	0			0	0	Clear	
Cheyenne, Wyoming	24.15	613.4	30.09	764.3	56	13.3	51	N	12	5.4		5cs	0	Calm		0	0	Fair	
Chicago, Illinois	29.18	741.1	29.84	757.9	62	16.7	72	S	7	3.1		5ck	0	NW		0	0	Fair	
Cincinnati, Ohio	29.40	746.7	30.04	763.0	62	16.7	67	W	4	1.8		0	0			Inap.	Inap.	Clear	
Cleveland, Ohio	29.20	741.7	29.90	759.4	58	14.4	70	SW	13	5.8		8k	0	W		0.16	4.1	Fair	
Coleman City, Texas	28.32	719.3	29.97	761.2	62	16.7	41	S	8	3.6		0	0			0	0	Clear	
Columbus, Ohio	29.15	740.4	29.97	761.2	60	15.6	71	SW	2	0.9		10k	0	W		0.15	3.8	Cloudy	
Concho, Texas	28.23	717.0	29.87	758.7	69	20.6	58	SW	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.68	753.9	30.15	765.8	61	16.1	66	S	4	1.8		0	0			0	0	Clear	
Davenport, Iowa	29.19	741.4	29.80	756.9	63	17.2	72	SW	5	2.2		2c	0	W		0	0	Fair	
Deadwood, Dakota	25.49	647.4			56	13.3	75	SE	2	0.9		8k	0	SE		0.04	1.0	Fair	
Decatur, Texas	28.94	735.1	30.09	764.3	65	18.3	49	SE	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.34	745.2	30.12	765.0	65	18.3	63	SW	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.84	630.9	30.06	763.5	57	13.9	47	S	12	5.4		8ck	0	Calm		0	0	Fair	
Des Moines, Iowa	28.94	735.1	29.79	756.7	60	15.6	71	Calm	0	0		8cs	0	W		0	0	Fair	
Detroit, Michigan	29.20	741.7	29.86	758.4	53	11.7	80	SW	5	2.2		8k	0	SW		0.90	22.9	Fair	
Dodge City, Kansas	27.39	695.7	29.60	751.8	63	17.2	33	SW	8	3.6		1c	0	N		0	0	Clear	
Dubuque, Iowa	29.11	739.4	29.78	756.4	63	17.2	67	W	4	1.8		8c	2s	SW	Calm	0	0	Cloudy	
Duluth, Minnesota	28.96	735.6	29.59	751.6	67	19.4	69	W	8	3.6			10s		W	0.02	0.5	Cloudy	
Eagle Pass, Texa	29.38	746.2	30.10	764.5	60	15.6	60	S	3	1.3		0	0			0	0	Clear	
Eastport, Maine	30.03	762.7	30.10	764.5	45	7.2	100	SE	7	3.1			Fog		SE	0.17	4.2	Dense fog	
Edinburg, Texas					67	19.4	84	Calm			0		10s		S	0	0	Cloudy	
El Paso, Texas	26.36	669.5			58	14.4	53	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.16	740.7	29.86	758.4	55	12.8	87	SW	11	4.9			10s		W	0.54	13.7	Threatening	
Escanaba, Michigan	29.04	737.6	29.67	753.6	55	12.8	87	SW	4	1.8			10n		W	0.05	1.3	Light rain	
Florence, Arizona	28.43	722.1	30.03	762.7	80	26.7	41	E	4	1.8		0	0			0	0	Clear	
Fort Buford, Dakota	27.90	708.6			55	12.8	79	NE	5	2.2		0	0			Inap.	Inap.	Clear	
Fort Craig, New Mexico	25.66	651.8	29.72	754.9	48	8.9	42	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.36	644.1	30.32	770.1	60	15.6	34	SW	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.56	750.8	30.08	764.0	67	19.4	64	SE	3	1.3		0	0			0	0	Clear	
Fort Griffin, Texas	28.88	733.5	30.14	765.5	63	17.2	42	Calm	0	0		0	0			0	0	Cear	
Fort Keogh, Montana	27.46	697.5			57	13.9	87	NW	2	0.9		0	5s		Calm	0.16	4.1	Fair	
Fort McKavett, Texas	27.90	708.6	29.80	756.9	63	17.2	38	S	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.66	753.4	29.69	754.1	39	3.9	100	NW	5	2.2			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.89	733.8	29.98	761.7	63	17.2	57	S	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.07	713.0			58	14.4	75	SW	5	2.2		4ck	0	Calm		0.01	0.3	Fair	
Fredericksburg, Texas	28.41	721.6	29.55	750.6	62	16.7	46	SW	1	0.4		0	0			0	0	Clear	
Galveston, Texas	30.11	764.8	30.15	765.8	70	21.1	66	NE	6	2.7		2c	2s	SW	Calm	0	0	Fair	
Graham, Texas	29.03	737.3	30.07	763.8	60	15.6	65	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.20	741.7	29.82	757.4	62	16.7	61	SW	11	4.9		0	0			0	0	Clear	
Henrietta, Texas	29.16	740.7	30.09	764.3	60	15.6	55	SE	4	1.8		0	0			0	0	Clear	
Indianapolis, Indiana	29.22	742.2	29.97	761.2	64	17.8	78	S	1	0.4		0	0			0.14	3.6	Clear	
Indianola, Texas	30.13	765.3	30.16	766.1	71	21.7	62	N	8	3.6		5c	0	W		0	0	Fair	
Jacksboro, Texas	28.98	736.1	30.08	764.0	66	18.9	54	S	8	3.6		0	0			0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.08	764.0	75	23.9	72	S	4	1.8			10s		S	0.04	1.0	Cloudy	
Keokuk, Iowa	29.21	741.9	29.80	756.9	68	20.0	70	SW	12	5.4		2c	0	NW		Inap.	Inap.	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	79	26.1	70	NE	10	4.5		0	0			0	0	Clear	
Kittyhawk, North Carolina	29.98	761.5	30.00	762.0	65	18.3	100	NW	9	4.0			10n		NW	0.47	11.9	Heavy rain	
Knoxville, Tennessee	29.15	740.4	30.16	766.1	54	12.2	87	NW	1	0.4		0	Fog			0	0	Foggy	
La Crosse, Wisconsin	29.03	737.3	29.73	755.1	66	18.9	74	SW	4	1.8		10k	0	W		0	0	Cloudy	
La Mesilla, New Mexico	26.19	665.2	30.34	770.6	52	11.1	41	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.76	755.9	30.09	764.3	70	21.1	55	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.04	737.6	29.85	758.2	65	18.3	63	SE	4	1.8		5c	0	N		0	0	Fair	
Los Angeles, California	29.53	750.0	29.86	758.4	61.0	16.1	61	N	3	1.3		0	4s		Calm	0	0	Fair	
Louisville, Kentucky	29.50	749.3	30.05	763.3	64	17.8	63	S	6	2.7		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.39	746.5	30.05	763.3	67	19.4	50	SW	3	1.3		0	0			0.20	5.1	Clear	
Madison, Wisconsin	28.81	731.8	29.75	755.6	63	17.2	78	SW	9	4.0		5cs	0	S		0	0	Fair	
Marquette, Michigan	28.88	733.5	29.64	750.3	60	15.6	82	W	8	3.6		5k	2ks	SW	Calm	0.03	0.8	Cloudy	
Mason, Texas	28.52	724.4	30.29	769.4	56	13.3	46	NW	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.82	757.4	30.15	765.8	68	20.0	56	SW	6	2.7		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.08	738.6	29.77	756.1	61	16.1	71	SW	11	4.9		2c	5s	N	Calm	0	0	Cloudy	
Mobile, Alabama	30.11	764.8	30.15	765.8	65	18.3	68	N	8	3.6		10c	0	W		0	0	Cloudy	
Montgomery, Alabama	29.94	760.5	30.18	766.0	63	17.2	67	N	4	1.8		2c	0	W		0	0	Clear	
Morgantown, West Virginia	29.02	737.1	29.95	761.5	64	17.8	63	SW	7	3.1		0	0			0	0	Clear	
Mt. Washington, N. H	23.75	604.0	30.14	765.5	43	6.1	100	SW	72	32.2			10n		SW	1.18	30.0	Light rain	
Nashville, Tennessee	29.61	752.1	30.13	765.3	67	19.4	64	W	1	0.4		0	0			0	0	Clear	
New Haven, Connecticut	29.80	756.9	29.92	760.0	61	16.1	94	NE	5	2.2			10n;fg	S;	Calm	1.04	26.4	Light rain	
New London, Connecticut	29.93	760.2	29.98	761.5	61	16.1	94	SE	1	0.4			10n;fg	SE;	Calm	1.36	34.5	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	30.06	763.5	30.12	765.0	70	21.1	53	N	12	5.4		8cs	0	Calm		0	0	Fair	
Newport, Rhode Island	29.94	760.5	29.99	761.7	61	16.1	94	SW	6	2.7			10n		Calm	1.32	33.5	Light rain	
New York, New York	29.77	756.1	29.94	760.5	61	16.1	100	W	8	3.6			10s		Calm	0.92	23.4	Cloudy	
Norfolk, Virginia	29.99	761.7	30.04	763.0	62	16.7	83	N	1	0.4			10s		Calm	2.17	55.1	Cloudy	
North Platte, Nebraska	26.99	685.5	29.49	749.0	57	13.9	66	SE	4	1.8		2c	0	W		0	0	Clear	
Olympia, Washington Ter.	30.08	764.0	30.22	767.6	44.5	6.9	92	NE	2	0.9		5c	0	Calm		0	0	Fair	
Omaha, Nebraska	28.69	728.7	29.75	755.6	63	17.2	67	W	3	1.3		5c	0	NW		0	0	Fair	
Oswego, New York	29.56	750.8	29.87	758.7	59	15.0	76	SW	9	4.0		0	0			0.29	7.4	Clear	
Pembina, Dakota	29.00	736.6	29.82	757.4	48	8.9	85	N	16	7.2			10s		N	0	0	Cloudy	
Philadelphia, Pa	29.93	760.2	29.98	761.5	62	16.7	88	SW	7	3.1			10ks;s		W;Calm	2.05	52.1	Cloudy	
Phœnix, Arizona	28.68	728.5	30.40	772.1	74	23.3	18	E	3	1.3		0	0			0	0	Clear	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	31	— 0.6	18	NE	4	1.8		5cs	0	Calm		0	0	Fair	
Pioche, Nevada					56	13.3	14	S	1	0.4		2c	0	SW		0	0	Fair	
Pittsburg, Pennsylvania	29.17	741.1	29.96	761.0	55	12.8	74	SW	7	3.1		8k	0	SW		Inap.	Inap.	Fair	
Port Huron, Michigan	29.17	741.1	29.82	757.4	54	12.2	74	W	9	4.0			10ks		W	1.11	28.2	Cloudy	
Portland, Maine	30.00	762.0	30.05	763.3	52	11.1	86	E	4	1.8			10n		Calm	0.51	13.2	Light rain	
Portland, Oregon	30.15	765.8	30.22	767.6	49.8	9.9	86	NE	2	0.9		1c	0	Calm		0	0	Clear	
Prescott, Arizona	24.81	630.2	30.17	766.3	49	9.4	24	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.26	742.9	30.06	763.5	70	21.1	75	Calm	0	0		0	0			0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	78	25.6	65	SE	14	6.3		0	0			0	0	Clear	
Red Bluff, California	29.46	748.3	29.81	757.2	69	20.6	50	NW	6	2.7		2cs	0	W		0	0	Fair	
Rio Grande City, Texas	29.97	761.2	30.18	766.6	77	25.0	82	Calm	0	0			10s		Calm	0	0	Cloudy	
Rochester, New York	29.25	742.9	29.85	758.2	57	13.9	69	SW	12	5.4		8k	0	SW		0.07	1.8	Cloudy	
Roseburg, Oregon	29.68	752.6	30.21	767.3	45	7.2	92	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.72	754.9	29.81	757.2	62	16.7	77	S	4	1.8		5c	0	Calm		0	0	Fair	
St. Louis, Missouri	29.41	747.0	29.96	761.0	66	18.9	59	SW	12	5.4		0	0			0.02	0.5	Clear	
St. Marks, Florida	30.08	764.0	30.10	764.5	70	21.1	48	N	12	5.4		3c;cs	2s	NW	Calm	0	0	Fair	
St. Paul, Minnesota	28.87	733.3	29.65	753.1	63	17.2	83	NW	6	2.7		0	8n		W	0.10	2.5	Light rain	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	72	22.2	16	Calm	0	0			10s		Calm	0	0	Cloudy	
San Antonio, Texas	29.47	748.5	30.05	763.3	63	17.2	57	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.83	757.7	29.90	759.4	57	13.9	94	NW	1	0.4		2c	0			0	0	Clear	
Sandusky, Ohio	29.25	742.9	29.90	759.4	58	14.4	76	SW	12	5.4		0	1ks		W	0.35	8.9	Clear	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	63	17.2	100	SW	8	3.6			10s		W	1.98	50.3	Cloudy	
San Francisco, California	29.82	757.4	29.89	759.2	56	13.3	78	SW	7	3.1			10s		W	0	0	Cloudy	
Santa Fé, New Mexico	23.44	595.4	29.98	761.5	52	11.1	23	NE	3	1.3		0	0			0	0	Clear	
Savannah, Georgia	30.00	762.0	30.09	764.3	69	20.6	56	NW	9	4.0		8cr	0	SW		0.28	7.1	Fair	
Shreveport, Louisiana	29.95	760.7	30.17	766.3	69	20.6	75	NW	1	0.4		0	0			0	0	Clear	
Silver City, New Mexico	24.44	620.8	30.65	778.5	47	8.3	41	E	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.04	763.0	30.08	764.0	69	20.6	95	W	4	1.8			10n		Calm	0.04	1.0	Light rain	
Springfield, Massachusetts	29.84	757.9	29.97	761.2	56	13.3	94	N	4	1.8			10n		N	1.45	36.8	Light rain	
Stockton, Texas	27.10	688.3	30.10	764.5	61	16.1	17	S	4	1.8		0	0			0	0	Clear	
Thatcher's Island, Mass	29.99	761.7	30.04	763.0	52	11.1	100	N	3	1.3			10n		NE	0.58	14.7	Light rain	
Toledo, Ohio,	29.22	742.2	29.89	759.2	59	15.0	76	SW	8	3.6			10ks		SW	0.72	18.3	Cloudy	
Tucson, Arizona	27.53	699.2	30.08	764.0	73	22.8	24	S	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.80	756.9	30.30	769.6	52.0	11.1	66	E	4	1.8		0	0			0	0	Clear	
Uvalde, Texas	29.26	743.2	30.08	764.0	59	15.0	54	S	1	0.4		0	0			0	0	Clear	
Vicksburg, Mississippi	29.95	760.7	30.20	767.1	66	18.9	69	Calm	0	0		5c	0	SW		0	0	Fair	
Virginia City, Montana	24.46	621.3	29.94	760.5	50	10.0	58	SE	4	1.8		0	0			Inap.	Inap.	Clear	
Visalia, California	29.44	747.8	29.79	756.7	74	23.3	51	NW	3	1.3		5c	0	Calm		0	0	Fair	
Washington, D. C.	29.89	759.2	30.01	762.2	64	17.8	58	NW	8	3.6		1cs	0	Calm		0.42	10.7	Clear	
Wickenburg, Arizona					65	18.3	22	E			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.98	761.5	30.05	763.3	67	19.4	89	W	7	3.1			10s		Calm	0.31	7.9	Cloudy	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	60	15.6	44	E	9	4.0		5c	5s	W	SW	0	0	Cloudy	
Wood's Holl, Mass	29.97	761.2	30.01	762.2	62	16.7	94	S	6	2.7			10ks		SW	0.77	19.6	Cloudy	
Yankton, Dakota	28.51	724.1	29.73	755.1	66	18.9	73	SE	3	1.3		10ck	0	NW		0	0	Cloudy	
Yuma, Arizona	29.64	752.8	29.79	756.7	73	22.8	39	SW	3	1.3		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba. W. I	29.95	760.7	30.00	762.0	81	27.2	67	SE	3.6	1.6		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.29	642.4			64.0	17.8	87	Calm			0		10n			1.10	27.9		Thomas Herran.
Navassa, W. I	29.86	758.4	29.94	760.5	76	24.4		NE								0.11	2.8	Raining	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.08	764.0	30.08	764.0	80	26.7	82	E			2	3c	4k	E		0.12	3.0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Bœrne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.04 in., or 160.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.14‡	765.5‡			68	20.0	65	NE	9	4.0			2		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.70‡	754.4‡			67	19.4	97	SW			2		10ks		SW	3.97	100.8			Cloudy	
Adams, Panama, U. S. C.	30.09‡	764.3‡			79	26.1	91	W			1		10		W					Cloudy	
Alaska, Sitka, Alaska	29.81‡	757.2‡			50	10.0	72	E			3		10		NE	0	0			Overcast	
Alliance, Lisbon, Portugal	29.95‡	760.7‡			67	19.4	74	SW			4		10		SW					Cloudy	
Colorado, New York, N. Y.	29.96‡	761.0‡			63	17.2	94	SW	4	1.8			10		SE	1.6	40.6			Rainy	
Constitution, League Island, Penn.	29.89‡	759.2‡			64	17.8	94	SSE			1		10		Calm					Raining	
Despatch, N. 24° 28′, W. 29° 20′	30.25‡	768.3‡			73	22.8	67	NNE			2		2		Calm	0	0	Light	NNE	Fair	
Enterprise, Antwerp, Holland	29.92‡	760.0‡			60	15.6	65	W			3–5		6		W					Cloudy	
Franklin, Norfolk, Va.	30.00‡	762.0‡			65	18.3	78	NNW	10.8	4.8			10		Calm	1.93	49.0			Cloudy	
Hartford, Montevideo, Uruguay.*	30.00‡	762.0‡			50	10.0	86	WNW			6		0			0	0			Clear	
Kearsarge, Portsmouth, N. H.	30.04‡	763.0‡			53	11.7	93	SE			1		10							Heavy rain.	
Marion, Vera Cruz, Mexico	30.09‡	764.3‡			81	27.2	66	NNW			5		2		S			Rough	S	Cloudy.	
Michigan, Erie, Pa.					55	12.8	93	SW			4		10		W					Cloudy	
Monocacy, Shanghai, China	30.13‡	765.3‡			70	21.1	90	SSE			2		8		SSE					Cloudy	
Monongahela, Yokohama, Japan	29.66‡	753.4‡			67	19.4	84	S			0–1		10			Very Heavy	Very Heavy			Misty	
New Hampshire, Port Royal, S. C.	30.04‡	763.0‡			72	22.2	67	WNW	11	4.9			2		Calm	0	0			Clear	
Onward, Callao, Peru.†	30.05‡	763.3‡			62	16.7	88	NNE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.87‡	758.7‡			69	20.6	95	SSE			2		10		W					Misty	
Passaic, Washington, D. C.					68	20.0	70	NW			2		2							Clear	
Pensacola, Callao, Peru	30.09‡	764.3‡			62	16.7	94	NE	2	0.9			10							Misty	
Portsmouth, Off Highland Light of Navesink, N.J.	29.94‡	760.5‡			61	16.1	100	WSW			3		10		Calm			Smooth		Raining	
Powhatan, Hampton Roads, Va.	30.02‡	762.5‡			65	18.3	73	NNW			2		8		Calm	0	0			Cloudy	
Quinnebaug, Smyrna, Turkey	29.86‡	758.4‡			82	27.8	52	WNW			4		0							Hazy	
Ranger, Amoy, China	29.87‡	758.7‡			76	24.4	77	NE			1–2		2		Calm					Clear	
Richmond, Taku Bar, China	29.62‡	752.3‡			71	21.7	75	SE			2		0			0	0	Smooth		Clear	
Rio Bravo, Brownsville, Texas	30.10‡	764.5‡			69	20.6	95	NW			1		8		W	0	0			Fair	
Santee, Annapolis, Md.	29.93‡	760.2‡			65	18.3	87	NW			1		8		SW	0.69	17.5			Cloudy	
Saratoga, Santa Cruz, Canaries	30.16‡	766.1‡			76	24.4	64	SSW			2		2		S; W	0	0	Smooth		Blue sky	
St. Louis, League Island, Pa.	29.98‡	761.5‡			63	17.2	89	SW	4	1.8			10		SW	1.95	49.5			Cloudy	
Trenton, N. 38° 38′, E. 0° 20′	30.00‡	762.0‡			67	19.4	84	NE			3		0			0	0	Mod'ate	S	Clear	
Tuscarora, N. 17° 03′, W. 100° 55′	29.93‡	760.2‡			78	25.6	91	NE			2–3		10		SE	0.4	10.	Smooth		Hazy	
Vandalia, N. 26° 14′, W. 79° 50′	30.00‡	762.0‡			80	26.7	74	NE			3		0			2.	51.	Smooth	S	Clear	
Wabash, Boston, Mass.	30.03‡	762.7‡			63	17.2	89	NE	4	1.8			10			0.10	2.5			Raining	
Wyoming, N. 41° 50′, E. 11°, 03′	30.09‡	764.3‡			67	19.4	84	SSE			1		2		S			Smooth	S	Clear	
Wachusett, Boston, Mass.	30.06‡	763.5‡			58	14.4	82	ENE			0–1		10							Heavy rain.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 43° 29′, E. 168° 22′		30.16‡	766.1‡	44	6.7		SW			6		10			0	Mod'ate	SW	Overcast	L. B. Walls.
S. S. Colima, N. 14° 56′, W. 96° 17′		30.01‡	762.2‡	82	27.8		W			3		6		E	0.43 in. or 10.9mm	Mod'ate	WSW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur[illegible]
S. S. Dakota, Capt. H. G. Morse.																			
Seattle, Washington Ter.		30.26‡	768.3‡	52	11.1	73	Calm			0		0						Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 3° 21′, W. 164° 14′		29.86‡	758.9‡				ENE			6				ENE		Rough	NE	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. N. 29° 16′, E. 129° 16′		29.80‡	756.9‡	75	23.9	68	N			4		8ok			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer. N. 39° 38′, W. 68° 19′		30.10‡	764.5‡	70.0	21.1	80	S			3		8†		S	0	Smooth	S	Clear†	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 41° 33′, W. 50° 26′		30.21‡	767.3‡				ENE			4		10		W		4	NE	Foggy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Mersey River, Eng.		29.90‡	759.4‡	55	12.8	87	WNW			7		2		WNW	0			Clear	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City, La.		30.14‡	765.5‡	68	20.0	70	NE	3				8k			0			Cloudy	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N. 32° 23′, W. 78° 18′....†		30.10‡	764.5‡	77	25.0		NW			5		10		NW			SSW	Cloudy	N. B. Foss.
Schooner Harry and Fred, Mannabo, Porto Rico, W.I.		29.87‡	758.7‡				NE	2				8			3.5 in. or 88.9mm	Long	SE	Raining	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden.... N. 34° 02′. W. 54° 53′.....†		30.08‡	764.0‡	75	23.9	90	WNW			1		2		Var.		Smooth	S	Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith....																			L. Dunbar.
Schooner Henry Whitney, N. 31° 12′, W. 80° 56′....†		30.08‡	764.0‡	75	23.9		NNW			4		5s			0	Smooth		½ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 5, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.00	763.6	73.4	23.0	62	WNW			2		5			0	0	Fair	Kesxuche.
Algiers			29.92	759.9	79.5	26.4	36	W			6		8			0	0	Very cloudy	Tourilliere.
La Calle			29.95	760.8	71.4	21.9	90	NNW			3		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.09	764.2															Gau.
Saida			30.07	763.7	79.2	26.2	8	N			4		0			0	0	Clear	Herbin.
Tebessa			30.02	762.4	90.7	32.6	13	S			8		2			0	0	Fair	Watrin.
Geriville			30.08	763.9	75.6	24.2	59	NW			1		2			0	0	Fair	Brugniaux.
Laghouat			29.97	761.1	98.2	36.8	16	SW			7		5			0	0	Cloudy	Bertrand.
Biskra			29.95	760.6	98.2	36.8	35	SE			3		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.41	747.0	29.93	760.2	80.6	27.0	42	SW			4		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.22	742.2	29.97	761.3	65.1	18.4	75	WSW			3		8			0	0		Dr. Wierzbiski.
Eperies	29.08	738.6	29.94	760.4	64.8	18.2	82	S			1		10s			0.026	0.65		Julius Mikolik.
Gratz	28.72	729.6	29.93	760.2	72.0	22.2	65	SE			2		4			0.240	6.1		Andreas Rospini.
Hermannstadt	28.57	725.7	29.93	760.3	77.7	25.4	45	NW			1		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.61	726.6	29.89	759.3	70.9	21.6	71	NE			2		6			0.024	0.6		Prof. C. Wagner.
Lemberg	28.94	735.0	29.89	759.3	65.8	18.8	63	NW			1		10			0	0		Dr. T. Stanecki.
Pola	29.93	760.3	30.04	763.0	75.6	24.2	64	SSE			1		0			0	0		I.R. Hydrographic Office.
Szathmar	29.55	750.5	30.00	761.9	74.5	23.6	55	W			3		7			0	0		Julius Csics, S. J.
Szegedin	29.73	755.2	30.01	762.0	77.7	25.4	45	SW			1		5			0	0		Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	73.4	23.0	50	NW			1		2			0	0	Almost clear	P. Busin.
Vienna	29.26	743.3	29.96	760.9	70.3	21.3	66	SE			1		6			0.024	0.6		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	29.78	756.4	29.88	758.9	49.2	9.6		SSE	11	4.9			8			0	0	Overcast	W. Boswell.
Ardrossan	29.84	757.9	29.86	758.4	55	12.8		NW			1		5					D. clouds	Wm. McNeil & G. Carrick
Armagh, Observatory			29.84	757.9	56.9	13.8		E	5	2.2			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.82	757.4	61.8	16.6		E	10	4.5			3					Blue sky	John Hartnup.
Bolton (Sharples)			29.83	757.7	60.6	15.9		SW	6	2.7			4					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.43	747.5	29.84	757.9	59.3	15.2		W			0		3			0	0	Blue sky	J. McLandsborough.
Bridgetown (Barbadoes)	30.02	762.5	30.05	763.3	84	28.9		NE			1		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.75	755.6	29.84	757.9	65.9	18.8		E			1		5					D. clouds	H. Todd.
Cardington			29.83	757.7	68.0	20.0		SE			1		7					D. clouds	John McLaren.
Chatham, School M. E.	29.72	754.9	29.85	758.2	61.4	16.3		NE			2		4					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	29.83	757.7	29.85	758.9	52	11.1		NE			1		3					D. clouds	J. Mac Gowan.
Dover	29.80	756.9	29.82	757.4	58	14.4		E			4		5					½ clouded	J. Costello.
Falmouth, Observatory	29.50	749.3	29.73	755.1	54.3	12.4		E			5		10					Overcast	The Staff.
Fort Napier (Natal)	27.84	707.1	30.13	765.3	70.2	21.2		E			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	89	31.7		E			1		3					D. clouds	
Galway, Queen's College			29.75	755.6	55	12.8		E			2		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.00	762.0	30.05	763.3	72.6	22.6		W			5		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.65	753.1	29.85	758.2	54.9	12.7		WSW			2		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.89	759.2	29.90	759.4	55	12.8		SE			3		0					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.66	753.4	29.83	757.7	66.3	19.1		E			1		7					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.50	749.3	29.72	754.9	53	11.7		NE			2		10					Raining	Dr. S. E. Hoskins, F.R.S.
Helston	29.76	755.9	29.88	758.9	59	15.0		E			6		8k			0	0	Fair	M. P. Moyle.
Holyhead	29.50	749.3	29.51	749.5	56	13.3		NNE			3		2					Blue sky	John Tilston.
Jersey	29.43	747.5	29.72	754.9	56.0	13.3		ENE			4		10					Overcast	J. Fisher.
Kew, Observatory	29.80	756.9	29.83	757.7	65.2	18.4		ESE	12	5.4			6					D. clouds	The Met'g'l Office.
Leicester, Museum.	29.59	751.6	29.84	757.9	62.9	17.2		NE			1		5					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.98	761.5	30.06	763.5	82	27.8		SE			2		2ck					Blue sky	A. King.
Nairn	29.74	755.4	29.83	757.7	54	12.2		Calm			0		2					¼ clouded	W. D. Penny.
Nassau (Bahamas)			30.09	764.3	81.5	27.5		SE			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.68	753.9	29.86	758.4	68.3	20.2		SE			2		7c;k		SSE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.31	744.5	29.82	757.4	64.5	18.1		S			2		7					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.91	759.7	64	17.8		E			1		8					Overcast	H. E. Bellamy.
Plymouth	29.67	753.6	29.74	755.4	57.0	13.9		ENE			5		10					Gloomy	John Merrifield.
Prince Town	28.34	719.8	29.81	757.2	52.0	11.1		E			5		9					Gloomy	W. H. Tooker.
*Roche's Point	29.72	754.9	29.82	757.4	53	11.7		ESE			5		10					Covered	Wm. Kennedy.
Saint Ann's Head	29.62	752.3	29.78	756.4	58	14.4		ESE			4		4					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.85	758.2	46.7	8.2		W	8	3.6			0			0	0	Blue sky	Rev O. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.88	758.9	29.94	760.5	86.0	30.0		NE			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.58	751.3	29.85	758.2	64.1	17.8		SE			1		4			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.83	757.7	29.86	758.4	58.5	14.7	59	Calm			0		2			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.44	747.8	29.85	758.2	59.7	15.4		S			0		7					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.63	752.6	29.85	758.2	64.7	18.2		SE			2		6					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.84	757.9	29.86	758.4	62	16.7		E			6		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.69	754.1	29.71	754.6	57.0	13.9		ESE	18	8.0			10					Overcast	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.95	760.7	29.99	761.7	74.3	23.5	52	SE	8	3.6		1	2			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.02	762.5	39.0	4.0	80	NW			1		3k			0.01	0.3		Francis Abbott F.R.A.S.
Leith, Restalrig Park			29.89	759.2	50.0	10.0		E			2	10ck		W		0	0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.94	760.5	30.14	765.5	74.2	23.4	68	E	10.5	4.7		0	2		ESE	0.21	5.8	Fine	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	46.0	7.8	90	W	5	1.8			1			0.02	0.5	Dense fog	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.88	758.9	54	12.2		SW			3	3	0	SW		0	0		J. Youngclaus.
North Unst (Shetland Is.)			29.80	756.9	48	8.9		NW			3	3	2	NW					Robert Burnett.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series. Vessels.																Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
H. M. S. "Fawn," N. 40° 30′. E. 27° 40′			29.98‡	761.5‡	77	25.0		N			1		0					Blue sky	Capt. W. J. L. Wharton.
Agnes Wilson, N. 17° 7′, W. 85° 10′			29.98	761.5	80	26.7		SE			3		8			3	SSW	Showery	Capt. H. W. Dyke
S. S. Algera, N. 40° 35′ W. 69° 20′			29.99	761.7	59	15.0		SW			3		1	WNW		2		Misty.	
§Brig Alliance, N. 52° 01′, W. 28° 14′			29.82‡	757.4‡	54.8	12.7		NNE			4		8					D. clouds	Capt. W. Scott.
S. S. Amanda.																			Capt. B. Boyes.
Astarte, S. 9° 00′, W. 12° 50′ *			30.10‡	764.5‡	80.8	27.1		SE			3		5					D. clouds	Capt. Parson.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
British Peer																			Capt. Greig.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 31° 10′, W. 66° 25′			30.21‡	767.3‡	77	25.0		Calm			0		1			0		Blue sky	Capt. H. L. Fox.
S. S. Iron Cross, N. 41° 50′, W. 62° 45′			30.00	762.0	56	13.3		SSW			3		8			2	SSE	Misty	Capt. W. Randall.
S. S. Nizam, N. 15° 50′, E. 55° 47′			29.74‡	755.4‡	84	28.9		SW			4		2					Misty	Capt. Barlow.
S. S. Royal Alexandra, N. 48° 45′, W. 17° 25′			29.50	749.3	56	13.3		NNE			4		10			5	SE	Rain & fog	W. P. Hughes.
Theophane, S. 13° 10′, E. 86° 45′			30.03‡	762.7‡	76.4	24.7		SSE			5		5					D. clouds	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometr from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.28	667.5	30.00	762.0	66.2	19.0	92	Calm			0	8ck; cs	Sm'e			1.2	30.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.69	754.2	29.74	755.4	52.5	11.4	66	WNW			6		10						
Fanöe	29.84	757.9	29.86	758.4	51.4	10.8	76	W			6		9						
Godthaab (Greenland)	29.72	755.0	29.77	756.1	34.3	1.3	96	Calm			0		10					Raining	
Stykkisholm (Iceland)	29.88	758.9	29.92	760.0	45.0	7.2	66	Calm			0		10						
Thorshavn (Faröe)	29.79	756.6	29.82	757.5	50.7	10.4	71	E			2		4						
Vestervig	29.55	750.6	29.72	754.9	50.0	10.0	82	W			6		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.22	742.1	29.77	756.1	63.3	17.4	88	E			1		8	W	W	0.012	0.3	Very cloudy	Collignon, Director.
Amiens, Normal School	29.71	754.5	29.73	755.2	73.4	23	42	E			1		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.60	751.7	29.84	758.0	66.2	19.0	50	SE			1				WNW	0	0		Klein, Commandant.
Avignon, Normal School	29.68	753.9	29.76	755.9	82.0	27.8	53	SE			1		8			0	0	Very cloudy	Giraud, Director.
Bar-sur-Seine	29.22	742.1	29.74	755.5	75.6	24.2	47	SE			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.55	750.5	29.80	757.0	66.7	19.3	53	E			1		10		SW	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.93	734.7	29.78	756.3	76.6	24.9	61	NE			2		10			0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.89	733.7	29.80	757.0	75.2	24	54	S			1		ck	SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.12	739.7	29.65	753.0	77.0	25	61	NE			2		5	NE	NE*	0.004	0.1	Cloudy	M. Gence, Director
Brest, Naval Observatory	29.38	746.3	29.63	752.5	60.8	16.0	87	NNE			1		10		S	0.079	2.00		De Kermaree, Director.
Carcassonne, Normal School	29.57	751.0	29.96	761.0	79.7	26.5	37	W			1		5		W	0	0	Cloudy	September, Director.
Caen, Normal School	29.66	753.4	29.73	755.2	63.7	17.6	74	E					10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.22	742.2	29.76	756.0	68.4	20.2	85	ENE			2		10			0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.51	749.6	29.82	757.4	73.0	22.8	50	ESE			2		8	WSW	WSW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.41	721.6	29.69	754.2	76.5	24.7	44	SW			1		10		SW	0	0		Alluard, Director.
Commercy, Normal School	29.07	738.4	29.91	759.6	67.5	19.7	53	E			1		5ns		E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.73	729.6	29.87	758.6	74.3	23.5	34	SE			4		8		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.03	737.4	29.76	756.0	75.6	24.2	51	ENE			1		5ks	ESE		0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.50	749.2	29.71	754.5	68.4	20.2	74	SE			3		8		S	0.008	0.2	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.45	748.1	29.76	755.8	67.1	19.5	70	S			1		8		SSE	0.020	0.5	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.90	734.0	29.79	756.6	75.7	24.3	53	N			1		10n	WSW	WSW	0	0	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.53	750.0	29.63	752.5	66.2	19.0	79	SE			6				SE	0.110	2.8		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.47	748.6	29.73	755.2	83.3	28.5	27	E			2-3		8			Inap.	Inap.	Almost cov'd	E. Stephan, Director
Mirecourt, Normal School	28.82	731.9	29.82	757.3	72.7	22.6	56	WNW			1		2		WNW	0	0	Slightly cld'y	Barbier, Director.
Nismes, Normal School	29.56	750.8	29.75	755.6	84.2	29	60	S			1		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.72	729.5	29.72	754.9	81.5	27.5	45	S			1	c		S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.07	636.7			60.3	15.7	39	S			3		10			0	0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.39	754.1	29.72	754.9	70.7	21.5	72	SSW			2		8	S	S	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.68	753.9	29.77	756.1	64.0	17.8	57	ENE			1		10		SW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.60	751.9	29.63	752.7	67.6	19.8	68	E			4		1	E	E	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.62	752.3	29.78	756.5	70.9	21.6	58	E			2				WSW	0.059	1.5		E. Renou, Director.
Tarbes, Normal School	28.85	732.9	29.91	759.8	64.4	18	80	SW			2		10			0.47	12.	Covered	T. Huguet, Director.
Toulouse, Observatory	29.10	739.0	29.82	757.4	69.1	20.6	68	SSE			3		9			0	0		M. Julier Mercadier.
Versailles, Observatory	29.29	743.9	29.78	756.4	69.4	20.8	51	E			3		9			0.043	1.10	Almost cov.	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.10	739.2	29.78	756.4	77.9	25.5	58	S			1		8		S	0.063	1.6	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.6	29.89	759.3	77.0	25										3.31	84.		L'Abbé Marc[illegible]si.
Lyons Obs'y (Park Station)	29.17	740.8	29.75	755.7	75.2	24.0	46	E			1		9			0	0	Covered	Ch. André, Director.
Mont-Louis	24.71	627.7	30.03	762.7	59.0	15.0	70	SW	23.0	10.3			3		W	0	0		M. Cave.
Nice			29.91	759.7	73.4	23.0	40	E			10					0	0	Hazy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.51	749.5			70.0	21.1	58	NE			3		10			0.004	0.1		Marié Davy, Director.
Perpignan	29.68	753.9	29.79	756.6	66.6	19.2	69	E	7.4	3.3			10			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.43	569.6			52.0	11.1		S			1		9			0.465	11.8	Threatening	Gen'l de Nansouty.
Tours	29.55	750.6	29.75	755.6	72.3	22.4	64	ENE			1		8		SSW	0.142	3.6		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.75	755.7	29.78	756.4	70.3	21.3	75	SSE	8.7	3.9			10ck		W	0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Mc'ers per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.11	739.4	29.95	760.8	66.2	19.0	45	SE			4		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.78	756.4	29.95	760.7	63.7	17.6	50	SW			4		6			0.130	3.3		Prof. Dr. Arndt.
Breslau	29.45	747.9	29.98	761.4	64.4	18.0	40	W			4		2			0.091	2.32		Royal University Obs'y.
Carlsruhe	29.43	747.6	29.85	758.1	71.2	21.8	61	NE			1		9	SW		0	0		Albert Senz.
Cassel	29.84	745.1	29.94	760.5	68.4	20.2	42	NNW			2		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	68.5	20.3	43	SE			2		4cs			0.08	2		Director Lose.
Emden			29.91	759.6	58.8	14.9	61	NNE			2		1	W		0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.54	750.3	29.90	759.5	67.6	19.8		NE			2		2			0	0		Physical Society.
Freienwalde on the Oder	29.89	759.2	29.93	760.2	66.0	18.9	52	W			5		3c	W		0.031	0.8		Dr. Assmann.
Friedrichshafen	28.47	723.2	29.86	758.4	68.0	20.0	70	SW			2		9	SW		0	0		M. Wilhelm.
Hamburg	29.87	758.7	29.94	760.5	56.7	13.7	63	WNW			4		5k	WNW		0.236	6.0	Fair	Captain F. Hegemann.
Kiel	29.87	758.7	29.89	759.1	56.3	13.5	59	W			7		6			0.144	3.65		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.72	754.9	29.80	757.0	49.6	9.8	81	W			5		6			0.150	3.8		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.55	750.5	29.96	760.9	67.3	19.6	52	W			4		6	WSW		0.091	2.3		Prof. Bruhns, Privy Counsellor.
Memel	29.71	754.5	29.75	755.7	55.0	12.8	68	W			5		8s						Skalweit.
Munich (München)	28.13	714.4	29.98	761.6	68.7	20.4	63	E			2		9			0.114	2.9		Dr. C. Lang.
Neufahrwasser	29.79	756.6	29.80	757.0	57.2	14.0	68	SW			4		10			0.036	0.9		A. Lothes.
Posen	29.66	753.4	29.95	760.6	62.8	17.1	40	W			6		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.34	745.1	29.86	758.5	71.2	21.8	56	ENE			2		10			0.006	0.15		Imp. University Observatory.
Stuttgart	28.93	734.8	29.82	757.6	73.4	23.0	48	E					7	W		0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.45	722.6	29.91	759.8	66.7	19.3	57	Calm	0	0			6ck	NW	SE	0.012	0.3		T. Hopfner.
Wustrow	29.82	757.4	29.84	758.0	52.9	11.6	70	W			7		10s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.5	30.00	762.0	84.4	29.1		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.8	29.53	750.0	85.9	29.9	63	SW					4			0	0	D. clouds	
Deesa	29.13	739.8	29.58	751.4	97.0	36.1	23	SW	24.8	11.1			1	SW		0	0	Misty	
Bombay	29.70	754.4	29.74	755.4	83.2	28.4	83	SW	11.0	4.9			3	SSW	SSW	0.24	6.1	D. clouds	
Poona	27.76	705.1	29.76	755.8	79.3	26.3	67	WSW					7	Calm	WSW	0.02	0.5	D. clouds	
Lahore	28.76	730.6	29.48	748.8	93.1	33.9	32	Calm	4.2	1.9						0	0	Blue sky	
Belgaum	27.30	693.3	29.84	758.0	74.1	23.4	85	W	11.0	4.9			3		W	0.06	1.5	Showery	
Roorkee	28.60	726.5	29.46	748.3	95.9	35.5	28	NW	5.1	2.3			4			0.09	2.3		
Agra	29.00	736.5	29.55	750.6	86.7	30.4	53	NW								0	0		
Nagpur	28.57	725.8	29.58	751.4	92.7	33.7	40	WSW	5.6	2.5			2	NE		0	0	D. clouds	
Lucknow	29.09	739.0	29.45	748.1	99.1	37.3	27		3.5	1.6			10	Calm		0.05	1.3	Overcast	
Allahabad	29.17	741.0	29.47	748.6	98.8	37.1	29	NW	5.6	2.5			9		W	0.01	0.3	D. clouds	
Patna	29.24	742.8	29.42	747.2	102.3	39.1	24	WNW	3.1	1.4			2	WNW	NW	0	0		
Hazaribagh	27.54	699.4	29.46	748.3	96.0	35.6	24	W	15.3	6.8			3			0	0		
Cuttack	29.47	748.6	29.55	750.7	91.1	32.8	47	W	3.0	1.3			2			0	0	D. clouds	
Calcutta (Alipore)	29.54	750.2	29.56	750.7	87.8	31.0	67	E	10.0	4.5			7	W		0	0	D. clouds	
Goalpara	29.11	739.3	29.49	749.0	81.1	27.3	87	NNW	2.2	1.0			9		WSW	0.54	13.7	Gloomy	
Chittagong	29.56	750.7	29.65	753.1	81.5	27.5	91	SSW	4.8	2.2			8			0	0	Misty	
Sibsagar	29.20	741.6	29.53	750.0	81.8	27.7	84	S	2.2	1.0			10	W	W	1.15	29.2	D. clouds	
Jubbulpore	28.21	716.5	29.52	749.8	95.7	35.4	40	NW	7.7	3.4			2		E	0	0	D. clouds	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.64	752.8	30.04	762.9	74.5	23.6	64	SW	1.8	0.8			9			0	0		Prof. Giovanni Clodig.
Milan	29.51	749.5	30.02	762.4	75.6	24.2	54	WNW			2		9	W		0	0		Prof. Schiaparelli.
Padua	29.94	760.4	30.04	763.1	75.6	24.2	56	SE	5.6	2.5			8	W		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.08	738.5	29.96	761.0	72.5	22.5	60	NE	1.8	0.8			6	E		0	0		Prof. P. F. Denza.
Genoa	29.83	757.7	30.02	762.5	74.5	23.6	37	N	1.3	0.6			2	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.6	29.99	761.8	72.0	22.2	55	E			2		7	WSW		0	0		Prof. D. C. Bruno.
Pesaro	29.99	761.7	30.04	762.9	72.0	22.2	64	E	10.5	4.7			7			0	0		Prof. Luigi Guidi.
Florence	29.76	756.0	30.02	762.4	81.5	27.5	37	SE			2		10			0	0		Cav. F. Meucci.
Leghorn	29.90	759.4	29.98	761.5	75.4	24.1	49	S			4		9			0	0		Prof. P. Monte.
Rome	29.85	758.2	30.02	762.6	83.7	28.7	33	SSW	9.4	4.2			8			0	0		Prof. P. S. Ferrari.
Lecce	29.87	758.7	30.11	764.9	80.2	26.8	28	N	4.9	2.2			0			0	0		Prof. C. De Giorgi.
Cosenza	29.19	741.3	30.05	763.3	84.9	29.4	68	N	0.7	0.3			0			0	0		Prof. D. Conti.
Cagliari	29.69	754.1	29.88	758.9	74.5	23.6	60	S			2		8	W		0	0		Prof. A. Pacinotti.
Palermo	29.80	756.9	30.05	763.3	79.2	26.2	37	NE	3.1	1.4			1			0	0		Prof. G. Cacciatore.
Syracuse	29.97	761.2	30.04	763.0	79.2	26.2	58	S	3.8	1.7			6	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.53	750.0	30.08	764.1	81.1	27.3	31	ENE	0	0			0			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.79	756.6	29.81	757.2	64.3	17.9	86	WNW	1.6	0.7			5ck;s	W		0	0	Foggy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.67	753.6	29.87	758.7	65.5	18.6	95	SW	0.7	0.3			9ck			0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.60	751.8	29.66	753.3	66.7	19.3	79	SW	4.9	2.2		0	6cs		S	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.15	638.7	30.28	769.0	49.1	9.5	63	Calm			0	0	1		Calm	0	0	Clear	Prof. L. Perez.
Leon	24.49	622.1	30.22	767.5	57.2	14.0	87	W			1	3c	4k			0.004	0.1	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.3	30.17	766.2	52.7	11.5	89	Calm	0	0			10ks		SE	0.06	1.5	Covered	The Staff.
Pabellon (Aguascalientes)					50.4	10.2	83	W			1	0	0			0	0	Very clear	M. V. de Leon, M. E.
Tlacotalpam	30.04	763.0	30.05	763.3	74.5	23.6	89	SW			1	0	8		N	0	0	Cloudy	M. M. Chazaro.
San Luis Potosi	24.24	615.6	30.29	769.4	52.0	11.1	49	ESE			1	3	0	W		0.04	1.0	Clear	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.9	30.25	768.4	48.2	9.0	77	NE			2	0	0			0	0	Pleasant	J. C. Castrillon.
Puebla (Catholic Institute)	23.45	595.5	30.21	767.3	53.6	12.0	73	NE	0.4	0.2		4ck	0	Calm		0.25	6.4	Fair	Prof. P. Spina.
Colima	28.42	721.9	30.06	763.4	77.9	25.5	74	NE			1	0	1			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.87	758.7	30.16	766.1	76.5	24.7	89	SE			1	0	1			0	0	Light fog	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.7	29.91	759.7	64.0	17.8		ESE								0	0		
Groningen	29.88	758.9	29.93	760.3	59.9	15.5		NW			1					0.055	1.4		
Helder	29.93	760.2	29.93	760.2	56.1	13.4		NNE			1					0	0		
Hellevoetsluis	29.89	759.2	29.89	759.2	67.3	19.6	49	ESE			1					0	0		
Utrecht	29.88	759.0	29.93	760.2	66.0	18.9	49	NE			2		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.61	752.2	29.67	753.6	51.8	11.0	63	NNW	17.2	7.7			1			0	0		
Brönö	29.50	749.4	29.54	750.4	62.6	17.0	41	N	7	3			3			0	0		
Christiania	29.35	745.4	29.49	749.0	57.0	13.9	57	N	9	4			10			1.197	30.4		
Tromsö	29.63	752.7	29.68	753.8	50.7	10.4	56	NE	34	15			4			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.62	752.3	29.81	757.1	65.5	18.6	75	WNW	22.4	10.0			5			0	0		Dr. J. A. Sampaio.
Campo Major	28.96	735.6	29.97	761.2	69.4	20.8	49	SW	15.0	6.7			8	SW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.01	762.2	30.10	764.4	69.6	20.9	58	SW	8.1	3.6			3			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.62	752.4	29.98	761.5	63.1	17.3	79	SW	26.2	11.7			8			0.157	4.0		The Staff.
Ponta Delgada (Azores)	29.77	756.2	29.84	758.0	70.9	21.6	62	WNW	11.2	5.0			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 3° 52′ W. °5 54′			30.04	763.1	81.1	27.3		S			2		5		S	2	SW	hours rain.] D. clouds, 12	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.94	760.4	82.8	28.2		NW			2		2		WNW	1	NW	D. Clouds	J.C. M. Cabrate, 1st Lt. J.T. d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.02	762.4	81.0	27.2		NE			3		0			2	NE	Blue sky	P. de Fair. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.89	759.2	78.1	25.6		ESE			2		6		ESE	1		D. clouds	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.47	748.4	29.88	758.9	61.7	16.5	46	W	27	12			6ks						Astronomical Obs.
Wilna	29.36	745.8	29.78	756.3	56.7	13.7	71	SSW	4	2			10					Heavy clouds	Astronomical Obs.
Dorpat	29.43	747.6	29.67	753.6	62.2	16.8	41	SW	7	3			5k						Prof. Dr. Weihrauch.
St. Petersburg	29.62	752.3	29.63	752.7	55.4	13.0	81	NW	13	6			9n;ks;	ck]				Light clouds	Central Physical Obs.
Kieff	29.17	740.8	29.76	756.0	73.6	23.1	38	W	13	6			6k;ks;	c;ck]					Physical Cabinet.
Nikolaiev	29.82	757.4	29.89	759.2	83.7	28.7	48	NW	9	4			4ks						Kurdakof.
Kertch	29.89	759.2	29.91	759.7	81.0	27.2	66	NW	4	2			0						Lagorio.
Moscow	29.07	738.3	29.60	751.9	60.6	15.9	87	S	4	2			10s					Raining	Meteorological Obs.
Lugan	29.47	748.6	29.67	753.5	82.9	28.3	39	W	9	4			5						Meteorological Obs.
Archangel	29.76	756.0	29.78	756.5	59.5	15.3	48	ESE	9	4		1c							Capt. Sseliwerstow.
Tiflis	28.49	723.6	29.84	757.9	76.1	24.5	43	NW	18	8			3k						Physical Observatory.
Astrakhan	29.76	755.6	29.67	753.5	86.7	30.4	40	SSW	13	6			3ks						Capt. Wisganow.
Krotkowo*	29.24	742.6	29.68	753.8	79.2	26.2	49	WSW	2	1			3						Cand. Fatjanow.
Kasan	29.84	745.2	29.60	751.8	69.1	20.6	70	ESE	2	1			10						Physical Cabinet.
Ekaterinburg	28.70	729.0	29.69	754.1	66.4	19.1	42	W	4	2			9n;ck;	c;ks]					Meteorological Obs.
Nukuss	29.44	747.7	29.65	753.2	77.2	25.1	24	N	4	2			1ks						
Tashkend	28.11	714.1	29.57	751.0	87.1	30.6	46	W	0	0			0						Teich, A. M.
Barnaul	29.21	741.8	29.69	754.1	62.1	16.7	65	SW	4	2			10						Meteorological Obs.
Yeniseisk	29.30	744.2	29.58	751.3	59.0	15.0	44	W	18	8			8						Marks.
Irkutsk																			
Peking (China)	29.41	747.1	29.56	750.7	84.0	28.9	27	Calm	0	0			2k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.41	747.0	29.51	749.5	52.5	11.4	91	Calm	0	0			8k						
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.67	753.6	29.77	756.2	73.8	23.2	56	E	1.7	0.78			2ck			0	0		Antonio Rave, Director
Bilbao, Met. Obs'y	29.71	754.6	29.76	756.0	82.0	27.8	81	W	4.2	1.89		4	3	W		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.93	684.0			65.3	18.5	53	SW	11.3	5.08			3			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.71	703.8	29.88	759.0	66.4	19.1	64	SW	20.1	9.00		2	6	SW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.70	754.3	29.84	757.9	89.2	31.8	33	SE	4.4	1.97		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.76	730.4	29.64	752.9	57.4	14.1	91	SW	25.6	11.4			10			0.685	17.4	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.99	761.7	30.06	763.4	81.2	27.3	75	ENE	2.9	1.3		0	1k			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.83	757.7	29.88	759.0	84.2	29.0	83	NNE	0	0		3c	6k	E	W	0.118	3.0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.4	30.12	764.9	69.1	20.6	68	WSW	14.5	6.5		0	7		W	0.27	0.08?		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.98	761.6	30.08	763.9	83.1	28.4	83	SE	7.4	3.29		6ks	3k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.66	753.4	29.70	754.4	45.7	7.6	.....	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.60	751.8	29.65	753.1	50.0	10.0	74	S	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	29.53	750.0	29.58	751.3	46.8	8.2	89	.....	.....	.....	.....	.....	10	.....	.....	0.598	15.2	.....	
Stockholm	29.40	746.8	29.58	751.3	56.5	13.6	71	S	.....	.....	4	.....	5	.....	.....	0.094	2.4	.....	
Wisby	29.55	750.6	29.61	752.1	54.2	12.4	65	W	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.48	748.7	29.55	750.6	56.7	13.7	59	S	9.8	4.4	.....	.....	9	.....	S	0.001	0.03	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.27	718.0	29.84	757 8	76.3	24.6	57	E	.....	.....	2	.....	5	.....	.....	0	0	Lightly clouded.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.0	80.6	27.0	33	ENE	9	4.0	.....	.....	6	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	96.8	36.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.19	766.9	77.2	25.1	.....	W	.....	.....	1	.....	5	.....	.....	0.24	6.	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.75	755.6	29.86	758.5	84.9	29.4	58	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.44	747.8	29.73	755.1	59	15.0	.....	SW	4	1.8	.....	0	5s	.....	SW	0.01	0.3	Cloudy	W. R. Bigg.
Chatham, N. B	29.60	751.8	29.66	753.4	58	14.4	92	SW	10	4.5	.....	2k	8ks	SW	SW	0.66	16.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.68	753.9	29.73	755.1	56	13.3	97	S	10	4.5	.....	.....	10n	.....	.....	0.180	4.57	Sprinkling	H. J. Cundall, C. E.
Cornwall, Ontario	29.47	748.5	29.66	753.4	62.5	16.9	82	W	.....	.....	3	.....	10s	.....	.....	0.034	0.86	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.47	748.5	29.63	752.6	59	15.0	92	W	.....	.....	2	.....	9ks	.....	.....	0.97	24.6	Clearing	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.52	749.8	29.54	750.3	49	9.4	89	SW	25	11.2	.....	5k	5ks	W	SW	0.44	11.2	Cloudy	J. McWilliams.
Fredericton, N. B	29.69	754.1	29.75	755.6	58.0	14.4	84	W	5	2.2	.....	.....	10s	.....	.....	0.65	16.5	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.17	740.9	30.00	762.0	45	7.2	92	E	2	0.9	.....	5k	5n	NE	NE	0.060	1.52	Cloudy	James Stewart.
Granton, Ontario	28.77	730.7	29.85	758.2	57	13.9	69	NW	.....	.....	1	1c	0	NW	.....	0.03	0.8	Clear	James Grant.
*Halifax, N. S	29.76	755.9	29.89	759.2	58	14.4	94	W	10	4.5	.....	0	2ks	.....	W	0.110	2.79	Fair	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.81	757.2	65.3	18.5	85	NW	.....	.....	1	3c	0	NW	.....	0.08	2.0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.42	747.2	29.75	755.6	57	13.9	89	SW	6	2.7	.....	5k	5ks	SW	SW	0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.46	748.3	29.65	753.1	59	15.0	88	SW	15	6.7	.....	.....	10s	.....	W	0.03	0.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.11	739.4	29.80	756.9	52	11.1	86	N	9	4.0	.....	5ck	2ks	NW	NW	0.18	4.6	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.02	737.1	29.74	755.4	64.7	18.2	77	N	.....	.....	4	0	0	.....	.....	0.31	7.9	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.82	757.4	62	16.7	94	NW	6	2.7	.....	9c	0	SW	.....	0.60	15.2	Fair	H. Morgan.
Port Hastings, N. S	29.83	757.7	29.88	758.9	48.1	8.9	.....	S	3	1.3	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.83	757.7	63	17.2	90	W	6	2.7	.....	5ck	2s	W	W	0.22	5.6	Clearing	M. Payne.
*Quebec, Quebec	29.34	745.2	29.65	753.1	53	11.7	97	Calm	.....	.....	0	.....	10n	.....	Calm	0.73	18.5	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.32	744.7	29.77	756.1	48	8.9	82	NW	8	3.6	.....	.....	8s	.....	SW	0.07	1.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.70	754.4	29.75	755.6	56	13.3	86	W	.....	.....	2	2k	2ks	NW	.....	0.96	24.4	Fair	Dr. Gove.
St. John, N. B	29.62	752.3	29.79	756.7	49	9.4	100	S	9	4.0	.....	.....	Fog	.....	.....	0.95	24.1	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.16	740.7	29.88	758.9	45	7.2	90	W	11	4.9	.....	.....	8ks	.....	N	0.11	2.8	Cloudy	K. Stewart.
Stayner, Ontario	29.01	736.8	29.77	756.1	56	13.3	87	NW	10	4.5	.....	5k	2n	NW	W	0.29	7.4	Cloudy	R. J. Cole.
Stratford, Ontario	28.57	725.7	29.83	757.7	56.0	13.3	77	NW	11	4.9	.....	2cs;ck	0	NW	.....	0.076	1.93	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.82	757.4	29.86	758.4	53	11.7	100	S	9	4.0	.....	.....	10n	.....	.....	0.22	5.6	Light rain	T. C. Hill.
*Toronto, Ontario	29.42	747.2	29.79	756.7	63	17.2	89	W	13	5.8	.....	2ck	0	W	.....	0.58	14.7	Clear	Magnetic Observatory.
Windsor, N. S	29.68	753.9	29.78	756.4	62.0	16.7	83	SW	10	4.5	.....	5k	0	.....	.....	0.09	2.3	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.05	763.3	30.30	769.6	50.0	10.0	72	SE	.....	.....	.....	10s?	10s?	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	751.8	29.82	757.4	63	17.2	72	S	5	2.2			10s		SW	0.22	5.6	Cloudy	
Alpena, Michigan	29.25	742.9	29.88	758.9	51	10.6	79	NW	16	7.2		0	2s		NW	0.45	11.4	Clear	
Atcha, Aleutian Islands					39	3.9	91	Calm			0		10s		W	0	0	Cloudy	
Atlanta, Georgia	29.02	737.1	30.13	765.2	70	21.1	48	NW	2	0.9		2k	0	Calm		0	0	Clear	
Atlantic City, New Jersey	30.00	762.0	30.01	762.2	63	17.2	83	SW	11	4.9		0	0			0	0	Clear	
Augusta, Georgia	30.02	762.5	30.20	767.1	66	18.9	69	S	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Baltimore, Maryland	29.98	761.5	30.02	762.5	68	20.0	65	SW	8	3.6		5c	0	W		0	0	Fair	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	70	21.1	70	SW	12	5.4		2c	0	NW		0	0	Clear	
Bismarck, Dakota	28.22	716.8	30.07	763.8	55	12.8	87	Calm	0	0		5ck	0	W		0	0	Fair	
Boerne, Texas	28.63	727.2	29.93	760.2	63	17.2	72	Calm	0	0		0	0			0	0	Clear	
Boise City, Idaho	27.00	685.8	29.96	761.0	53	11.7	54	SE	1	0.4		5k	0	Calm		0	0	Fair	
Boston, Massachusetts	29.70	754.4	29.85	758.2	67	19.4	69	S	8	3.6		5ck	0	W		0.54	13.7	Fair	
Brackettville, Texas	28.96	735.6	29.98	761.5	64	17.8	78	SE	6	2.7		0	0			0	0	Clear	
Breckenridge, Minnesota	29.01	736.8	30.01	762.2	47	8.3	85	S	3	1.3		8ck	0	NW		0	0	Cloudy	
Brownsville, Texas	30.00	762.0	30.05	763.3	68	20.0	84	N	1	0.4		2ck	0	Calm		0	0	Clear	
Buffalo, New York	29.12	739.6	29.80	756.9	55	12.8	93	SW	15	6.7		2cs	5s	SW	SW	0.22	5.6	Cloudy	
Burkes, Arizona					71	21.7	22	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.45	748.0	29.73	755.1	58	14.4	81	S	10	4.5			10s		NW	0.94	23.9	Cloudy	
Cairo, Illinois	29.76	755.9	30.14	765.5	73	22.8	67	Calm	0	0		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.30	642.6	30.10	764.5	65	18.3	58	NE	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					60	15.6	24	SW			1	0	0			0	0	Clear	
Campo, California	27.39	695.7	29.96	761.0	43	6.1	43	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.19	766.8	72	22.2	71	SW	4	1.8		0	0			0.19	4.8	Clear	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	70	21.1	75	S	13	5.8		0	0			0.01	0.3	Clear	
Cape Lookout, N. Carolina	30.16	766.1	30.17	766.3	72	22.2	80	W	8	3.6		0	0			0.10	2.5	Clear	
Cape May, New Jersey	29.96	761.0	29.99	761.7	66	18.9	79	S	16	7.2		0	0			0	0	Clear	
Castroville, Texas	29.29	744.0	29.99	761.7	63	17.2	72	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	30.13	765.3	30.18	766.6	76	24.4	73	SE	4	1.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.32	744.7	30.10	764.5	73	22.8	53	SW	2	0.9		0	0			0	0	Clear	
Chattanooga, Tennessee	29.39	746.5	30.18	766.6	66	18.9	79	SE	5	2.2		1k	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	51	10.6	86	S	6	2.7		0	5s		S	0.02	0.5	Fair	
Chicago, Illinois	29.25	742.9	29.93	760.2	53	11.7	73	N	12	5.4		8cs	0	NW		0	0	Cloudy	
Cincinnati, Ohio	29.39	746.5	30.01	762.2	72	22.2	58	SW	10	4.5		5c	0	W		0	0	Fair	
Cleveland, Ohio	29.17	740.9	29.86	758.4	66	18.9	79	S	10	4.5			10ks		SW	0.27	6.9	Threatening	
Coleman City, Texas	28.27	718.0	29.88	758.9	69	20.6	43	S	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.12	739.6	29.91	759.7	71	21.7	62	SW	10	4.5			10s		SW	0	0	Cloudy	
Concho, Texas	28.12	714.2	29.76	755.9	64	17.8	43	SW	12	5.4		0	0			0	0	Clear	
Corsicana, Texas	29.64	752.8	30.11	764.8	62	16.7	72	S	6	2.7		0	0			0	0	Clear	
Davenport, Iowa	29.32	744.7	29.94	760.5	65	18.3	73	NW	4	1.8		10cs	0	W		0.25	6.3	Cloudy	
Deadwood, Dakota	25.46	646.7			47	8.3	85	Calm	0	0		5k	0	SW		0.10	2.5	Fair	
Decatur, Texas	28.89	733.8	30.02	762.5	70	21.1	75	SW	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.28	743.7	30.06	763.5	68	20.0	56	S	4	1.8		0	0			0	0	Clear	
Denver, Colorado	24.86	631.4	30.08	764.0	56	13.3	81	NW	3	1.3		0	0			0	0	Clear	
Des Moines, Iowa	29.11	739.4	29.97	761.2	62	16.7	77	Calm	0	0		8cs	0	W		0	0	Fair	
Detroit, Michigan	29.20	741.7	29.84	757.9	65	18.3	84	N	7	3.1			10s		NW	0.04	1.0	Cloudy	
Dodge City, Kansas	27.37	695.2	29.58	751.3	63	17.2	78	SE	12	5.4		5ck	0	N		0	0	Fair	
Dubuque, Iowa	29.24	742.7	29.91	759.7	62	16.7	72	NW	1	0.4		5c	Haze	W	Calm	Inap.	Inap.	Fair	
Duluth, Minnesota	29.30	744.2	29.97	761.2	53	11.7	54	NW	12	5.4		0	0			0		Clear	
Eagle Pass, Texa	29.28	743.7	29.98	761.5	67	19.4	69	SE	1	0.4		0	0			0	0	Clear	
Eastport, Maine	29.71	754.6	29.78	756.4	57	13.9	94	SW	8	3.6		0	Fog		W	1.02	25.9	Clear	
Edinburg, Texas																			
El Paso, Texas	26.26	667.0			66	18.9	10	W	11	4.9		0	0			0	0	Clear	
Erie, Pennsylvania	29.15	740.4	29.83	757.7	66	18.9	89	SW	6	2.7			10s		W	0.07	1.8	Cloudy	
Escanaba, Michigan	29.35	745.5	30.00	762.0	48	8.9	63	N	1	0.4		0	0			0.13	3.3	Clear	
Florence, Arizona	28.44	722.5	30.04	763.0	80	26.7	25	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	27.99	710.9			48	8.9	92	N	1	0.4			Fog			0.20	5.1	Foggy	
Fort Craig, New Mexico	25.54	648.7	29.60	751.8	54	12.2	31	W	3	1.3		0	0			0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	60	15.6	34	SW	7	3.1		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.53	750.0	30.05	763.3	71	21.7	53	S	3	1.3		0	0			0	0	Clear	
Fort Griffin, Texas	28.77	730.7	30.03	762.7	61	16.1	50	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.45	697.2			54	12.2	73	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort McKavett, Texas	27.80	706.1	29.68	753.9	61	16.1	55	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.72	754.9	29.75	755.6	36	2.2	100	Calm	0	0		0	0			0.01	0.3	Clear	
Fort Sill, Indian Territory	28.81	731.8	29.90	759.4	63	17.2	57	S	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.18	715.8			49	9.4	77	W	2	0.9		2c	0	Calm		0.03	0.8	Fair	
Fredericksburg, Texas	28.32	719.3	29.84	757.9	71	21.7	45	S	1	0.4		0	0			0	0	Clear	
Galveston, Texas	30.06	763.5	30.10	764.5	72	22.2	80	NE	4	1.8		8ck	0	SW		0	0	Cloudy	
Graham, Texas	28.96	735.6	29.99	761.7	66	18.9	50	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.28	743.7	29.91	759.7	61	16.1	66	E	14	6.3		5c	0	NW		0	0	Fair	
Henrietta, Texas	29.08	738.6	30.00	762.0	61	16.1	71	SE	4	1.8		0	0			0	0	Clear	
Indianapolis, Indiana	29.18	741.1	29.92	760.0	71.5	21.9	66	SW	10	4.5		10cs	0	W		0	0	Cloudy	
Indianola, Texas	30.07	763.8	30.10	764.5	71	21.7	80	NE	6	2.7		0	0			0	0	Clear	
Jacksboro, Texas	28.91	734.3	30.00	762.0	70	21.1	70	SW	3	1.3		0	0			0	0	Clear	
Jacksonville, Florida	30.15	765.8	30.17	766.3	79	26.1	74	E	4	1.8		2c	0	E		0	0	Fair	
Keokuk, Iowa	29.31	744.5	29.90	759.4	70	21.1	80	N	1	0.4		7k	0	NW		0	0	Fair	
Key West, Florida	30.05	763.3	30.08	764.0	80	26.7	70	NE	12	5.4		5k	0	E		0	0	Fair	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	70	21.1	75	W	13	5.8		0	0			0.25	6.3	Clear	
Knoxville, Tennessee	29.22	742.2	30.20	767.1	63	17.2	72	SW	1	0.4		0	0			0	0	Clear	
La Crosse, Wisconsin	29.22	742.2	29.94	760.5	59	15.0	70	N	4	1.8		0	0			Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	52	11.1	53	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.65	753.1	29.98	761.5	73	22.8	43	SE	2	0.9		0	0			0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.91	759.7	67	19.4	69	S	7	3.1		9c	0	W		0	0	Cloudy	
Los Angeles, California	29.60	751.8	29.93	760.2	61.0	16.1	77	SE	7	3.1			10s		SE	0	0	Cloudy	
Louisville, Kentucky	29.50	749.3	30.04	763.0	74	23.3	51	SW	12	5.4		0	0			0	0	Clear	
Lynchburg, Virginia	29.43	747.5	30.09	764.3	72	22.2	50	SW	2	0.9		0	0			0	0	Clear	
Madison, Wisconsin	28.96	735.6	29.92	760.0	58	14.4	82	E	10	4.5			10s		E	0.02	0.5	Cloudy	
Marquette, Michigan	29.27	743.4	29.97	761.2	48	8.9	70	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Mason, Texas	28.44	722.4	30.18	766.6	64	17.8	63	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.82	757.4	30.15	765.8	73	22.8	59	S	2	0.9		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.22	742.2	29.95	760.7	50	10.0	65	N	15	6.7		5c	1s	NW	Calm	0.01	0.3	Fair	
Mobile, Alabama	30.11	764.8	30.15	765.8	68	20.0	79	N	4	1.8		2ck	5s	W	Calm	0	0	Fair	
Montgomery, Alabama	29.95	760.7	30.18	766.6	66	18.9	68	N	4	1.8		5k	0	W		0	0	Fair	
Morgantown, West Virginia	29.03	737.3	29.97	761.2	74	23.3	59	SW	12	5.4		2ck	0	W		0	0	Fair	
Mt. Washington, N. H.	23.61	599.7	29.97	761.2	40	4.4	100	NW	50	22.4			Fog		NW	0.98	24.9	Foggy	
Nashville, Tennessee	29.62	752.3	30.14	765.5	70	21.1	70	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.78	756.4	29.89	759.2	71	21.7	66	SW	11	4.9		2ck	5s	W	W	0.09	2.3	Cloudy	
New London, Connecticut	29.89	759.2	29.94	760.5	66	18.9	74	SW	9	4.0		2ck	2s	W	Calm	0.06	1.5	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
New Orleans, Louisiana	30.06	763.5	30.12	765.0	74	23.3	59	E	6	2.7	.....	8cs	0	S	.....	0	0	Fair	
Newport, Rhode Island	29.86	758.4	29.91	759.7	60	15.6	88	SW	10	4.5	.....	6ck	2s	NW	SW	0.25	6.3	Fair	
New York, New York	29.77	756.1	29.94	760.5	67	19.4	69	W	15	6.7	.....	5ck	1s	SE	Calm	0	0	Fair	
Norfolk, Virginia	30.07	763 8	30.13	765.3	75	23.9	56	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.12	688.8	29.64	752.8	58	14.4	82	NE	12	5.4	.....	2c	0	W	.....	0.01	0.3	Clear	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	51	10.6	96	S	4	1.8	.....	.....	10n	.....	SW	1.15	3.8	Light rain	
Omaha, Nebraska	28.85	732.8	29.90	759.4	65	18.3	84	N	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Oswego, New York	29.46	748.3	29.77	756.1	63	17.2	89	S	6	2.7	.....	.....	10ks	.....	W	0.61	15.5	Cloudy	
Pembina, Dakota	29.11	739.4	29.94	760.5	47	8.3	85	NW	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Philadelphia, Pa	29.94	760.5	29.99	761.7	68	20.0	74	SW	15	6.7	.....	2cs	0	SW	.....	0	0	Fair	
Phœnix, Arizona	28.70	729.0	30.42	772.7	74	23.3	15	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.99	456 9	30.20	767.1	31	— 0.6	88	W	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Ploche, Nevada	.....	.....	.....	.....	59	15.0	18	S	5	2.2	.....	1c	2s	SW	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.18	739.9	29.90	759.4	70	21.1	61	W	9	4.0	.....	2ck	0	W	.....	0	0	Fair	
Port Huron, Michigan	29.20	741.7	29.85	758.2	55	12.8	87	NE	6	2.7	.....	.....	10ks	.....	NE	0.06	1.5	Cloudy	
Portland, Maine	29.77	756.1	29.82	757.4	62	16.7	72	SW	4	1.8	.....	5k	0	Calm	.....	1.00	25.4	Fair	
Portland, Oregon	29.94	760.5	30.02	762.5	55.0	12.8	84	NW	4	1.8	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	61	16.1	24	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.11	739.4	29.94	760.5	60	15.6	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	77	25.0	69	E	6	2.7	.....	2k	0	NE	.....	0	0	Fair	
Red Bluff, California	29.44	747.8	29.79	756.7	66	18.9	69	S	3	1.3	.....	1c	0	W	.....	0	0	Clear	
Rio Grande City, Texas	29.88	758.9	30.10	764.5	70	21.1	70	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.18	741.1	29.77	756.1	65	18.3	84	W	6	2.7	.....	5k	5s	W	W	0.10	2.5	Cloudy	
Roseburg, Oregon	29.48	748.8	30.05	763.3	49.5	9.7	89	Calm	0	0	.....	8ck	2cs	W	W	0	0	Cloudy	
Sacramento, California	29.73	755.1	29.81	757.2	56	13.3	81	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.46	748.3	30.02	762.5	69	20.6	56	SW	12	5.4	.....	1ck	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.13	765.3	30.15	766.8	73	22.8	76	E	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
St. Paul, Minnesota	29.14	740.1	29.96	761.0	55	12.8	62	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Salt Lake City, Utah	25.54	648.7	29.87	758.7	64	17.8	30	NW	4	1.8	.....	10c	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.41	747.0	29.99	761.7	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.92	760.0	29.99	761.7	60	15.6	88	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.20	741.7	29.84	757.9	68	20.0	79	SW	15	6.7	.....	.....	10ks	.....	W	0	0	Threatening	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	73	22.8	59	SW	15	6.7	.....	2ck	0	W	.....	0	0	Clear	
San Francisco, California	29.82	757.4	29.88	758.9	54	12.2	80	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	56	13.3	14	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.11	764.8	30.20	767.1	74	23.3	81	NW	3	1.3	.....	2c	0	W	.....	0	0	Fair	
Shreveport, Louisiana	29.91	759.7	30.13	765.3	67	19.4	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.36	618.7	30.50	774.7	50	10.0	32	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.18	766.6	30.21	767.3	72	22.2	90	SE	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Springfield, Massachusetts	29.74	755.4	29.86	758.4	62	16.7	77	S	4	1.8	.....	0	8ks	.....	SW	0.01	0.3	Cloudy	
Stockton, Texas	26.89	683.0	29.89	759.2	63	20.0	18	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.81	757.2	29.87	758.7	55	12.8	87	SW	11	4.9	.....	10ck	0	SW	.....	0.50	12 7	Cloudy	
Toledo, Ohio,	29.18	741.1	29.84	757.9	66	18.9	95	W	3	1.3	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Tucson, Arizona	27.53	699.2	30.08	764.0	70	21.1	40	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.55	750.6	30.03	762.7	58.0	14.4	76	SE	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Uvalde, Texas	29.21	741.9	30.02	762.5	65	18.3	73	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.92	760.0	30.18	766.6	69	20.6	70	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.25	615.9	29.73	755.1	50	10.0	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.47	748.5	29.83	757.7	60	15.6	68	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.92	760.0	30.03	762.7	70	21.1	66	SW	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	18	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.53	648.4	29.89	759.2	51	10.6	46	W	3	1.3	.....	1k	0	Calm	.....	0	0	Clear	
Wood's Holl, Mass	29.89	759.2	29.92	760.0	63	17.2	83	SE	18	8.0	.....	.....	10ks	.....	NW	0	0	Cloudy	
Yankton, Dakota	28.75	730.2	30.01	762.2	59	15.0	82	NE	2	0.9	.....	10ck	0	W	.....	0	0	Cloudy	
Yuma, Arizona	29.65	753.1	29.81	757.2	72	22.2	54	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.99	761.7	30.04	763.0	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.30	642.6	.....	.....	64.5	18.1	89	Calm	.....	.....	0	.....	10n	.....	.....	0.22	5.6	.....	Thomas Herran.
Navassa, W. I	29.93	760.2	30.01	762.2	79	26.1	.....	NE	.....	.....	.....	.....	.....	.....	.....	1.11	28.2	Raining	F. M. Everett.
Paramaribo, D. Guiana, S.A	30.05	763.3	30.05	763.3	82	27.8	79	NE	.....	.....	2	0	5k	.....	.....	0.40	10.2	Clear	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96 in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fè, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.18‡	766.6‡			72	22.2	67	NE	2	0.9			5		NW	0	0			Fair	
Navy Yard, Portsmouth, N.H.																					
Naval Hospital, Yokohama, Japan	29.66‡	753.4‡			67.5	19.7	81	SW			3		4ck		SW	Slight	Slight			Fair	
Adams, Panama, U. S. C.	30.11‡	764.8‡			80	26.7	96	S			3		5		S					Fair	
Alaska, Sitka, Alaska	29.73‡	755.1‡			49	9.4	93	Calm			0					0.05	1.3			Raining	
Alliance. Lisbon, Portugal	29.98‡	761.5‡			65	18.3	73	W			4		5							Pleasant	
Colorado, New York, N. Y.	29.96‡	761.0‡			70	21.1	61	SW	20	8.9			2			0	0			Clear	
Constitution, League Island, Penn.	29.90‡	759.4‡			73	22.8	72	SSE			3		2							Clear	
Despatch, N. 24° 23′, W. 30° 50′	30.17‡	766.3‡			77	25.0	69	E			2		2		Calm	0	0	Light	NNE	Clear	
Enterprise, Antwerp, Holland	29.99‡	761.7‡			63	17.2	57	SSW			1		3		SW					Clear	
Franklin, Norfolk, Va.	30.10‡	764.5‡			70	21.1	66	SSW	9.6	4.3			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.88‡	758.9‡			50	10.0	86	NW			5		8		NW	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.85‡	758.2‡			62	16.7	83	WSW			1–2		8							Fair	
Marion, Off Tuxpan, Mexico	29.97‡	761.2‡			78	25.6	82	WSW			2		5		W			Smooth		Fair	
Michigan, Erie, Pa.					67	19.4	84	W			4		10							Overcast	
Monocacy, Shanghai, China	30.02‡	762.5‡			72	22.2	67	SSE			2		8		SSE					Cloudy	
Monongahela, Yokohama, Japan	29.63‡	752.6‡			70	21.1	80	SSW			2–3		ks			Very light	Very light			D. clouds	
New Hampshire, Port Royal, S. C.	30.15‡	765.8‡			76	24.4	80	SE	2	0.9			2		SE	0	0			Clear	
Onward, Callao, Peru †	30.06‡	763.5‡			63	17.2	83	ESE			1		5					Long	W	Misty	
Palos, Shanghai, China	29.77‡	756.1‡			69	20.6	80	SSE			2		10		NW					Overcast	
Passaic, Washington, D. C.					72	22.2	71	SW			4		2		SW					Clear	
Pensacola, Callao, Peru	30.08‡	764.0‡			62	16.7	88	SE	2	0.9			10			0	0			Misty	
Portsmouth, New York, N. Y.	29.92‡	760.0‡			66	18.9	79	WSW			3		5		Calm			Smooth		Fair	
Powhatan, Hampton Roads, Va.	30.09‡	764.3‡			72	22.2	67	SSW			3		0			0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.90‡	759.4‡			86	30.0	42	NNE			2		0							Clear	
Ranger, Amoy, China	29.81‡	757.2‡			77	25.0	82	SSE			2		8		Calm					Cloudy	
Richmond, Taku Bar, China	29.53‡	750.0‡			71	21.7	75	SSE			3		2		S	0	0	Smooth	S	Fair	
Rio Bravo, Brownsville, Texas	30.03‡	762.7‡			68	20.0	90	NE			1		5		W	0	0			Fair	
Santee, Annapolis, Md.	30.00‡	762.0‡			70	21.1	90	SW			2		2			0	0			Clear	
Saratoga, Santa Cruz, Canaries	30.15‡	765.8‡			71	21.7	90	ESE			1		8		NW	0	0	Ground		D. clouds	
St. Louis, League Island, Pa.	29.99‡	761.7‡			69	20.6	80	SW	13	5.8			2		SW	0	0			Clear	
Trenton, N. 36° 51′, W. 1° 29′	29.96‡	761.0‡			68	20.0	79	WSW			6		2		Calm	0	0	Smooth		Fair	
Tuscarora, N. 17° 20′, W. 101° 58′	29.93‡	760.2‡			79	26.1	86	SW			1		2		SE	0	0	Smooth		D. clouds	
Vandalia, N. 30°/36, W. 80° 54′	30.09‡	764.3‡			78	25.6	82	N			1		2			0	0	Smooth		Fair	
Wabash, Boston, Mass.	29.89‡	759.2‡			52	11.1	86	W	3	1.3			5			0	0			Hazy	
Wyoming, N. 40° 25′, E. 12°, 14′	30.02‡	762.5‡			68	20.0	74	ESE			3		2		S			Smooth	SE	Clear	
Wachusett, Boston Bay Mass.	29.86‡	758.4‡			64	17.8	78	WSW			3		8							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
§S.S. City of Tokio Capt. Maury N. 43° 39′, E. 175° 18′		30.03‡	762.7‡	48	8.9		W			5		8ck		W	0	Rough	W	D. clouds	L. B. Wals.
S. S. Colima N. 16° 45′, W. 99° 47′		30.02‡	762.5‡	79	26.1		N			3		4		N	0.01 in. or 0.3 mm.	Mod'ate	SW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse, Olympia, Washington Ter.†		29.98‡	761.5‡	54	12.2	80	SE			1		4		SE				Rainy	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 7° 24′, W. 162° 40′		29.91‡	759.7‡				NE			5–6				Var.		Mod'ate	ENE	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 32° 03′, E. 133° 47′		29.82‡	757.4‡	77	25.0	73	WSW			2		7ck			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig N. 26° 35′, W. 79° 54′		30.14‡	765.5‡	74.0	23.3	95	ENE			3		2		NE	0	Mod'ate	NE	Clear	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer. N. 38° 07′, W. 73° 05′		30.09‡	764.3‡	76.0	24.4	75	WSW			5		2		WSW	1 h'r	Mod'ate	WSW	Clear	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 42° 35′, W. 45° 17′		30.32‡	770.1‡				E			5		5		ENE		5	ENE	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng.		29.77‡	756.1‡	54	12.2	93	ENE			6		8		E	0			Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Morgan City, La		30.15‡	765.8‡	71	21.7	75	ENE	3	1.3			10s			0			Overcast	Capt. James Jorgensen. Willard N. Pratt.
Brigantine "George of Halifax", N. 32° 10′, W. 79° 18′		30.10‡	764.5‡	76	24.4		NNE			1		0				Cross	SE	Clear	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.81‡	757.2‡				E	6	2.7			5			1. in. or 25. mm	Long	SE	Rain-squalls	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 34° 01′. W. 53° 14′		30.05‡	763.3‡	72	22.2	98	NNE			4		8		NE		Long	S	Cloudy	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		29.91‡	759.7‡	76	24.4		ENE			3		5s						½ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 6, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.08	763.9	73.8	23.2	66	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			29.97	761.2	76.6	24.8	36	W			4		0			0	0	Clear	Touriliere.
La Calle			30.01	762.2	76.1	24.5	71	NW			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.7															Gau.
Saida			30.11	764.7	82.4	28.0	3	N			1		0			0	0	Clear	Herbin.
Tebessa			30.01	762.2	86.7	30.4	15	W			1		2			0	0	Fair	Watrin.
Geriville			30.08	764.0	79.0	26.1	50	WNW			2		0			0	0	Clear	Brugniaux.
Laghouat			29.98	761.6	93.9	34.4	22	SSE			3		0			0	0	Clear	Bertrand.
Biskra			29.95	760.8	101.5	38.6	33	NW			3		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.22	742.1	29.74	755.4	75.2	24.0	49	W			3		7			0.287	7.3		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.01	736.8	29.74	755.5	72.3	22.4	77	ENE			3		10			1.217	30.9		Dr. Wierzbiski.
Eperies	28.90	734.0	29.73	755.1	77.0	25.0	68	Calm			0		8c;cs		E	0	0		Julius Mikolik.
Gratz	28.54	724.9	29.74	755.4	70.2	21.2	78	NE			2		10			0	0		Andreas Rospini.
Hermannstadt	28.48	723.3	29.82	757.3	84.6	29.2	39	S			1		1			0.345	8.75		Prof. A. Gottschling.
Kremsmünster	28.43	722.0	29.71	754.6	69.3	20.7	72	W			3		9			0	0		Prof. C. Wagner.
Lemberg	28.92	734.6	29.87	758.8	67.6	19.8	89	S			1		3			0.677	17.2		Dr. T. Stanecki.
Pola	29.67	753.7	29.78	756.5	75.4	24.1	54	WNW			1		3			0.047	1.2		I.R.HydrographicOffice.
Szathmar	29.37	745.9	29.80	757.0	82.0	27.8	50	SE			3		8			1.260	32.0		Julius Csics, S. J.
Szegedin	29.49	749.1	29.76	755.8	79.9	26.6	57	S			1		8			0.008	0.20		Karl Stancel.
Trieste	29.72	755.0	29.83	757.6	68.4	20.2	78	NW			1		10			0	0	Cloudy	P. Busin.
Vienna	29.00	736.7	29.69	754.2	73.6	23.1	70	W			2		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.77	756.1	29.86	758.4	47.5	8.6		SE	13	5.8			8			0	0	Overcast	W. Boswell.
Ardrossan	29.75	755.6	29.76	755.9	55	12.8		ENE			3		9					Raining	Wm. McNeil & G. Carrick
Armagh, Observatory			29.73	755.1	55.3	12.9		NE	5	2.2			10					Gloomy	S. Call.
Bidston (Liverpool Obs)			29.69	754.1	55.1	12.8		ENE	23	10.3			10					Overcast	John Hartnup.
Bolton (Sharples)			29.68	753.9	53.6	12.0		E	12	5.4			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.37	746.0	29.76	755.9	52.5	11.4		E			5		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.98	761.5	30.01	762.2	85	29.4		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.61	752.1	29.70	754.4	56.5	13.6		SE			1		10			Blank	Blank	Overcast	H. Todd.
Cardington			29.69	754.1	58.0	14.4		E			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.59	751.6	29.72	754.9	66.0	18.9		Calm			0		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.71	754.6	29.75	755.6	57	13.9		NNE			1		10					Misty	J. Mac Gowan.
Dover	29.72	754.9	29.74	755.4	59	15.0		SW			2		3					¾ clouded	J. Costello.
Falmouth, Observatory	29.49	749.0	29.72	754.9	56.0	13.3		SSE			1		10					Foggy	The Staff.
Fort Napier (Natal)	27.59	700.8	29.89	759.2	67.0	19.4		NW			5		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	88	31.1		NW			1		3					D. clouds	
Galway, Queen's College			29.65	753.1	56	13.3		ENE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.01	762.2	69.8	21.0		W			2		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.58	751.3	29.78	756.4	49.0	9.4		NE			4		10					Raining	D. G. Maclean.
Great Yarmouth	29.74	755.4	29.74	755.4	53	11.7		ESE			2		7					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.54	750.3	29.71	754.6	64.7	18.2		SW			1		8					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.58	751.3	29.80	756.9	53.5	11.9		SW			2		8					Misty	Dr. S. E. Hoskins, F.R.S.
Helston	29.69	754.1	29.81	757.2	63	17.2		S			2		6k			0.19	4.8	Fine	M. P. Moyle.
Holyhead	29.66	753.4	29.69	754.1	58	14.4		NE			2		10					Misty	John Tilston.
Jersey	29.51	749.5	29.80	756.9	59.2	15.1		WSW			3		9			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.67	753.6	29.70	754.4	62.6	17.0		SW	14	6.3			8					D. clouds	The Met'g'l Office.
Leicester, Museum	29.44	747.8	29.69	754.1	54.6	12.6		NE			1		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.80	756.9	29.87	758.7	78	25.6		SE			2		2ck					Blue sky	A. King.
Nairn	29.67	753.6	29.76	755.9	61	16.1		W			1		2					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.10	764.5	81.2	27.3		E			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.55	750.6	29.74	755.4	52.4	11.3		NNE			3		10n		NE	0.564	14.32	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.18	741.1	29.70	754.4	53.2	11.8		ENE			2		10					Drizzling	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.69	754.1	57	13.9		SSE			1		10					Drizzling	H. E. Bellamy.
Plymouth	29.64	752.8	29.71	754.6	56.2	13.4		SW			1		10					Gloomy	John Merrifield.
Prince Town	28.28	718.3	29.75	755.6	52.4	11.3		SW			2		10					Gloomy	W. H. Tooker.
*Roche's Point	29.62	752.3	29.72	754.9	56	13.3		ESE			4		10					Covered	Wm. Kennedy.
Saint Ann's Head	29.50	749.3	29.66	753.4	54	12.2		Calm			0		7					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.82	757.4	51.8	11.0		SE	27	12.1			0			0	0	Blue sky	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.90	759.4	78.8	26.0		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.48	748.8	29.76	755.9	52.9	11.6		NNE			1		10			0.27	6.9	Overcast	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	61.9	16.6	57	SE			3		7			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.34	745.2	29.74	755.4	55.9	13.3		NE			1		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.48	748.8	29.67	753.6	59.7	15.4		SW			4		9					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.68	753.9	29.70	754.4	62	16.7		S					9					Gloomy	W. Newcombe.
Valencia, Observatory	29.62	752.3	29.65	753.1	58.0	14.4		ESE	7	3.1	4		10			Blank	Blank	Overcast	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.97	761.2	30.01	762.2	57.7	14.3	95	NW	6	2.7		8?	8?			0.022	0.56	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.05	763.3	41.0	5.0	93	NW			2		0			0.02	0.5	Clear	Francis Abbott F.R.A.S.
Leith, Restalrig Park			29.82	757.4	49.0	9.4		E			3		10s			0	0	Overcast	Andrew Gibb
Mauritius, Observatory	29.90	759.4	30.09	764.4	74.6	23.7	72	ESE	11.5	5.1		1	2		ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.08	764.0	30.17	766.3	44.0	6.7	91	NE	7	3.1			0			0.01	0.25	Dense fog	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.80	756.9	52	11.1		NW			4	5	3	NW		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.86	758.4	48	8.9		E			2	2	3	SE					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 30′. E. 27° 40′			29.94‡	760.5‡	81.2	27.3		S			1		0					Blue sky	Capt. W. J. L. Wharton.
Agnes Wilson, N. 17° 05′, W. 85° 45′			29.96	761.0	80	26.7		NW			2		9			1	SW	Overcast	Capt. H. W. Dyke
S. S. Algeria, N. 40° 50′, W. 62° 35′			29.98	761.5‡	59	15.0		SW			3		5	W		2		Misty	
§Brig Alliance, N. 52° 07′, W. 25° 57′			29.79‡	756.7‡	52.7	11.5		NE			5		9					Overcast	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Astarte, S. 7° 50′, W. 14° 15′*			30.04‡	763.0‡	81.2	27.3		ESE			4		4					D. clouds	Capt. Parson.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
British Peer, N. 3° 10′, W. 25°, 50′			30.01‡	762.2‡	79.8	26.6		W			2		7					D. clouds	Capt. Greig.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 31° 10′, W. 66° 25′			30.18‡	766.6‡	72	22.2		Calm			0		3			0		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 42° 50′, W. 59° 05′			29.96	761.0	67	19.4		SSW			3		3			3	WSW	Misty	Capt. W. Randall.
S. S. Nizam, N. 15° 08′, E. 52° 10′			29.72‡	754.9‡	86	30.0		SW			4		0					Blue sky	Capt. Barlow.
S. S. Royal Alexandra, N. 48° 15′, W. 17° 00′			29.46	748.3	55	12.8		E			4		10			4	ESE	Raining	W. P. Hughes.
Theophane, S. 14° 45′, E. 82° 55′			30.12‡	765.0‡	74.5	23.6		SE			5		7					D. clouds	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometr from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.30	668.0	30.02	762.5	67.1	19.5	98	Calm			0		10n			0.9	23.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.75	755.6	29.80	756.8	57.2	14.0	63	E			2		7						
Fanöe	29.82	757.3	29.84	757.8	55.0	12.8	66	NW			4		2						
Godthaab (Greenland)	29.47	748.4	29.51	749.5	43.9	6.6	91	Calm			0		10						
Stykkisholm (Iceland)	29.85	758.1	29.89	759.2	49.6	9.8	84	W			2		5						
Thorshavn (Faröe)	29.78	756.3	29.81	757.2	51.3	10.7	90	ESE			2		10						
Vestervig	29.64	752.9	29.81	757.2	47.5	8.6	87	SW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.5	29.86	758.5	66.2	19	75	SSW			2		8		W	0.098	2.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.67	753.5	29.77	756.2	70.2	21.2	53	S			1		5		ENE	0.283	7.2	Cloudy	Honvallet, Director.
Arras, Engin'r School	29.57	751.0	29.82	757.3	64.4	18.0	60	WSW			3		10		WSW	0.024	0.6	Covered	Klein, Commandant.
Avignon, Normal School	29.84	757.9	29.92	759.9	81.5	27.5	46	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.36	745.8	29.90	759.4	70.5	21.4	50	SW			1		8kn		SW	0.008	0.2	Very cloudy	C. Saillard Director.
Beauvais, Normal School	29.55	750.5	29.80	757.0	67.5	19.7	60	WSW			2		10		SW	0.207	5.25	Covered	Frere Eugrd, Director.
Besançon, Normal School	29.06	738.0	29.88	759.0	69.1	20.6	63	E			2		2		SW	0.087	22.	Slightly cl'dy	A. Carré, ene Marie,
Bourg-en-Bresse, N. School	29.10	739.2	30.02	762.6	71.1	21.7	62	S			1		ckn	SW	S	1.38	35.		Marlot, Director.
Bourges, Normal School	29.34	745.3	29.87	758.8	70.5	21.4	70	W			1		2	W	W	0.08	2.	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.50	749.4	29.75	755.6	63.7	17.6	78	SW			2		5		SW	0.138	3.50	Misty	De Kermaree, Director.
Carcassonne, Normal School	29.54	750.2	29.93	760.3	72.0	22.2	61	E			3		10	E	E	0.08	2.	Covered	September, Director.
Caen, Normal School	29.68	753.9	29.75	755.7	68.7	20.4	64	SW			2		5		W	0.031	0.8	Cloudy	Lair, Directo
Chartres, Normal School	29.32	744.8	29.87	758.8	68.0	20	83	SSW			3		9		W	0.087	2.2	Cloudy	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.4	29.85	758.1	72.1	22.3	44	WSW			3		8			0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.5	29.87	758.8	68.7	20.4	58	E			1		10		NW	0.984	25.0		Alluard, Director.
Commercy, Normal School.	29.00	736.7	29.83	757.7	67.6	19.8	60	W			1		5kn		W	0.04	1.	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.4	29.98	761.4	74.7	23.7	54	NW			3		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.18	741.1	29.92	759.9	71.6	22	59	NW			1		2k	NE		0.24	6.	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.55	750.6	29.96	761.0	66.2	19.0	66	WSW			3		8		WSW	0.024	0.6	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.56	750.8	29.86	758.5	65.5	18.6	73	W			4		8		W	0.059	1.5	Slightly cl'dy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.04	737.6	29.93	760.3	70.0	21.1	55	S			1		5ks	SW	W	1.244	31.60	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.77	756.1	29.87	758.7	64.0	17.8	80	SW			3				SW	0.094	2.4		Lt. T. Carré, Director.
Mâcon, Normal School																			Galsin. Director.
Marseilles, Observatory	29.63	752.7	29.90	759.4	73.0	22.8	56	WSW			2-3		1			0	0	V. slightly cloudy	E. Stephan, Director
Mirecourt, Normal School	28.85	732.8	29.86	758.4	70.2	21.2	62	SE			3		5		SE	0.20	5.	Cloudy	Barbier, Director.
Nismes, Normal School	29.70	754.3	29.89	759.2	83.8	28.8	43	S			3		2		S	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.85	732.8	29.87	758.7	75.2	24	48	NW			1		cn	NW	NW	0	0		Cautier, Director.
Puy de Dome (Summit) Obs	25.16	639.0			50.7	10.4	64	W			2		9			0.516	13.1	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.2	29.96	761.0	69.8	21.0	59	WSW			1		5	W	W	0.04	1.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.71	755.7	29.80	756.9	67.6	19.8	63	SSW			2		5		SW	0.035	0.9	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.74	755.4	29.77	756.2	67.1	19.5	64	WSW			2		8	SW	SW	0.031	0.80	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.67	753.7	29.84	757.9	69.3	20.7	60	SW			3		10		WSW	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.90	734.1	29.97	761.1	64.4	18	62	NW			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.27	743.4	30.03	762.7	73.0	22.8	54	NW			1		3			0	0		M. Julier Mercadier.
Versailles, Observatory	29.35	745.4	29.84	757.9	66.9	19.4	58	SW			3					0.001	0.03		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.23	742.5	29.92	760.0	72.1	22.3	72	E			1		8		S	0.339	8.6	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.85	758.3	29.88	759.0	78.8	26										0	0		L'Abbé Marchésal.
Lyons Obs'y (Park Station)	29.33	744.9	29.92	760.0	72.7	22.6	47	ESE			1		2		W	0.472	12.8	Cloudy	Ch. André, Director.
Mont-Louis	24.87	631.7	30.19	766.7	59.9	15.5	61	E	18.6	8.3			6		NE	0	0		M. Cave.
Nice			29.91	759.7	72.7	22.6	75	SE			1					0	0	Hazy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.56	750.8			68.0	20.0	65	SW			4		9		WSW	0.102	2.6		Marié Davy, Director.
Perpignan	29.84	758.0	29.95	760.7	75.2	24.0	41	SE	7.4	3.3			6		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.53	572.2			44.6	7.0		SW			3		2			0.20	2.0	Clear	Gen'l de Nansouty.
Tours	29.69	754.0	29.88	759.0	68.0	20.0	64	SW			2		10		SW	0.004	0.1		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.80	756.9	29.82	757.5	66.6	19.2	88	ESE	7.6	3.4			10			0.004	0.1	Covered	MarcDechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10	Clouds. Amount. Up'er 0-10	Low'r 0-10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.97	735.9	29.81	757.2	64.8	18.2	88	SW			4		8	S		0.177	4.5	Raining	Prof. Dr. Hoh.
Berlin	29.65	753.0	29.81	757.2	68.5	20.3	44	E			1		6			0	0		Prof. Dr. Arndt.
Breslau	29.28	743.7	29.81	757.1	72.3	22.4	42	ENE			2		4			0	0		Royal University Obs'y.
Carlsruhe	29.38	746.3	29.79	756.7	72.7	22.6	57	W			3		8	SW		0.071	1.8		Albert Sens.
Cassel	29.17	741.0	29.78	756.3	59.0	15.0	89	E			1		10	SW		0.179	4.54		Dr. H. Möhl.
Crefeld	29.55	750.5	29.71	754.6	67.1	19.5	69	W			3		8			0.75	19.		Director Lose.
Emden			29.76	755.8	62.6	17.0	61	E			1		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.39	746.6	29.76	755.8	70.9	21.6		SW			4		7			0.276	7.0		Physical Society.
Freienwalde on the Oder	29.78	756.5	29.82	757.5	69.6	20.9	42	ENE			3		6cs	??		0	0		Dr. Assmann.
Friedrichshafen	28.47	723.0	29.86	758.5	63.9	17.7	80	S			3		10	WSW		0	0		M. Wilhelm.
Hamburg	29.73	755.2	29.80	757.0	61.5	16.4	56	ENE			3		10cs			Inap.	Inap.	Foggy	Captain F. Hegemann.
Kiel	29.81	757.1	29.82	757.5	57.7	14.3	58	NE			2		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.78	756.5	29.87	758.6	56.8	13.8	57	NW			3		4			0.031	0.8		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.37	745.9	29.78	756.3	64.8	18.2	72	E			1		10					Showery	Prof. Bruhns, Privy Counsellor.
Memel	29.81	757.1	29.85	758.3	55.6	13.1	61	W			4		10s;n						Skalweit.
Munich (München)	28.04	712.3	29.90	759.4	63.0	17.2	77	W			5		9	W		0.020	0.5		Dr. C. Lang.
Neufahrwasser	29.84	758.0	29.86	758.4	52.9	11.6	57	NNE			3		1			0	0		A. Lothes.
Posen	29.59	751.5	29.87	758.6	67.1	19.5	84	NE			5		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.32	744.8	29.61	752.2	71.1	21.7	54	WSW			3		8	SW		0.150	3.82		Imp. University Observatory.
Stuttgart	28.86	733.0	29.76	755.9	70.3	21.3	54	W					8	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.30	718.8	29.76	756.0	63.5	17.5	81	SW	7	3			9ck		W	0.079	2.0	Hazy	T. Hopfner.
Wustrow	29.81	757.1	29.83	757.6	54.3	12.4	73	W			2		8s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 418.3 meters, or 1,376.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 6, instead of 2:6, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.4	29.95	760.8	86.0	30.0		SW			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.54	750.2	29.59	751.5	86.9	30.5	62	SW					6			0	0	D. clouds	
Deesa	29.16	740.5	29.62	752.2	96.8	36.0	30	SW	20.0	8.9			1	SW		0	0	D. clouds	
Bombay	29.74	755.3	29.78	756.3	85.3	29.6	79	WSW	17.0	7.6			10	W		0.07	1.8	Overcast	
Poona	27.78	705.7	29.77	756.2	80.4	26.9	65	W					2		W	0.28	7.1	D. clouds	
Lahore	28.75	730.3	29.47	748.5	90.6	32.6	36	NE	4.5	2.0			2			0.18	4.6	Blue sky	
Belgaum	27.31	693.7	29.86	758.4	73.9	23.3	87	W	12.0	5.4			4	W	W	0.12	3.0	Showery	
Roorkee	28.74	729.9	29.64	752.9	74.4	23.6	63	N	4.3	1.9			9			0.26	6.6		
Agra	29.11	739.4	29.68	753.8	76.2	24.6	50	N					10		N	0	0		
Nagpur	28.58	726.0	29.59	751.6	94.5	34.7	37	W	6.7	3.0			8		NE	0	0	D. clouds	
Lucknow	29.15	740.4	29.51	749.5	100.0	37.8	26	NW	3.3	1.5						0	0	Blue sky	
Allahabad	29.24	742.8	29.54	750.4	96.2	35.7	31	NW	4.4	2.0			8			0	0	D. clouds	
Patna	29.29	744.0	29.46	748.4	102.7	39.3	19	NW	1.6	0.7			8	NW	NW	0	0	D. clouds	
Hazaribagh	27.57	700.3	29.51	749.4	93.8	34.3	29	??	9.3	4.2			6			0	0		
Cuttack	29.56	750.8	29.64	752.8	89.6	32.0	38	SSW	4.0	1.8			7			0	0	Foggy	
Calcutta (Alipore)	29.52	749.8	29.54	750.4	86.7	30.9	50	SW	16.0	7.2			7	W				Drizzling	
Goalpara	29.15	740.4	29.53	750.1	84.8	29.3	83	Calm	2.0	0.9			7		SW	1.07	27.2	D. clouds	
Chittagong	29.58	751.2	29.67	753.5	76.6	24.8	91	Calm	5.5	2.5			10			0.13	3.3	Drizzling	
Sibsagar	29.29	744.0	29.62	752.5	81.2	27.3	88	ENE	2.5	1.1			8			0	0	D. clouds	
Jubbulpore	28.26	717.9	29.60	751.9	86.6	30.0	51	NE	5.1	2.3			8		E	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.45	748.1	29.85	758.2	66.6	19.2	79	SE	0.7	0.3			10			0.083	2.1		Prof. Giovanni Clodig.
Milan	29.34	745.1	29.84	757.9	77.4	25.2	46	SE			4		7	WSW		0	0		Prof. Schiaparelli.
Padua	29.74	755.5	29.85	758.2	70.3	21.3	67	NNE	3.8	1.7			9	W		0.043	1.1		Prof. Dott. Lorenzoni.
Moncalieri	28.95	735.2	29.83	757.6	72.7	22.6	59	NW	1.8	0.8			5	NNW		0	0		Prof. P. F. Denza.
Genoa	29.71	754.7	29.90	759.5	68.7	20.4	75	SW	5.6	2.5			10	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	27.97	710.4	29.83	757.6	70.7	21.5	52	ESE			2		1	WSW		0	0		Prof. D. C. Bruno.
Pesaro	29.77	756.1	29.82	757.3	68.7	20.4	84	NW	18.6	8.3			8	SW		0	0		Prof. Luigi Guidi.
Florence	29.65	753.0	29.89	759.3	77.0	25.0	52	SW			4		5	W		0.008	0.2		Cav. F. Mencci.
Leghorn	29.80	756.9	29.88	759.0	70.0	21.1	69	W			4		7			0	0		Prof. P. Monte.
Rome	29.77	756.2	29.95	760.6	73.4	23.0	67	S	9.8	4.4			10			0	0		Prof. P. S. Ferrari.
Lecce	29.71	754.7	29.96	761.0	84.2	29.0	15	ESE	17.4	7.8			2			0	0		Prof. C. De Giorgi.
Cosenza	29.06	738.0	29.92	760.0	86.0	30.0	65	SE	0.7	0.3			3			0	0		Prof. D. Conti.
Cagliari	29.76	755.9	29.95	760.7	75.4	24.1	57	S			2		3			0	0		Prof. A. Pacinotti.
Palermo	29.72	755.0	29.97	761.3	74.5	23.6	47	NE	4.3	1.9			0			0	0		Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.8	79.9	26.6	63	SSE	3.8	1.7			3	WSW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.6	29.99	761.8	73.0	22.8	74	SSW	3.1	1.4			1			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.85	758.2	68.5	20.3	79	N	2.2	1.0			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	66.9	19.4	79	N	1.5	0.7			8cs			0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.70	754.4	29.76	755.9	65.7	18.7	86	Calm	0	0			9s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.10	637.6	30.12	765.0	58.1	14.5	75	Calm			0	0	9		SE	0	0	Very cloudy	Prof. L. Perez.
Leon	24.46	621.2	30.08	764.0	64.4	18.0	89	NW			1	8c	0	NE		0.008	0.2	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.11	764.9	54.5	12.5	90	Calm	0	0		8k	0	NE		0.26	6.5	Cloudy	The Staff.
Pabellon (Aguascalientes)					58.1	14.5	78	Calm			0	0	0			0	0	Very clear	M. V. de Leon, M. E.
Tlacotalpam	29.97	761.1	29.98	761.4	72.1	22.3	81	S			1	2	0	S		0	0	Clear	M. M. Chásaro.
San Luis Potosi	24.22	615.1	30.16	766.0	60.1	15.6	47	ESE			1	2	0	W		0	0	Clear	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.57	573.3	30.15	765.9	55.4	13.0	74	Calm			0	0	0			0	0	Pleasant	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	53.2	11.8	83	NW	6.7	3.0		1	0	Calm		0.50	12.7	Clear	Prof. P. Spina.
Colima	28.39	721.2	30.01	762.2	79.9	26.6	75	NE			1	0	9		SW	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.55	758.3	30.15	765.8	73.9	23.3	92	SE			1	0	2			0	0	Clear	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.78	756.3	29.78	756.3	63.9	17.7		W								0.008	0.2		
Groningen	29.71	754.5	29.76	755.9	59.0	15.0		ENE			1					0	0		
Helder	29.75	755.6	29.75	755.6	54.3	12.4		ENE			4					0.142	3.6		
Hellevoetsluis	29.73	755.1	29.73	755.1	67.1	19.5	72	WSW			1					0	0		
Utrecht	29.70	754.4	29.75	755.6	62.6	17.0	63	E			1		10			0.004	0.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.75	755.6	29.80	757.0	54.3	12.4	57	NNW	12.3	5.5			0			0	0		
Brönö	29.72	754.9	29.76	755.9	49.6	9.8	92	SW	7	3			9			0	0		
Christiania	29.60	751.7	29.74	755.3	61.3	16.3	59	SW	0	0			10			0	0		
Tromsö	29.75	755.7	29.80	756.8	48.9	9.4	63	NE	27	12			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.82	757.4	30.01	762.2	63.7	17.6	72	WNW	11.2	5.0			3			0.079	2.0		Dr. J. A. Sampaio.
Campo Major	29.04	737.5	30.04	763.0	71.6	22.0	42	SSW	9.8	4.4			7	SSW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.02	762.5	30.11	764.7	71.4	21.9	79	WSW	9.8	4.4			9			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.06	763.4	62.6	17.0	77	SSW	19.9	8.9			10			0.004	0.1		The Staff.
Ponta Delgada (Azores)	29.95	760.6	30.02	762.4	70.5	21.4	54	WNW	15.4	6.9			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande,Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 3° 19′ W. 5° 21′			30.04	763.1	79.7	26.5		S			1		3		S			Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.95	760.7	80.6	27.0		WNW			2		6		WNW	1	WNW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.02	762.6	78.8	26.0		SW			2		1		NE	1	SW	Blue sky	P. de Fair 1. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimarães. Macao, China			29.80	757.0	81.5	27.5		S			2		5		S	1		D clouds	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.44	747.8	29.85	758.2	66.4	19.1	45	SW	9	4			1c						Astronomical Obs.
Wilna	29.41	746.9	29.82	757.5	55.6	13.1	67	W	4	2			10					Heavy clouds	Astronomical Obs.
Dorpat	29.41	747.0	29.65	753.0	63.3	17.4	42	NW	11	5			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.44	747.7	29.45	748.1	52.5	11.4	95	NNW	20	9			10n					Raining	Central Physical Obs.
Kieff	29.16	740.7	29.77	756.2	70.5	21.4	39	WNW	18	8			5k;ks						Physical Cabinet.
Nikolaiev	29.85	758.3	29.93	760.1	79.0	26.1	50	W	9	4			4k						Kurdakof.
Kertch	29.90	759.5	29.92	760.0	73.8	23.2	93	NW	4	2			4						Lagorio.
Moscow	28.99	736.4	29.52	749.9	59.4	15.2	56	SE	13	6			7ks						Meteorological Obs.
Lugan	29.53	750.0	29.72	755.0	75.2	24.0	41	W	9	4			3			Blank	Blank		Meteorological Obs.
Archangel	29.64	752.8	29.66	753.3	64.9	18.3	36	SE	4	2			0						Capt. Sseliwerstow.
Tiflis	28.49	723.7	29.84	758.0	77.9	25.5	41	NW	9	4			2c						Physical Observatory.
Astrakhan	29.75	755.6	29.67	753.5	80.2	26.8	55	WSW	2	1			10ks;n			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.09	738.9	29.54	750.2	72.7	22.6	48	NW	18	8			7k						Cand. Fatjanow.
Kasan	29.19	741.5	29.45	748.0	70.2	21.2	57	WSW	9	4			6						Physical Cabinet.
Ekaterinburg	28.70	729.0	29.65	753.1	51.8	11.0	68	ESE	7	3			10						Meteorological Obs.
Nukuss	29.28	743.8	29.50	749.3	88.3	31.3	35	NNE	9	4			0						
Tashkend	28.03	712.0	29.48	748.8	87.8	31.0	45	Calm	0	0			1						Teich, A. M.
Barnaul	29.00	736.7	29.48	748.8	66.0	18.9	72	SW	2	1			10					Light clouds	Meteorological Obs.
Yeniseisk	29.35	745.6	29.64	752.9	48.7	9.3	46	N	7	3			6						Marks.
Irkutsk																			
Peking (China)	29.42	747.3	29.56	750.9	87.1	30.6	27	Calm	0	0			2cs						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.45	747.2	29.52	749.7	65.8	18.8	58	Calm	0	0			6k						
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.85	758.2	29.95	760.8	77.9	25.5	47	S	2.0	0.89			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.84	758.0	29.90	759.4	81.0	27.2	37	S	3.9	1.75		2	0	W		0	0	Almost clear	Prof. Manuel de Navera n
Burgos, Met. Obs'y	27.06	687.3			67.1	19.5	54	SW	13.9	6.23			4			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.83	706.8	29.98	761.5	83.8	28.8	56	S	13.4	6.00		2	2	SW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.85	758.1	29.99	761.7	86.0	30.0	38	NNW	4.3	1.94		2	3	SW		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.92	734.5	29.80	757.0	58.1	14.5	79	SSW	23.7	10.6			10			0.079	2.0	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.97	761.2	30.03	762.8	82.1	27.8	79	ESE	7.6	3.4		0	0			0.028	0.7	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.87	758.7	29.94	760.5	81.2	27.3	83	N	6.7	3.0			5n?		W?	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	763.0	30.14	765.5	70.1	21.1	56	WSW	10.6	4.7		0	5		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.98	761.4	30.07	763.7	85.1	29.4	71	E	11.8	5.28		5k	4k	E	E	0.177	4.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.73	755.2	29.77	756.2	50.9	10.5	.....	NNE	.....	.....	2	.....	10	.....	.....	0.236	6.0	.....	
Umea	29.72	754.8	29.79	756.6	53.2	11.8	78	S	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	
Hernosand	29.69	754.0	29.74	755.3	63.0	17.2	55	S	.....	.....	2	.....	4	.....	.....	0	0	.....	
Stockholm	29.58	751.3	29.76	755.8	59.7	15.4	49	ESE	.....	.....	4	.....	7	.....	.....	0	0	.....	
Wisby	29.63	752.7	29.69	754.2	52.5	11.4	76	W	.....	.....	6	.....	10	.....	.....	0.055	1.4	.....	
Sub-Series.																			
Upsala	29.63	752.6	29.71	754.5	61.2	16.2	51	NE	4.7	2.1	.....	.....	8	.....	Calm	0.000	0.01	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.30	718.8	29.91	759.6	63.3	17.4	73	W	.....	.....	4	.....	10	.....	.....	0.024	0.6	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.92	760.0	81.3	27.4	36	SE	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	98.6	37.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.05	763.2	87.3	30.7	.....	S	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.75	755.6	29.86	758.5	80.1	26.7	67	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.49	749.0	29.79	756.7	52	11.1	.....	SW	2	0.9	.....	.....	8s	.....	W	0	0	Cloudy	W. R. Bigg.
Chatham, N. B	29.75	755.6	29.81	757.2	55	12.8	65	W	7	3.1	.....	10c	0	W	.....	0.12	3.0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.75	755.6	29.79	756.7	58	14.4	88	SW	8	3.6	.....	0	5s	.....	W	0.030	0.76	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.51	749.5	29.70	754.4	54.8	12.7	82	N	.....	.....	1	7cs	3s	W	.....	0.130	3.30	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.62	752.3	29.78	756.4	54	12.2	70	W	.....	.....	3	0	2s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.77	756.1	29.79	756.7	45	7.2	72	W	7	3.1	.....	0	2ks	.....	Calm	0.06	1.5	Clear	J. McWilliams.
Fredericton, N. B	29.79	756.7	29.86	758.4	55.9	12.8	69	NE	2	0.9	.....	c	0	.....	.....	0.46	11.7	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.33	745.0	30.16	766.1	49	9.4	81	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.74	730.0	29.82	757.4	55	12.8	93	NW	.....	.....	2	.....	10n	.....	.....	0.03	0.8	Clearing	James Grant.
*Halifax, N. S	29.67	753.6	29.80	756.9	58	14.4	86	NW	1	0.4	.....	0	5ks	.....	NW	Inap.	Inap.	Fair	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.82	757.4	55.3	12.9	86	NW	.....	.....	1	10cs	0	NW	.....	0.01	0.3	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.47	748.5	29.80	756.9	52	11.1	88	SW	5	2.2	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.58	751.3	29.78	756.4	54	12.2	75	S	6	2.7	.....	10cs	Haze	.....	.....	0.78	19.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.10	739.1	29.79	756.7	48	8.9	78	NW	9	4.0	.....	5k	5n	W	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.78	756.4	49.7	9.8	92	SE	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.13	739.9	29.80	756.9	58	14.4	94	W	10	4.5	.....	10k	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	56.5	13.6	.....	NW	3	1.3	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.85	758.2	59	15.0	88	W	16	7.2	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.52	749.8	29.84	757.9	50	10.0	75	NW	.....	.....	1	0	0	.....	.....	0.11	2.8	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.86	758.4	46	7.8	84	W	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.76	755.9	29.81	757.2	57	13.9	74	E	.....	.....	1	0	0	.....	.....	0.33	8.4	Clear	Dr. Gove.
St. John, N. B	29.66	753.4	29.82	757.4	57	13.9	78	NE	4	1.8	.....	3c	0	.....	.....	0.40	10.2	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.12	739.6	29.84	757.9	45	7.2	78	NW	12	5.4	.....	.....	10ks	.....	.....	0.09	2.3	Cloudy	K. Stewart.
Stayner, Ontario	29.04	737.6	29.82	757.4	46	7.8	92	N	1	0.4	.....	.....	10n	.....	NW	0.05	1.3	Light rain	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.80	756.9	54.7	12.6	90	NW	11	4.9	.....	.....	10s	.....	.....	0.076	1.93	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.73	755.1	29.77	756.1	66	18.9	72	SW	12	5.4	.....	0	2ks	.....	W	0.06	1.5	Clear	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.79	756.7	51	10.6	89	E	5	2.2	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	Magnetic Observatory.
Windsor, N. S	29.72	754.9	29.52	757.4	61.0	16.1	83	NW	3	1.3	.....	4k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.68	753.9	29.92	760.0	61.0	16.1	77	SW	.....	.....	.....	10k?	10s?	.....	.....	0.20	5.1	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.62	752.3	29.84	757.9	58	14.4	76	N	3	1.3			10s		SW	0.03	0.8	Cloudy	
Alpena, Michigan	29.31	744.5	29.96	761.0	43	6.1	75	NW	24	10.7			8s		N	0	0	Cloudy	
Atcha, Aleutian Islands					43	6.1	91	Calm			0	8ck	0	NW		0	0	Fair	
Atlanta, Georgia	28.92	734.8	30.04	763.0	68	20.0	47	W	6	2.7		2cs	Haze	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	29.92	760.0	29.94	760.5	67	19.4	84	SW	5	2.2		0	0			1.13	28.7	Clear	
Augusta, Georgia	29.93	760.2	30.10	764.5	72	22.2	80	Calm	0	0		5ck	Haze	Calm	Calm	0	0	Fair	
Baltimore, Maryland	29.89	759.2	29.94	760.5	73	22.8	67	E	2	0.9		5c	Sme'	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	72	22.2	80	SW	9	4.0		2c	0	Calm		1.06	26.9	Clear	
Bismarck, Dakota	28.20	716.3	30.05	763.3	47	8.3	69	SE	14	6.3		10c	0	SE		0	0	Cloudy	
Boerne, Texas	28.54	724.9	29.82	757.4	67	19.4	89	E	3	1.3		0	0			0	0	Clear	
Boise City, Idaho	26.89	683.0	29.85	758.2	51	10.6	93	NE	2	0.9			10n		Calm	0.41	10.4	Light rain	
Boston, Massachusetts	29.70	754.4	29.85	758.2	65	18.3	68	Calm	0	0			10s		W	0.48	12.2	Cloudy	
Brackettville, Texas	28.85	732.8	29.85	758.2	68	20.0	65	E	2	0.9			10ks		SE	0	0	Cloudy	
Breckenridge, Minnesota	29.08	738.6	30.08	764.0	48	8.9	70	E	10	4.5		2c	0	Calm		Inap.	Inap.	Clear	
Brownsville, Texas	29.91	759.7	29.95	760.7	76	24.4	86	Calm	0	0			Fog		Calm	0	0	Foggy	
Buffalo, New York	29.08	738.6	29.75	755.6	57	13.9	87	SW	20	8.9			10s		SW	0	0	Cloudy	
Burkes, Arizona					76	24.4	34	Calm			0	2c	0	Calm		0	0	Clear	
Burlington, Vermont	29.52	749.8	29.80	756.9	56	13.3	69	W	1	0.4		2c	2s	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.69	754.1	30.06	763.5	73	22.8	67	S	3	1.3		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.25	641.3	30.05	763.3	65	18.3	26	Calm	0	0		5k	0	S		0	0	Fair	
Camp Verde, Arizona					58	14.4	32	W			4	0	0			0	0	Clear	
Campo, California	27.38	695.4	29.95	760.7	50	10.0	86	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.06	763.5	30.06	763.5	74	23.3	72	SW	14	6.3		0	0			0	0	Clear	
Cape Henry, Virginia	29.95	760.7	29.97	761.2	72	22.2	58	SW	20	8.9		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.07	763.8	30.08	764.0	75	23.9	77	SW	15	6.7		0	0			0	0	Clear	
Cape May, New Jersey	29.86	758.4	29.88	758.9	69	20.6	79	S	6	2.7		0	0			0	0	Clear	
Castroville, Texas	29.20	741.7	29.88	758.9	74	23.3	72	SE	2	0.9		0	5ks		S	0	0	Fair	
Charleston, South Carolina	30.04	763.0	30.10	764.5	77	25.0	69	SW	3	1.3		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	29.23	742.4	30.01	762.2	73	22.8	68	W	6	2.7		0	Sm'e		Calm	0	0	Clear	
Chattanooga, Tennessee	29.29	744.0	30.07	763.8	68	20.0	65	NW	3	1.3		0	0			0	0	Clear	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	54	12.2	87	S	11	4.9			10c		Calm	0	0	Threatening	
Chicago, Illinois	29.35	745.5	30.05	763.3	48	8.9	78	N	14	6.3			10s		NW	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.35	745.5	29.97	761.2	73	22.8	59	SW	9	4.0		0	0			0	0	Clear	
Cleveland, Ohio	29.18	741.1	29.88	758.9	63	17.2	72	SW	12	5.4		5ck	0	SW		0.07	1.8	Fair	
Coleman City, Texas	28.17	715.5	29.78	756.4	67	19.4	42	Calm	0	0		0	0			0	0	Clear	
Columbus, Ohio	29.10	739.1	29.91	759.7	68	20.0	74	S	3	1.3		2k	Sm'e	S	Calm	0	0	Fair	
Concho, Texas	28.06	712.7	29.68	753.9	67	19.4	55	SW	5	2.2		0	0			0	0	Clear	
Corsicana, Texas	29.52	749.8	29.98	761.5	66	18.9	95	SE	4	1.8			Fog		Calm	0	0	Foggy	
Davenport, Iowa	29.38	746.2	30.01	762.2	63	17.2	78	NE	1	0.4			10n		SW	0.01	0.3	Light rain	
Deadwood, Dakota	25.27	641.8			51	10.6	86	S	4	1.8		0	10s		SW	0.11	2.8	Cloudy	
Decatur, Texas	28.78	731.0	29.91	759.7	70	21.1	75	SW	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.20	741.7	29.97	761.2	69	20.6	75	SW	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.71	627.6	29.93	760.2	60	15.6	49	S	7	3.1		0	0			0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.95	760.7	63	17.2	78	E	4	1.8		8cs	0	W		0.09	2.3	Fair	
Detroit, Michigan	29.23	742.4	29.88	758.9	56	13.3	81	W	5	2.2			10s		Calm	0.09	2.3	Cloudy	
Dodge City, Kansas	27.26	692.4	29.41	747.0	72	22.2	30	SW	20	8.9		5c	0	SW		0	0	Fair	
Dubuque, Iowa	29.35	745.5	30.04	763.0	58	14.4	94	NE	6	2.7			10n		NE	0.02	0.5	Light rain	
Duluth, Minnesota	29.51	749.5	30.20	767.1	46	7.8	69	NE	12	5.4		0	0			0.03	0.8	Clear	
Eagle Pass, Texa	29.18	741.1	29.88	758.9	74	23.3	76	SE	7	3.1		0	8s		SE	0	0	Fair	
Eastport, Maine	29.77	756.1	29.83	757.7	57	13.9	81	N	4	1.8		10k	Haze	W	Calm	0	0	Cloudy	
Edinburg, Texas																			
El Paso, Texas	26.18	665.0			72	22.2	18	NW	12	5.4		0	0			0	0	Clear	
Erie, Pennsylvania	29.14	740.1	29.83	757.7	62	16.7	83	W	18	8.0			10ks		W	0.21	5.3	Cloudy	
Escanaba, Michigan	29.47	748.5	30.13	765.3	41	5.0	65	N	21	9.4		2k	0	N		0.11	2.8	Fair	
Florence, Arizona	28.39	721.1	29.99	761.7	80	26.7	25	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.82	706.6			52	11.1	65	SE	19	8.5		5cs	0	Calm		0	0	Fair	
Fort Craig, New Mexico	25.49	647.4	29.53	750.0	58	14.4	26	Calm	0	0		1c	0	Calm		0	0	Clear	
Fort Davis, Texas	25.19	639.8	30.15	765.8	71	21.7	33	SW	3	1.3		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.96	761.0	73	22.8	59	SE	2	0.9		0	0			0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.95	760.7	61	16.1	55	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.16	689.8			51	10.6	93	Calm	0	0			10n		Calm	0.09	2.3	Light rain	
Fort McKavett, Texas	27.70	703.6	29.55	750.6	67	19.4	64	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.78	756.4	29.82	757.4	32	0.0	100	NE	1	0.4			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.74	730.0	29.80	756.9	68	20.0	51	Calm	0	0		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.17	715.5			50	10.0	59	E	13	5.8		1c	0	E		0	0	Fair	
Fredericksburg, Texas	28.23	717.0	29.72	754.9	74	23.3	51	S	2	0.9		0	0			0	0	Clear	
Galveston, Texas	29.93	760.2	29.97	761.2	75	23.9	90	NE	4	1.8			10s		SW	0.04	1.0	Cloudy	
Graham, Texas	28.88	733.5	29.89	759.2	68	20.0	70	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.38	746.2	30.02	762.5	52	11.1	66	N	22	9.8		0	8s		N	0	0	Fair	
Henrietta, Texas	28.99	736.3	29.90	759.4	62	16.7	67	SE	2	0.9			0			0	0	Clear	
Indianapolis, Indiana	29.20	741.7	29.94	760.5	69	20.6	85	Calm	0	0			10s		W	0	0	Cloudy	
Indianola, Texas	29.96	761.0	29.99	761.7	75	23.9	90	SE	2	0.9			10s		SE	0	0	Cloudy	
Jacksboro, Texas	28.81	731.8	29.89	759.2	71	21.7	62	S	9	4.0		0	0			0	0	Clear	
Jacksonville, Florida	30.10	764.5	30.12	765.0	80	26.7	74	SE	4	1.8		2cs	0			0	0	Fair	
Keokuk, Iowa	29.34	745.2	29.93	760.2	68	20.0	70	E	6	2.7		1c	0	NW		0	0	Clear	
Key West, Florida	30.03	762.7	30.06	763.5	82	27.8	75	SE	12	5.4		1k	0	SE		0	0	Fair	
Kittyhawk, North Carolina	30.00	762.0	30.02	762.5	74	23.3	63	W	18	8.0		0	0			0	0	Clear	
Knoxville, Tennessee	29.11	739.4	30.09	764.3	67	19.4	74	W	1	0.4		0	0			0	0	Foggy	
La Crosse, Wisconsin	29.34	745.2	30.07	763.8	55	12.8	62	NE	6	2.7		2k	0	W		Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	61	16.1	40	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.57	751.1	29.90	759.4	70	21.1	61	E	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.04	737.6	29.85	758.2	66	18.9	64	S	3	1.3		10cs	0	W		0	0	Cloudy	
Los Angeles, California	29.61	752.1	29.94	760.5	61.0	16.1	71	SE	6	2.7			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.46	748.3	29.99	761.7	75	23.9	52	SW	8	3.6		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.32	744.7	29.96	761.0	77	25.0	57	N	2	0.9		0	1s		Calm	0	0	Clear	
Madison, Wisconsin	29.07	738.4	30.04	763.0	55	12.8	74	NE	16	7.2			10ks		NE	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.45	748.0	30.17	766.3	38	3.3	54	NW	16	7.2		0	0			0.32	8.1	Clear	
Mason, Texas	28.34	719.8	30.06	763.5	66	18.9	74	E	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.07	763.8	74	23.3	56	SE	2	0.9		0	Haze		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.32	744.7	30.05	763.3	48	8.9	63	N	18	8.0		5c	5s	NW	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.04	763.0	30.08	764.0	70	21.1	80	N	4	1.8			10n		Calm	0.02	0.5	Light rain	
Montgomery, Alabama	29.87	758.7	30.10	764.5	72	22.2	58	W	1	0.4			10ks		W	0	0	Cloudy	
Morgantown, West Virginia	28.96	735.6	29.90	759.4	71	21.7	66	SW	5	2.2		5k	0	SW		0	0	Fair	
Mt. Washington, N. H.	23.66	601.0	30.02	762.5	32	0.0	79	W	24	10.7			10ks		W	0.73	18.5	Cloudy	
Nashville, Tennessee	29.54	750.3	30.06	763.5	73	22.8	63	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	29.75	755.6	29.86	758.4	67	19.4	86	SW	4	1.8			10n;hz		Calm	0.01	0.3	Light rain	
New London, Connecticut	29.83	757.7	29.88	758.9	63	17.2	94	Calm	0	0			10s		SW	0.02	0.5	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.98	761.5	30.04	763.0	75	23.9	77	E	8	3.6			10s		S	0.04	1.0	Cloudy	
Newport, Rhode Island	29.52	757.4	29.87	758.7	61	16.1	94	S	1	0.4			10n		Calm	Inap.	Inap.	Light rain	
New York, New York	29.71	754.6	29.88	758.9	67	19.4	84	W	9	4.0		2cs	8s	Calm	Calm	0.17	4.3	Cloudy	
Norfolk, Virginia	29.94	760.5	30.00	762.0	78	25.6	54	SW	7	3.1		0	0			0	0	Clear	
North Platte, Nebraska	26.96	684.8	29.42	747.3	62	16.7	86	E	4	1.8		10k	Haze			0.10	2.5	Cloudy	
Olympia, Washington Ter.	29.84	757.9	29.88	758.9	51	10.6	82	SW	1	0.4			10s		W	0.06	1.5	Cloudy	
Omaha, Nebraska	28.78	729.7	29.78	756.4	68	20.0	70	E	5	2.2		2c	0	W		0	0	Clear	
Oswego, New York	29.47	748.5	29.79	756.7	56	13.3	75	S	3	1.3			10s		W	0	0	Cloudy	
Pembina, Dakota	29.31	744.5	30.14	765.5	44	6.7	84	N	2	0.9		2c	0			0	0	Fair	
Philadelphia, Pa	29.86	758.4	29.91	759.7	70	21.1	85	SW	12	5.4		5cs	Haze	Calm	Calm	1.06	26.9	Fair	
Phœnix, Arizona	28.63	727.9	30.34	770.7	73	22.8	17	NE	2	0.9		0	0			0	0	Clear	
Pike's Peak, Colorado	17.90	454.6	30.12	765.0	32	0.0	40	W	36	16.1		0	Haze			0.03	0.8	Hazy	
Ploche, Nevada					57	13.9	15	S	6	2.7		2c	0	SW		0	0	Fair	
Pittsburg, Pennsylvania	29.13	739.9	29.92	760.0	63	17.2	89	W	5	2.2			10n		W	1.79	45.5	Light rain	
Port Huron, Michigan	29.19	741.4	29.84	757.9	56	13.3	75	NW	15	6.7			10ks		NW	0	0	Cloudy	
Portland, Maine	29.80	756.9	29.85	758.2	59	15.0	76	NE	8	3.6		8k	0	Calm		0	0	Cloudy	
Portland, Oregon	29.92	760.0	29.99	761.7	51.5	10.8	90	S	4	1.8			10n		NW	0.37	9.4	Light rain	
Prescott, Arizona	24.71	627.6	30.07	763.8	54	12.2	38	Calm	0	0		1c	0	Calm		0	0	Clear	
Pilot Point, Texas	29.11	739.4	29.94	760.5	63	17.2	83	SE	4	1.8		0	0			0	0	Clear	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	79	26.1	82	E	8	3.6		0	0			0	0	Clear	
Red Bluff, California	29.48	748.8	29.83	757.7	60.5	15.8	34	NW	15	6.7		0	0			0	0	Clear	
Rio Grande City, Texas	29.76	755.9	29.97	761.2	73	22.8	85	E	3	1.3		0	0			0	0	Clear	
Rochester, New York	29.17	740.9	29.77	756.1	57	13.9	81	SW	6	2.7			10s		SW	0	0	Cloudy	
Roseburg, Oregon	29.50	749.3	30.07	763.8	48	8.9	92	NW	2	0.9			10n		Calm	0.02	0.5	Light rain	
Sacramento, California	29.74	755.4	29.82	757.4	55	12.8	81	S	7	3.1		0	0			0	0	Clear	
St. Louis, Missouri	29.42	747.3	29.98	761.5	69	20.6	65	SW	6	2.7		0	0			0	0	Clear	
St. Marks, Florida	30.09	764.3	30.10	764.5	77	25.0	82	SE	1	0.4		0	7s		Calm	0	0	Fair	
St. Paul, Minnesota	29.24	742.7	30.07	763.8	52	11.1	59	NE	16	7.2		1ck	0	N		Inap.	Inap.	Clear	
Salt Lake City, Utah	26.38	644.6	29.71	754.6	68	20.0	18	SE	15	6.7		7ck	0	W		0	0	Fair	
San Antonio, Texas	29.30	744.2	29.86	758.4	73	22.8	81	Calm	0	0		10k	0	Calm		0	0	Cloudy	
San Diego, California	29.91	759.7	29.98	761.5	59	15.0	76	S	8	3.6			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.25	742.9	29.90	759.4	61	16.1	82	W	13	5.8		5ck	0	NW		1.30	34.0	Fair	
Sandy Hook, New Jersey	29.84	757.9	29.88	758.9	70	21.1	80	SW	16	7.2		5ck	2ks	W	W	0.28	7.1	Fair	
San Francisco, California	29.83	757.7	29.89	759.2	51	10.6	86	W	12	5.4		0	0			0	0	Clear	
Santa Fé, New Mexico	23.31	592.1	29.85	758.2	60	15.6	20	N	6	2.7		1k	0	SW		0	0	Clear	
Savannah, Georgia	30.03	762.7	30.12	765.0	83	28.3	67	SW	5	2.2		2ck	0	S		0	0	Fair	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	70	21.1	75	N	2	0.9		0	8s		SW	0.07	1.8	Fair	
Silver City, New Mexico	24.33	618.0	30.38	771.6	57	13.9	30	NW	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.09	764.3	30.13	765.3	76	24.4	82	SW	12	5.4		1c	0	NW		0	0	Clear	
Springfield, Massachusetts	29.74	755.4	29.86	758.4	64	17.8	68	S	2	0.9			10ks		SW	0	0	Cloudy	
Stockton, Texas	26.88	682.7	29.88	758.9	70	21.1	32	SE	20	8.9		0	0			0	0	Clear	
Thatcher's Island, Mass	29.80	756.9	29.85	758.2	62	16.7	77	SW	5	2.2			10s		SW	0.07	1.8	Cloudy	
Toledo, Ohio	29.23	742.4	29.89	759.2	65	18.3	73	W	14	6.3			10s		Calm	0.04	1.0	Cloudy	
Tucson, Arizona	27.49	698.2	30.04	763.0	67	19.4	41	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.47	748.5	29.96	761.0	52.0	11.1	79	SW	20	8.9			10n		W	0.13	3.3	Lightrain	
Uvalde, Texas	29.08	738.6	29.87	758.7	71	21.7	85	E	2	0.9		0	2s		E	0	0	Fair	
Vicksburg, Mississippi	29.84	757.9	30.09	764.5	69	20.6	85	SE	5	2.2			10s		SE	0	0	Cloudy	
Virginia City, Montana	24.00	609.6	29.48	748.8	50	10.0	65	Calm	0	0			10s		W	0.48	12.2	Cloudy	
Visalia, California	29.49	749.0	29.86	758.4	57	13.9	72	SW	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.82	757.4	29.92	760.0	74	23.3	68	Calm	0	0		0	Haze		Calm	0	0	Clear	
Wickenburg, Arizona					65	18.3	63	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.01	762.2	30.09	764.3	75	23.9	77	SW	10	4.5		0	0			0	0	Clear	
Winnemucca, Nevada	25.40	645.2	29.76	755.9	54	12.2	55	N	24	10.7		10k	0	W		0	0	Cloudy	
Wood's Holl, Mass	29.84	757.9	29.88	758.9	61	16.1	88	SW	14	6.3			10n		SW	0.08	2.0	Light rain	
Yankton, Dakota	28.67	728.2	29.92	760.0	59	15.0	88	E	10	4.5		10cs	0	NW		1.42	36.1	Cloudy	
Yuma, Arizona	29.62	752.3	29.78	756.4	77	25.0	35	E	8	3.6		5k	0	S		0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.97	761.2	30.02	762.5	81	27.2	78	SE	2.4	1.1		0	0			0.02	0.5	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.31	642.9			65.2	18.4	82	Calm			0	8cs	2s			0.35	8.9		Thomas Herran.
Navassa, W. I	29.92	760.0	30.00	762.0	78	25.6		NE								0.07	1.8	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	82	E			2	5k	6ks	E		0.46	11.7	Cloudy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 318 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,. or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.12‡	765.0‡			75	23.9	68	NE	3	1.3			8		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.76‡	755.9‡			70	21.1	72	SW			3		78		W	0	0			Fair	
Adams, Panama, U. S. C.	30.13‡	765.3‡			78	25.6	95	S			4		10		S					Cloudy	
Alaska, Sitka, Alaska	29.84‡	757.9‡			46	7.8	92	Calm			0					0	0			Foggy	
Alliance, N. 38° 44′, W. 9° 36′	30.02‡	762.5‡			63	17.2	89	SSW			3		10					Mod'ate	S	Rainy	
Colorado, New York, N. Y.	29.89‡	759.2‡			67	19.4	89	Calm	0	0			10		N	0.18	4.6			Hazy	
Constitution, Philadelphia, Pa	29.86‡	758.2‡			69	20.6	95	S			2		4		Calm					Fair	
Despatch, N. 24° 23′, W. 31° 45′	30.17‡	766.3‡			75	23.9	72	ENE			2		1		Calm	0	0	Light	NNE	Clear	
Enterprise, Antwerp, Holland	29.75‡	755.6‡			66	18.9	74	NNW			1		8		NW					Cloudy	
Franklin, Norfolk, Va.	29.98‡	761.5‡			74	23.3	63	SW	10.8	4.8			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.83‡	757.7‡			53	11.7	80	SW			3		2		SW	0	0			Clear	
Kearsarge, Portsmouth, N. H.	29.86‡	758.4‡			63	17.2	83	SW			1		2		SW					Fair	
Marion, Tampico, Mexico	29.98‡	761.5‡			79	26.1	95	SE			1		0					Smooth		Clear	
Michigan, Erie, Pa					61	16.1	94	W			6		10		W					Cloudy	
Monocacy, Shanghai, China	30.03‡	762.7‡			68	20.0	79	SE			2		10		SE					Cloudy	
Monongahela, Yokohama, Japan	29.73‡	755.1‡			72	22.2	80	SW			0-1		10			0	0			Overcast	
New Hampshire, Port Royal, S. C.	30.10‡	764.5‡			76	24.4	86	WSW	8	3.6			2		WSW	0	0			Clear	
Onward, Callao, Peru †	30.04‡	763.0‡			62	16.7	83	NE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.81‡	757.2‡			66	18.9	89	SE			2		10							Overcast	
Passaic, Washington, D. C.					76	24.4	82	NE			1		2							Clear	
Pensacola, Callao, Peru	30.06‡	763.5‡			61	16.1	94	NNE	1	0.4			10			0	0			Misty	
Portsmouth, New York, N. Y.	29.87‡	758.7‡			66	18.9	84	SW			3		10		Calm			Smooth		Drizzling	
Powhatan, Hampton Roads, Va.	30.00‡	762.0‡			73	22.8	72	SW			5		0			0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.87‡	758.7‡			83	28.3	60	WSW			4		0							Clear	
Ranger, Amoy, China	29.79‡	756.7‡			78	25.6	91	SSE			1-2		2		Calm					Clear	
Richmond, Taku Bar, China	29.53‡	750.0‡			74	23.3	76	SSW			3		0			0	0	Smooth	S	Clear	
Rio Bravo, Brownsville, Texas	29.95‡	760.7‡			74	23.3	100	N			1		Fog		Calm	0	0			Foggy	
Santee, Annapolis, Md.	29.96‡	761.0‡			73	22.8	76	WSW			1		2			0	0			Fair	
Saratoga, Santa Cruz, Canaries	30.16‡	766.1‡			72	22.2	76	SE			2		0			0	0	Smooth		Blue sky	
St. Louis, League Island, Pa	29.93‡	760.2‡			70	21.1	90	SW	12	5.4			5		W	0.9	23.			Fair	
Trenton, N. 36° 09′, W. 4° 52′	30.13‡	765.3‡			65	18.3	89	W			4		0			0	0	Heavy	S&W	Clear	
Tuscarora, N. 18° 01′, W. 102° 58′	29.92‡	760.0‡			80	26.7	91	NE			1		2		S;E	0	0	Smooth		D. clouds	
Vandalia, Port Royal, S. C.	30.07‡	763.8‡			78	25.6	86	SW			2		2			0	0	Smooth		Fair	
Wabash, Boston, Mass	29.86‡	758.4‡			71	21.7	79	W	2	0.9			8			0.012	0.30			Cloudy	
Wyoming, Palermo, Sicily	29.96‡	761.0‡			73	22.8	63	NE			2		2		NE			Smooth	NE	Clear	
Wachusett, N. 40° 51′, W. 69° 05′	29.93‡	760.2‡			53	11.7	93	SSW			3		8							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the last 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. [illegible]
§S.S. City of Tokio Capt. Maury N. 43° 39′, W. 178° 27′		29.85‡	758.2‡	48	8.9		SW			6		10			1.5 in. or 38. mm.	Rough	SW	Rainy	L. B. Wals.
S. S. Colima, N. 17° 17′, W. 101° 13′...†		30.00‡	762.0‡	78	25.6		WNW			2		8		SE	1.00 in. or 25.4mm	Small	WSW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur[illegible]
S. S. Dakota, Capt. H. G. Morse, New Tacoma, Wash. Ter.†		29.89‡	759.2‡	56	13.3	87	SE			1		4		SE				Rainy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 11° 25′, W. 161° 25′		29.85‡	758.2‡				E			5–6				Var.		Heavy	ENE	Squally	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 34° 33′, E. 138° 50′		29.88‡	758.0‡	77	25.0	73	E			2		6cs			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig N. 31° 29′, W. 79° 13′		30.06‡	763.5‡	80.0	26.7	74	S			1		5?		E	0	Mod'ate	NE	Clear?	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 43° 53′, W. 40° 20′		30.29‡	769.4‡				ENE			2		5		ENE		4	NE	Cloudy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office. §The date of the S. S. City of Tokio is uncertain, and may be either Greenwich, or ship's day.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 16′, W. 16° 06′		29.58‡	751.3‡	58	14.4	82	ENE			5		9		SE	0	Mod'ate	ENE	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Southwest Reef Light, N. 29°23′, W. 91°30′		30.03‡	762.7‡	77	25.0	86	E	6	2.7			10ks		S	0.06 in. or 1.5 mm			Overcast	Capt. James Jorgensen.
Brigantine "George of Halifax",																			Willard N. Pratt.
Schooner Charley Buck, N. 31° 50′, W. 80° 00′		30.15‡	765.8‡	78	25.6		SW			1		2		W		Cross	SE	Fair	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.79‡	756.7‡				E	4	1.8			2			0	Long	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden N. 33° 33′. W. 51° 27′		30.04‡	763.0‡	74	23.3	95	ENE			4		8		E		Mod'ate	E	Fair	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		30.16‡	766.1‡	78	25.6		SE			2		5s		NW	0			⅜ covered	Capt. Wm. Shepherd.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 7, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.05	763.3	77.5	25.3	74	WNW			1		5			0	0	Cloudy	Kesxuche.
Algiers			29.93	760.2	77.7	25.4	48	W			1		0			0	0	Clear	Tourlliere.
La Calle			29.98	761.5	69.6	20.9	90	ENE			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.7															Gau.
Saida			30.07	763.7	85.5	29.7	17	N			5		2			0	0	Fair	Herbin.
Tebessa			29.98	761.5	91.2	32.9	25	NW			1		2			0	0	Fair	Watrin.
Geriville			30.04	762.9	82.6	28.1	51	S			2		2			0	0	Fair	Brugniaux.
Laghouat			29.91	759.6	90.7	32.6	29	NE			5		0			0	0	Clear	Bertrand.
Biskra			29.92	760.0	97.7	36.5	37	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.32	744.7	29.84	757.9	79.3	26.3	37	S			1		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.03	737.4	29.79	756.6	57.9	15.4	59	NE			1		10			1.535	3.90		Dr. Wierzbiski.
Eperies	28.85	732.8	29.71	754.5	62.2	16.8	83	NW			2		10k		E	0.230	5.85		Julius Mikolik.
Gratz	28.62	726.9	29.81	757.1	74.5	23.6	51	SE			3		4			0.059	1.5		Andreas Rospini.
Hermannstadt	28.35	720.1	29.72	755.0	68.1	20.1	81	NW			1		8			0.791	20.10		Prof. A. Gottschling.
Kremsmünster	28.53	724.6	29.81	757.2	72.0	22.2	52	N			2		2			0.417	10.6		Prof. C. Wagner.
Lemberg	28.73	729.7	29.69	754.1	62.2	16.8	73	NE			1		10			0	0		Dr. T. Stanecki.
Pola	29.81	757.2	29.92	760.0	75.9	24.4	71	W			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.25	743.0	29.69	754.2	73.8	23.2	70	S			4		8			0.031	0.8		Julius Csics, S. J.
Szegedin	29.50	749.4	29.77	756.2	75.6	24.2	55	W			3		5			0	0		Karl Stancel.
Trieste	29.83	757.6	29.93	760.2	74.8	23.8	61	W			1		1			0	0	Almost clear	P. Busin.
Vienna	29.15	740.5	29.85	758.1	73.4	23.0	55	W			2		3			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.87	758.7	47.1	8.3		SSE	16	7.2			10			0.220	5.59	Overcast	W. Boswell.
Ardrossan	29.67	753.6	29.69	754.1	56	13.3		ENE			3		4					Overcast	Wm. McNeil & G. Carrick
Armagh, Observatory			29.62	752.3	54.9	12.7		SE	6	2.7			10					Drizzling	S. Call.
Bidston (Liverpool Obs)			29.65	753.1	57.0	13.9		E	16	7.2			10					Overcast	John Hartnup.
Bolton (Sharples)			29.69	754.1	54.4	12.4		E	24	10.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.73	755.1	50.7	10.4		E			5		10			0.15	3.8	Raining	J. McLandsborough.
Bridgetown (Barbadoes)	30.02	762.5	30.05	763.3	87	30.6		NE			1		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.61	752.1	29.70	754.4	62.0	16.7		SSE			1		10					Overcast	H. Todd.
Cardington			29.68	753.9	62.0	16.7		SE			1		10					Raining	John McLaren.
Chatham, School M. E.	29.59	751.6	29.72	754.9	64.5	18.1		SE			1		9					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.62	752.3	29.66	753.4	49	9.4		ESE			2		10					Raining	J. Mac Gowan.
Dover	29.68	753.9	29.71	754.6	58	14.4		E			1		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.33	745.0	29.56	750.8	56.7	13.7		SSE			3		10					Foggy	The Staff.
Fort Napier (Natal)	27.45	697.2	29.74	755.4	77.0	25.0		NW			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0		E			1		3					D. clouds	
Galway, Queen's College			29.45	748.0	63	17.2		ESE			2		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.02	762.5	70.8	21.6		W			4		3					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.50	749.3	29.71	754.6	55.9	13.3		ENE			6		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.75	755.6	29.76	755.9	55	12.8		SE			2		4					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.52	749.8	29.69	754.1	64.3	17.9		SSE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.38	746.2	29.60	751.8	57.6	14.2		SE			3		8			Blank	Blank	Misty	Dr. S. E. Hoskins, F.R.S.
Helston	29.54	750.3	29.66	753.4	63	17.2		SE			3		4k			0.60	15.2	Fine	M. P. Moyle.
Holyhead	29.60	751.8	29.62	752.3	58	14.4		S			1		10					Raining	John Tilston.
Jersey	29.37	746.0	29.66	753.4	56.4	13.6		SSE			1		10					Overcast	J. Fisher.
Kew, Observatory	29.65	753.1	29.69	754.1	63.2	17.3		SE	12	5.4			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.43	747.5	29.68	753.9	58.5	14.7		NE			1		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.84	757.9	29.92	760.0	75.4	24.1		NE			2		2ck					Blue sky	A. King.
Nairn	29.66	753.4	29.75	755.6	55	12.8		Calm			0		2					¾ clouded	W. D. Penny.
Nassau (Bahamas)			30.05	763.3	83.2	28.4		NE			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.52	749.8	29.71	754.6	57.3	14.1		SSE			1		10d		ENE	0.422	10.72	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.16	740.7	29.68	753.9	56.0	13.3		E			1		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.65	753.1	59	15.0		ESE			1		10					Drizzling	H. E. Bellamy.
Plymouth	29.50	749.3	29.58	751.3	54.8	12.7		SSE			1		10					Gloomy	John Merrifield.
Prince Town	28.16	715.3	29.63	752.6	53.3	11.8		S			2		10					Gloomy	W. H. Tooker.
*Roche's Point	29.43	747.5	29.53	750.0	58	14.4		SE			5		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.40	746.7	29.56	750.8	53	11.7		ESE			4		10					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.85	758.2	50.5	10.3		SE	29	13.0			2			0	0	D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.69	754.1	29.76	755.9	80.0	26.7		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.48	748.8	29.76	755.9	53.9	12.2		E			1		10			0.84	21.3	Raining	W. F. Cooper.
Silloth Rectory	29.67	753.6	29.70	754.4	55.0	12.8	82	SE			5		10			0.660	16.76	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.32	744.7	29.72	754.9	51.7	10.9		ENE			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.48	748.8	29.69	754.1	59.8	15.4		S			1		10					Raining	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.58	751.3	29.60	751.8	63	17.2		S			7		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.41	747.0	29.44	747.8	61.9	16.6		SSE	11	4.9			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.04	763.0	30.08	764.0	66	18.9	65	W	3	1.3		4	4			0.022	0.56	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.09	764.3	40.0	4.5	87	NW			2		3k			0	0	Clear	Francis Abbott F.R.A.S.
Leith, Restalrig Park			29.78	756.4	52.8	11.6		E			4		10k			0.84	21.3	Overcast	Andrew Gibb
Mauritius, Observatory	29.90	759.4	30.09	764.3	75.7	24.3	74	WSW	5.0	2.2		0	7		ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	48.0	8.9	81	NE	11	4.9			6			0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.75	755.6	49	9.4		NE			4		10			0	0		J. Youngclause.
North Unst (Shetland Is.)			29.88	758.9	49	9.4		SE			2	4	2	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 27° 05′			29.80‡	756.9	78.5	25.8		NE			1		1					Blue sky	Capt. W. J. L. Wharton.
Agnes Wilson, N. 17° 10′, W. 87° 10′			29.93	760.2	81	27.2		SE			2		4			1	NE	D. clouds	Capt. H. W. Dyke
S. S. Algera, N. 41° 45′, W. 55° 15′			30.03	762.7	67	19.4		SSW			3		2		S	2	NNE	Misty	
§Brig Alliance, N. 51° 55′, W. 23° 50′			29.95‡	760.7‡	53	11.7		N			6		8			Heavy chop.	ENE	D. clouds	Capt. W. Scott.
S. S. Amanda																			Capt. B. Boyes.
Astarte, S. 6° 00′, W. 16° 00′ *			30.05‡	763.3‡	82	27.8		ESE			4		5					D. clouds	Capt. Parson.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
British Peer, N. 3° 25′, W. 25°, 55′			30.00‡	762.0	81	27.2		Calm			0		5					D. clouds	Capt. Greig.
Barque Commewyne																			Capt. A. Buchan.
Barque Fedalma, N. 31° 20′, W. 66° 00′			30.08	764.0	74	23.3		N			2		3			0		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 43° 45′, W. 58° 20′			29.99	761.7	57	13.9		S			4		9			3	WSW	Foggy	Capt. W. Randall.
S. S. Nizam, N. 13° 52′, E. 48° 52′			29.79‡	756.7‡	86	30.0		WSW			3		0					Blue sky	Capt. Barlow.
S. S. Royal Alexandra, N. 49° 45′, W. 15° 15′			29.50	749.3‡	55	12.8		NNW			6		10			6	NNE	Drizzling	W. P. Hughes.
Theophane, S. 16° 00′, E. 79° 50′			30.07‡	763.8‡	73.4	23.0		ESE			3		8					Showery	Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correctioion for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.30	668.0	30.02	762.5	66.2	19.0	98	Calm			0	10n				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.83	757.6	29.87	758.8	61.3	16.3	64	Calm			0		10						
Fanöe	29.87	758.8	29.89	759.3	58.1	14.5	70	W			2		6						
Godthaab (Greenland)	29.71	754.6	29.75	755.7	40.8	4.9	97	S			4		10					Raining	
Stykkisholm (Iceland)	29.93	760.3	29.98	761.4	48.9	9.4	92	W			2		8						
Thorshavn (Faröe)	29.91	759.6	29.94	760.5	50.0	10.0	86	ENE			2		10						
Vestervig	29.72	755.0	29.89	759.3	55.0	12.8	80	W			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.18	741.2	29.73	755.2	64.8	18.2	88	S			1		10			0.146	3.7	Raining	Collignon, Director.
Amiens, Normal School	29.62	752.4	29.73	755.1	70.9	21.6	65	E			1		10			0.630	16.	Covered	Bonvallet, Director.
Arras, Engin'r School	29.50	749.2	29.74	755.5	68.0	20.0	63	S			1				S	0.035	0.9		Klein, Commandant.
Avignon, Normal School	29.80	756.8	29.87	758.8	76.5	24.7	53	SE			2		10			0	0	Covered	Giraud, Director.
Bar-sur-Seine	29.18	741.2	29.71	754.6	77.4	25.2	42	SSE			1		8kn			0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.47	748.6	29.73	755.1	69.3	20.7	67	SE			1		10		SSE	0.098	2.50	Covered	Frere Eugene Marie.
Besançon, Normal School	28.93	734.9	29.78	756.5	78.3	25.7	50	W			2		2		S	0.213	5.4	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.97	735.8	29.90	759.4	76.1	24.5	55	S			3		ckn	SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.14	740.1	29.66	753.4	74.1	23.4	69	NW			2		10	SW	SW	0	0	Covered	M. Gence, Director
Brest, Naval Observatory	29.33	744.9	29.57	751.1	63.3	17.4	73	SW			4		8		SW	0.324	8.25	Misty	Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.38	746.2	29.82	757.3	73.0	22.8	65	E			3		2		E	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.71	754.7	29.78	756.5	63.7	17.6	81	SSE			1		5		S	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.18	741.2	29.72	755.0	67.6	19.8	92	ESE			1		10			0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.45	748.0	29.76	755.8	76.8	24.9	46	SSE			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.35	720.0	29.62	752.4	79.2	26.2	43	SW			1		8		SW	0.024	0.6		Alluard, Director.
Commercy, Normal School	28.95	735.2	29.75	755.7	78.8	26	57	SE			1		5ckn		SE	0.016	0.4	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.4	29.98	761.4	75.2	24	46	SW			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.07	738.4	29.80	757.0	73.8	23.2	58	NW			1		5sn	NE		0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	29.51	749.6	29.72	755.0	59.0	15.0	93	SW			1		10			0.146	3.7	Covered	Mouillot, Director.
Le Mans, Normal School	29.39	746.6	29.70	754.3	60.8	16	96	SE			2		8		SE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.89	733.9	29.78	756.3	76.1	24.5	53	S			4		10ck	SW	SW	0.031	0.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.57	751.1	29.67	753.6	60.8	16.0	83	S			2			SW	S	0.264	6.7		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.61	752.2	29.88	758.9	75.4	24.1	45	SE			2		5			0	0	Cloudy	E. Stephan, Director
Mirecourt, Normal School	28.75	730.3	29.75	755.7	69.8	21.0	73	W			1		5		W	0.28	7.	Cloudy	Barbier, Director
Nismes, Normal School	29.67	753.6	29.82	757.5	82.8	28.2	37	SE			4		5		N	0	0	Cloudy	M. Boyer, Director.
Privas, Normal School	28.81	731.8	29.82	757.5	71.6	22	46	S			1		n	SW	S	0	0		Cautier, Director.
Puy de Dome (Summit) Obs	25.03	635.8			57.6	14.2	71	SSE			3		9			0.094	2.4	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.70	754.4	29.73	755.2	62.2	16.8	90	S			1		10	S	S	0.16	4.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.67	753.7	29.76	755.9	63.0	17.2	88	SE			1		10		S	0.083	2.1	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.60	751.9	29.63	752.6	60.3	15.7	84	S			2		10	S	S	0.428	10.87	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.55	750.5	29.71	754.7	73.9	23.3	58	SE			1-2				SSE	0.205	5.2		E. Renou, Director.
Tarbes, Normal School	28.82	731.9	29.88	758.9	62.6	17	70	N			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.04	737.7	29.76	755.9	73.6	23.1	64	SSE			3		8			0.193	4.9		M. Julier Mercadier.
Versailles, Observatory	29.23	742.4	29.72	754.9	72.3	22.4	56	SSE			3					0.153	3.88		Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.07	738.3	29.74	755.4	70.5	26.4	38	SE			3		2		SE	0.016	0.4	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	82.4	28										0.08	2.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.17	740.8	29.74	755.5	75.6	24.2	36	S			4	c	5k			0	0	Cloudy	Ch. André, Director.
Mont-Louis	24.74	628.5	30.06	763.5	64.0	17.8	49	SW	37.4	16.7			3		SW	0	0		M. Cave.
Nice			29.98	761.5	71.2	21.8	74	NW			3		8			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.43	747.5			73.6	23.1	66	ESE			3		10		SSW	Inap.	Inap.		Marié Davy, Director.
Perpignan	29.65	753.1	29.76	755.8	66.6	19.2	75	NE	7.4	3.3			9		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.41	569.2			48.6	9.2		S			1		10			0.045	1.14	Threatening	Gen'l de Nansouty.
Tours	29.52	749.8	29.72	754.8	64.0	17.8	88	SE			1		10		SSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.73	755.2	29.76	755.8	67.6	19.8	99	E	6.3	2.8			10n			0.697	17.7	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.7	29.88	759.0	71.2	21.8	47	W			4		1	SW		0	0		Prof. Dr. Hoh.
Berlin	29.75	755.6	29.92	759.9	61.5	16.4	68	NE			1		10			0.012	0.3		Prof. Dr. Arndt.
Breslau	29.34	745.1	29.86	758.5	67.1	19.5	67	NNW			2		4			0.107	2.71		Royal University Obs'y.
Carlsruhe	29.38	746.3	29.79	756.6	75.6	24.2	55	E			1		5	SW		0.008	0.2		Albert Sens.
Cassel	29.29	744.0	29.89	759.3	70.2	21.2	62	NE			2		8	E		0	0		Dr. H. Möhl.
Crefeld	29.63	752.5	29.79	756.6	76.3	24.6	51	SE			2		5k			0	0		Director Lose.
Emden			29.83	757.6	66.6	19.2	68	SE			1		4			0.008	0.2		Prof. Dr. Prestel.
Frankfort on the Main	29.47	748.6	29.84	757.8	74.1	23.4		W			2		4			0	0		Physical Society.
Freienwalde on the Oder	29.85	758.2	29.89	759.2	62.1	16.7	71	NNE			1		10ks	ENE		0.020	0.5		Dr. Assmann.
Friedrichshafen	28.43	722.2	29.81	757.2	70.2	21.2	65	WSW			3		1	W		0	0		M. Wilhelm.
Hamburg	29.82	757.5	29.89	759.3	61.0	16.1	64	ESE			2		7k			0.390	9.9	Fair	Captain F. Hegemann.
Kiel	29.86	758.5	29.88	758.9	58.8	14.9	74	NNW			1		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.79	756.7	29.87	758.8	64.2	17.9	51	NE			2		4			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.46	748.3	29.87	758.7	67.3	19.6	63	NW			2		7	W		0.079	2.0		Prof. Bruhns, Privy Counsellor.
Memel	29.83	757.6	29.87	758.8	52.7	11.5	70	NW			2		4c						Skalweit.
Munich (München)	28.08	713.2	29.93	760.3	70.0	21.1	51	NE			3		3	NE	SW	0.036	0.9		Dr. C. Lang.
Neufahrwasser	29.88	758.9	29.89	759.3	55.0	12.8	68	N			2		10			0	0		A. Lothes.
Posen	29.59	751.6	29.87	758.7	66.4	19.1	55	W			1		10			Inap.	Inap.		Dr. Magener.
Strassburg (in Alsace)	29.28	743.8	29.81	757.1	75.9	24.4	49	SSW			2		6	W		0.177	4.50		Imp. University Observatory.
Stuttgart	28.88	733.5	29.78	756.3	71.6	22.0	56	E					5	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.38	720.8	29.81	757.2	72.7	22.6	45	WNW	2	1			5ck		W	0	0		T. Hopfner.
Wustrow	29.86	758.4	29.68	759.0	57.6	14.2	79	W			2		10cs			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 418.3 meters, or 1,376.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.4	29.84	757.8	88.2	31.2		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.62	752.5	29.67	753.7	86.3	30.2	64	SSW					7			0	0		D. clouds
Deesa	29.23	742.5	29.69	754.1	97.6	36.4	29	SSW	17.4	7.8			2	SW		0	0		Misty
Bombay	29.77	756.2	29.81	757.2	85.7	29.8	78	WSW	12.0	5.4			4		SSW	0	0		D. clouds
Poona	27.80	706.1	29.78	756.5	81.9	27.7	60	SW					1		W	0	0		D. clouds
Lahore	28.93	734.7	29.65	753.2	88.1	31.2	36	N	10.9	4.9			0			0	0		
Belgaum	27.33	694.1	29.87	758.6	75.3	24.1	83	W	10.0	4.5			1	W	W	0.03	0.8		D. clouds
Roorkee	28.71	729.2	29.58	751.3	92.6	33.7	22	NW	3.1	1.4			1			0	0		
Agra	29.05	737.8	29.59	751.6	96.1	35.6	36	W								0	0		
Nagpur	28.64	727.3	29.66	753.2	88.7	31.5	47	S	8.3	3.7			3	N		0	0		D. clouds
Lucknow	29.21	741.9	29.57	751.1	96.3	35.7	21	NNW	3.5	1.6			8	S		0	0		D. clouds
Allahabad	29.27	743.3	29.57	751.0	99.2	37.3	21	NW	4.4	2.0			0			0	0		Misty
Patna	29.34	745.3	29.51	749.6	100.5	38.1	26	NW	1.3	0.6			4	NW	NW	0	0		D. clouds
Hazaribagh	27.60	701.1	29.54	750.4	93.6	34.2	28	NW	9.3	4.2			3			0	0		
Cuttack	29.54	750.4	29.62	752.5	88.8	31.6	56	WSW	3.0	1.3			2			0	0		D. clouds
Calcutta (Alipore)	29.59	751.6	29.62	752.2	83.0	28.3	67	S	5.0	2.2			6	N	N	0	0		D. clouds
Goalpara	29.20	741.8	29.59	751.5	82.8	28.2	75	Calm	2.8	1.2			0			0	0		Blue sky
Chittagong	29.59	751.6	29.68	753.9	81.8	27.7	87	Calm	3.0	1.3			8			0	0		Misty
Sibsagar	29.31	744.4	29.64	752.8	85.7	29.8	79	ENE	1.6	0.7			6	W	W	0	0		D. clouds
Jubbulpore	28.32	719.3	29.67	753.6	82.3	27.9	57	NW	4.2	1.9			10		W	0	0		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.52	749.9	29.92	760.0	73.6	23.1	70	SW	2.5	1.1			6			0.004	0.1		Prof. Giovanni Clodig.
Milan	29.39	746.5	29.89	759.3	78.4	25.8	50	SSW			4		7	SW		0	0		Prof. Schiaparelli.
Padua	29.80	756.9	29.91	759.6	75.9	24.4	61	S	1.8	0.8			8	SW		0	0		Prof. Dott. Lorenroni.
Moncalieri	28.99	736.3	29.87	758.7	72.7	22.6	65	ESE	6.9	3.1			8	W		0	0		Prof. P. F. Denza.
Genoa	29.80	756.9	29.99	761.7	66.0	18.9	81	SE	6.3	2.8			8	S		0.008	0.2		Prof. G. M. Garibaldi.
Mondovi	28.02	711.8	29.88	759.0	70.9	21.6	64	SE			4		3	WSW		0	0		Prof. D. C. Bruno.
Pesaro	29.86	758.5	29.91	759.7	73.4	23.0	63	NE	11.2	5.0			5			0	0		Prof. Luigi Guidi.
Florence	29.72	755.0	29.98	761.4	76.1	24.5	63	W			2		3			0	0		Cav. F. Meucci.
Leghorn	29.88	758.9	29.96	761.0	72.3	22.4	64	WNW			4		3			0	0		Prof. P. Monte.
Rome	29.80	756.8	29.97	761.2	76.6	24.8	63	SSW	11.2	5.0			2			0	0		Prof. P. S. Ferrari.
Lecce	29.68	753.8	29.92	760.0	77.0	25.0	52	WNW	12.5	5.6			0			0	0		Prof. C. De Giorgi.
Cosenza	29.05	737.8	29.91	759.8	84.7	29.3	62	NW	1.3	0.6			0			0	0		Prof. D. Conti.
Cagliari	29.77	756.1	29.96	760.9	71.6	22.0	64	S			2		3	W		0	0		Prof. A. Pacinotti.
Palermo	29.73	755.1	29.98	761.4	71.8	22.1	67	NE	3.8	1.7			0			0	0		Prof. G. Cacciatore.
Syracuse	29.82	757.5	29.89	759.3	79.7	26.5	63	NNE	9.8	4.4			3	NNE		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.46	748.3	30.02	762.4	75.7	24.3	57	WNW	6.7	3.1			5			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.87	758.7	68.6	20.3	72	NNE	4.8	2.1			4s			0	0	Foggy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	65.2	18.4	72	SSW	1.5	0.7			2s			0	0	Clear	S. Takehayashi.
Tokei, (Yeddo) Observatory.	29.71	754.6	29.77	756.1	66.0	18.9	91	S	3.0	1.3		10s	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara																			
Leon	25.07	636.7	30.04	763.0	61.2	16.2	77	NW			2	0	4		NW	0	0	Fair	Prof. L. Perez.
Mexico, Central Obs'y	24.42	620.2	29.98	761.6	68.0	20.0	81	W			1	2c	6k	W	W	0	0	Cloudy	Prof. M. Leal.
Pabellon (Aguascalientes)	23.06	585.7	29.97	761.3	59.5	15.3	77	Calm	0	0			10p;k			0.11	2.7	Covered	The Staff.
Tlacotalpam					64.8	18.2	73	NE			1	3c	4k	SW	SW	0	0	Cloudy	M. V. de Leon, M. E
San Luis Potosi	29.88	758.9	29.89	759.2	74.3	23.5	91	S			1	0	0			0	0	Foggy	M. M. Cházaro.
Vera-Cruz	24.22	615.1	30.08	763.9	66.0	18.9	45	E			2	5	0	W		0	0	½ clouded	G. Barroeta, M. D.
Zacatecas																			Prof. J. Rossell.
Puebla (Catholic Institute)	22.54	572.5	30.05	763.2	61.0	16.1	68	W			1	3c	1s	W	Calm	0	0	Fair	J. C. Castrillon.
Colima	23.41	594.6	30.17	766.4	53.8	12.1	83	NE	0.4	0.2			10		NE	0.20	5.0	Covered	Prof. P. Spina.
San Juan E. Michapam	28.37	720.6	29.98	761.6	80.1	26.7	74	E			1	0	5		NE	0	0	½ clouded	R. Banda, C. E.
Mazatlan																			Antonio Guerra y Guerra.
	29.80	756.8	30.10	764.4	75.0	23.9	92	SE			1	0	4			0	0	Light fog	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing																			
Groningen	29.78	756.5	29.78	756.5	72.3	22.4		E								0	0		
Helder	29.80	756.8	29.85	758.2	64.4	18.0										0.079	2.0		
Hellevoetsluis	29.81	757.2	29.81	757.2	66.8	13.[illegible]		SSW			1					0.197	5.0		
Utrecht	29.78	756.5	29.78	756.5	70.0	21.[illegible]	6[illegible]	E			1					0.094	2.4		
	29.80	756.9	29.81	757.1	68.9	20.[illegible]	64	SSW			2		8			0.028	0.7	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.82	757.3	29.87	758.7	58.3	14.6	57	W	5.4	2.4			0			0	0		
Brönø	29.85	758.2	29.89	759.2	50.4	10.2	82	N	7	3			7			0	0		
Christiania	29.68	753.8	29.82	757.4	67.5	19.7	40	SW	7	3			3			0.004	0.1		
Tromsö	29.81	757.1	29.85	758.2	47.5	8.6	76	NE	11	5			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Amount. Up'er 0—10.	Amount. Low'r 0—10.	Direction. Upper. From—	Direction. Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.10	764.6	30.29	769.4	64.4	18.0	84	WNW	11.2	5.0			5			0	0		Dr. J. A. Sampaio.
Campo Major	28.95	735.3	29.97	761.1	66.2	19.0	48	SW	14.3	6.4			8	SW		0.327	8.3		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.11	764.9	30.20	768.1	68.5	20.3	62	SE	8.7	3.9			3			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.1	30.01	762.3	61.5	16.4	74	WSW	21.0	9.4			5			0.307	7.8		The Staff.
Ponta Delgada, (Azores)	30.21	767.3	30.28	769.1	66.9	19.4	51	NNW	8.7	3.9			0			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Amount. Up'er 0—10.	Amount. Low'r 0—10.	Direction. Upper. From—	Direction. Lower. From—	Sea or swell. Height scale 0—5	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 2° 58′ W. 5° 57′			30.04	763.0	82.4	28		SSE			1		10		S	1	S	Overcast	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.95	760.8	80.6	27.0		WNW			2		7		NW	1	WNW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands.			30.02	762.6	78.4	25.8		NE			3		0			1		Blue sky	P. de Fair[illegible]
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimarães. Macao, China			29.84	757.8	81.5	27.5		E			3		0			1		Blue sky	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Amount. Up'er 0—10.	Amount. Low'r 0—10.	Direction. Upper. From—	Direction. Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.41	746.9	29.82	757.3	66.9	19.4	45	WNW	9	4			10ks						Astronomical Obs.
Wilna	29.43	747.6	29.84	758.0	61.2	16.2	54	NW	2	1			9					Heavy clouds	Astronomical Obs.
Dorpat	29.56	750.8	29.79	756.7	64.8	18.2	53	N	4	2			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.73	755.2	29.75	755.6	62.6	17.0	72	WNW	9	4			2cs;k						Central Physical Obs.
Kieff	29.05	737.9	29.66	753.4	67.8	19.9	36	NE	7	3		4c						Light clouds	Physical Cabinet.
Nikolaiev	29.61	752.0	29.68	753.8	76.5	24.7	65	S	13	6			8s;n						Kurdakof.
Kertch	29.79	756.6	29.81	757.1	76.6	24.8	80	S	9	4			4						Lagorio.
Moscow	29.10	739.0	29.63	752.6	58.8	14.9	62	NNE	13	6			6ks						Meteorological Obs.
Lugan	29.47	748.4	29.66	753.4	73.4	23.0	44	WSW	18	8			7						Meteorological Obs.
Archangel	29.76	755.8	29.78	756.3	60.6	15.9	44	N	13	6			4cs						Capt. Sselliwerstow.
Tiflis	28.46	722.9	29.79	756.6	87.6	30.9	27	NW	4	2			1k						Physical Observatory.
Astrakhan	29.83	757.6	29.74	755.5	79.0	26.1	32	NNW	7	3			9s						Capt. Wisganow.
Krotkowo*	29.06	738.2	29.52	749.9	60.3	15.7	57	NW	16	7			2k						Cand. Fatjanow.
Kasan	29.13	740.0	29.39	746.5	66.2	19.0	41	WNW	9	4			7						Physical Cabinet.
Ekaterinburg	28.56	725.5	29.52	749.8	45.3	7.4	93	ESE	13	6			10					Raining	Meteorological Obs.
Nukuss	29.40	746.8	29.62	752.4	79.3	26.3	56	NNW	7	3			6ks						
Tashkend	28.13	714.5	29.60	751.8	82.8	28.2	61	Calm	0	0			10						Teich, A. M.
Barnaul	29.05	737.9	29.54	750.3	52.2	11.2	58	SW	0	0			7						Meteorological Obs.
Yeniseisk	29.33	744.9	29.62	752.3	43.9	6.6	71	WNW	11	5			10					Raining	Marks.
Irkutsk																			
Peking (China)	29.46	748.3	29.60	751.9	90.0	32.2	27	SW	7	3			8k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.59	751.6	29.69	754.1	51.8	11.0	86	E	9	4			6k						
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Amount. Up'er 0—10.	Amount. Low'r 0—10.	Direction. Upper. From—	Direction. Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.72	754.9	29.82	757.5	70.7	21.5	65	SSW	3.5	1.58			3			0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.72	754.8	29.77	756.2	78.6	25.9	39	W	2.9	1.30		3	4	W		0.110	2.8	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.90	683.3			61.7	16.5	79	SW	12.0	5.36			8			0.276	7.0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.64	702.9	29.84	757.9	68.2	20.1	65	SW	27.6	12.33		1	1	S		0.031	0.8	Light clouds	The Staff.
Murcia, Met. Obs'y	29.70	754.3	29.84	757.9	92.3	33.5	34	NNW	1.4	0.64		5	4	NE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.77	730.7	29.65	753.1	56.3	13.5	89	SSW	24.2	10.8			10			1.201	30.5	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	760.9	30.02	762.5	80.0	26.7	88	Calm	0	0		0	0			2.504	63.6	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.82	757.6	29.88	759.0	85.1	29.5	77	SSW	6.7	3.0		2c	s	W	E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.2	30.11	764.7	63.1	17.3	87	SW	3.7	1.7		0	10		SW	Inap.	Inap.	Light rain	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	82.0	27.8	82	SE	2.9	1.30		3ks	3k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.84	758.0	29.88	759.0	64.0	17.8	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.82	757.3	29.87	758.6	52.2	11.2	78	E	.....	.....	2	.....	10	.....	.....	0.075	1.9	.....	
Hernosand	29.74	755.5	29.80	756.8	47.8	8.8	98	NE	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	
Stockholm	29.64	752.8	29.82	757.3	64.4	18.0	33	WSW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.78	756.5	29.84	758.0	48.6	9.2	87	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.7	29.79	756.6	64.4	18.0	45	WSW	8.7	3.9	.....	.....	9	.....	NW	0.211	5.35	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.23	717.1	29.80	756.8	77.4	25.2	40	W	.....	.....	1	.....	4	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, —— per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.78	756.4	84.6	29.2	44	S	2	1.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	102.2	39.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.0	76.1	24.5	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.73	755.1	29.84	758.0	80.4	26.9	70	W	.....	.....	1	.....	1n	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.81	757.2	30.11	764.8	55	12.8	.....	W	2	0.9	.....	0	2s	.....	W	0.33	8.4	Clear	W. R. Bigg.
Chatham, N. B	29.30	744.2	29.36	745.7	46	7.8	71	SW	19	8.5	.....	2k	8ks	SW	SW	0.30	7.6	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.46	748.3	29.50	749.3	49	9.4	67	SW	28	12.5	.....	0	8s	.....	SW	0.015	0.38	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.82	757.4	30.02	762.5	45.3	7.4	65	NW	.....	.....	4	.....	9s	.....	.....	0.312	7.92	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.07	763.6	30.23	767.8	42.2	5.7	90	W	.....	.....	3	.....	9ks	.....	.....	1.02	25.9	Cloudy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.36	746.7	29.38	746.2	39	3.9	88	NW	55	24.6	.....	.....	10n	.....	Calm	1.52	38.6	Heavy rain	J. McWilliams.
Fredericton, N. B	29.49	749.0	29.56	750.8	45.1	7.3	57	NW	19	8.5	.....	.....	10s	.....	W	Inap.	Inap.	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.12	739.6	29.93	760.2	57	13.9	58	SE	10	4.5	.....	Haze	5ks	SE	.....	0	0	Fair	James Stewart.
Granton, Ontario	29.15	740.4	30.27	768.8	47	8.3	77	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.50	749.3	29.63	752.6	50	10.0	68	W	16	7.2	.....	.....	8ks	.....	W	0.128	3.25	Clearing	F. Allison, M. A.
Hamilton, Ontario	29.89	759.2	30.26	768.6	48.5	9.2	75	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.80	756.9	30.13	765.3	48	8.9	59	W	10	4.5	.....	0	0	.....	.....	0.15	3.8	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.79	756.7	29.99	761.7	44	6.7	73	W	18	8.0	.....	.....	10ks	.....	W	0.10	2.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.48	748.8	30.18	766.6	50	10.0	75	W	14	6.3	.....	0	0	.....	.....	0.09	2.3	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.47	748.5	30.22	767.6	54.7	12.6	55	E	.....	.....	3	0	2s	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.55	750.6	30.25	768.3	46	7.8	77	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.52	749.8	29.57	751.1	57	13.9	.....	SW	4	1.8	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.60	751.8	30.26	768.6	47	8.3	80	NW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	29.48	748.8	29.81	757.2	40	4.4	65	N	.....	.....	6	.....	10n	.....	W	0.22	5.6	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.61	752.1	30.07	763.8	47	8.3	62	NW	8	3.6	.....	0	8ks	.....	NW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.59	751.6	29.64	752.8	46	7.8	54	NW	.....	.....	3	0	0	.....	.....	0.27	6.9	Clear	Dr. Gove.
St. John, N. B	29.48	748.8	29.64	752.8	45	7.2	61	SW	20	8.9	.....	.....	10k	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.52	749.8	30.24	768.1	49	9.4	70	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.44	747.8	30.22	767.6	51	10.6	53	NW	10	4.5	.....	0	0	.....	.....	0.02	0.5	Clear	R. J. Cole.
Stratford, Ontario	28.96	735.6	30.28	769.1	41.2	5.1	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.57	751.1	29.60	751.8	56	13.3	94	SW	12	5.4	.....	.....	9s	.....	SW	0.19	4.8	Clearing	T. C. Hill.
*Toronto, Ontario	29.85	758.2	30.24	768.1	49	9.4	61	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.53	750.0	29.62	752.3	49.0	9.4	64	W	8	3.6	.....	3k	0	.....	.....	0.13	3.3	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.77	756.1	30.02	762.5	60.0	15.6	94	SW	.....	.....	.....	10c?	10n?	.....	.....	0.10	2.5	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.88	758.9	30.12	765.0	48	8.9	56	NW	12	5.4		0	0			0.11	2.8	Clear	
Alpena, Michigan	29.59	751.6	30.26	768.3	46	7.8	47	NW	14	6.3		0	0			0	0	Clear	
Atka, Aleutian Islands					37	2.8	100	E			2		10s		E	0.05	1.3	Cloudy	
Atlanta, Georgia	28.94	735.1	30.05	763.3	70	21.1	66	W	7	3.1			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	55	12.8	56	N	12	5.4		0	0			0.21	5.3	Clear	
Augusta, Georgia	29.91	759.7	30.08	764.0	76	24.4	38	SW	4	1.8		5cs	2s	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.20	767.1	30.24	768.1	58	14.4	48	N	8	3.6		2k	0	N		0.33	8.4	Fair	
Barnegat, New Jersey	30.12	765.0	30.15	765.8	54	12.2	55	N	18	8.0		0	0			0.04	1.0	Clear	
Bismarck, Dakota	27.86	707.6	29.71	754.6	60	15.6	82	SE	16	7.2			10s		SE	0	0	Cloudy	
Boerne, Texas	28.46	722.9	29.74	755.4	65	18.3	84	Calm	0	0		5k	0	SE		0	0	Cloudy	
Boise City, Idaho	27.00	685.6	29.96	761.0	49	9.4	85	W	2	0.9		5k	0	W		0.57	14.5	Fair	
Boston, Massachusetts	29.84	757.9	30.00	762.0	50	10.0	45	NW	19	8.5		5k	0	NW		0.35	8.9	Fair	
Brackettville, Texas	28.87	733.3	29.86	758.4	72	22.2	90	E	8	3.6		0	0			0	0	Clear	
Breckenridge, Minnesota	28.85	732.8	29.82	757.4	57	13.9	63	SE	32	14.3		8cs	0	S		0	0	Fair	
Brownsville, Texas	29.83	757.7	29.88	758.9	83	28.3	60	E	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.52	749.8	30.24	768.1	47	8.3	66	W	4	1.8		0	0			0.04	1.0	Clear	
Burkes, Arizona					67	19.4	21	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.73	755.1	30.02	762.5	45	7.2	46	NW	17	7.6		0	8ks		NW	0.15	3.8	Fair	
Cairo, Illinois	29.75	755.6	30.12	765.0	73	22.8	76	Calm	0	0		5ck	Haze	S		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.10	637.5	29.90	759.4	62	16.7	36	N	8	3.6		0	0			Inap.	Inap.	Clear	
Camp Verde, Arizona					58	14.4	32	W			2	0	0			0	0	Clear	
Campo, California	27.33	694.2	29.90	759.4	47	8.3	100	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	70	21.1	70	NE	23	10.3		9cs	1s	SW	Calm	0	0	Cloudy	
Cape Henry, Virginia	30.16	766.1	30.18	766.6	61	16.1	61	NE	25	11.2		0	2s		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.03	762.7	30.05	763.3	72	22.2	80	NE	32	14.3		10k	0	NE		0	0	Cloudy	
Cape May, New Jersey	30.12	765.0	30.15	765.8	54	12.2	49	N	22	9.8		0	0			0.63	16.0	Clear	
Castroville, Texas	29.13	739.9	29.80	756.9	73	22.8	72	Calm	0	0		0	5ks		S	0	0	Fair	
Charleston, South Carolina	29.98	761.5	30.04	763.0	76	24.4	72	W	8	3.6			10s		Calm	0	0	Cloudy	
Charlotte, North Carolina	29.26	743.2	30.04	763.0	72	22.2	62	NE	8	3.6		5c	Haze	SW	Calm	0	0	Fair	
Chattanooga, Tennessee	29.32	744.7	30.10	764.5	70	21.1	70	SW	4	1.8		5k	0	SW		0	0	Fair	
Cheyenne, Wyoming	23.86	606.0	29.80	756.9	67	19.4	9	W	11	4.9		5c	2s	SW	W	0	0	Cloudy	
Chicago, Illinois	29.53	750.0	30.22	767.6	54	12.2	61	E	6	2.7		5cs	Haze	Calm		Inap.	Inap.	Fair	
Cincinnati, Ohio	29.60	751.5	30.24	768.1	62	16.7	46	SE	7	3.1		4k	0	SE		Inap.	Inap.	Fair	
Cleveland, Ohio	29.55	750.6	30.28	769.1	50	10.0	65	E	3	1.3		0	0			0.01	0.3	Clear	
Coleman City, Texas	28.09	713.5	29.68	753.9	71	21.7	58	SE	10	4.5		0	0			0	0	Clear	
Columbus, Ohio	29.42	747.3	30.26	768.6	55	12.8	50	E	5	2.2		0	0			0.01	0.3	Clear	
Concho, Texas	27.98	710.7	29.57	751.1	74	23.3	47	S	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.51	749.5	29.97	761.2	68	20.0	84	SE	5	2.2			10s		SE	0	0	Cloudy	
Davenport, Iowa	29.52	749.8	30.16	766.1	52	11.1	60	E	12	5.4		0	0			Inap.	Inap.	Clear	
Deadwood, Dakota	25.04	636.0			68	20.0	42	SE	12	5.4		0	0			0.01	0.3	Clear	
Decatur, Texas	28.77	730.7	29.90	759.4	70	21.1	85	SE	12	5.4		0	2s		S	0	0	Fair	
Denison, Texas	29.20	741.7	29.97	761.2	68	20.0	84	SE	6	2.7			10s		Calm	0	0	Cloudy	
Denver, Colorado	24.60	624.8	29.82	757.4	65	18.3	35	S	8	3.6		2ck	2s	S	Calm	0	0	Fair	
Des Moines, Iowa	29.18	741.1	30.06	763.5	55	12.8	62	SE	6	2.7		0	0			0	0	Clear	
Detroit, Michigan	29.61	752.1	30.29	769.4	48	8.9	63	NE	6	2.7		0	5s		W	0	0	Fair	
Dodge City, Kansas	27.26	692.4	29.42	747.3	70	21.1	40	S	24	10.7		1ck	1ks	S	S	0	0	Fair	
Dubuque, Iowa	29.47	748.5	30.17	766.3	55	12.8	50	SE	6	2.7			10s		SE	0.03	0.8	Cloudy	
Duluth, Minnesota	29.50	749.3	30.19	766.8	47	8.3	70	NE	8	3.6		5k	0	N		0	0	Fair	
Eagle Pass, Texa	29.08	738.6	29.77	756.1	73	22.8	72	SE	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.61	752.1	29.67	753.6	47	8.3	48	W	18	8.0		5k	0	W		0.35	8.9	Fair	
Edinburg, Texas					81	27.2	83	S			4		8s		S	0	0	Cloudy	
El Paso, Texas	26.12	663.4			76	24.4	7	N	6	2.7		0	8ks		W	0	0	Threatening	
Erie, Pennsylvania	29.53	750.0	30.26	768.6	51	10.6	59	Calm	0	0		0	0			Inap.	Inap.	Clear	
Escanaba, Michigan	29.61	752.1	30.28	769.1	50	10.0	58	Calm	0	0		0	0			0	0	Clear	
Florence, Arizona	28.33	719.6	29.93	760.2	75	23.9	19	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	27.53	699.2			56	13.3	93	E	14	6.3			10s		E	0.33	8.4	Cloudy	
Fort Craig, New Mexico	25.39	644.9	29.45	748.0	65	18.3	30	SW	8	3.6		2k	5s	SE	Calm	0	0	Cloudy	
Fort Davis, Texas	25.22	640.6	30.18	766.6	71	21.7	37	S	3	1.3		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.97	761.2	72	22.2	76	S	11	4.9		0	0			0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.86	758.4	72	22.2	61	E	8	3.6		0	0			0	0	Clear	
Fort Keogh, Montana	26.95	684.5			60	15.6	88	Calm	0	0			10s		Calm	0.57	14.5	Cloudy	
Fort McKavett, Texas	27.64	702.0	29.47	748.5	70	21.1	53	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.61	752.1	29.65	753.1	34	1.1	100	SW	6	2.7			10s		Calm	0.21	5.3	Cloudy	
Fort Sill, Indian Territory	28.73	729.7	29.79	756.7	72	22.2	67	S	14	6.3		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.84	707.1			56	13.3	74	E	16	7.2			10s		E	0	0	Cloudy	
Fredericksburg, Texas	28.18	715.8	29.66	753.4	74	23.3	55	S	3	1.3		0	0			0	0	Clear	
Galveston, Texas	29.91	759.7	29.95	760.7	75	23.9	90	NE	10	4.5		2ck	2ks	NW	NE	0	0	Fair	
Graham, Texas	28.84	732.5	29.84	757.9	73	22.8	72	SE	4	1.8		0	0			0	0	Clear	
Grand Haven, Michigan	29.60	751.8	30.26	768.6	52	11.1	47	E	12	5.4		0	0			0	0	Clear	
Henrietta, Texas	28.98	736.1	29.88	758.9	70	21.1	70	SE	12	5.4		0	0			0	0	Clear	
Indianapolis, Indiana	29.40	746.7	30.17	766.3	63	17.2	67	E	4	1.8		0	0			0.01	0.3	Clear	
Indianola, Texas	29.92	760.0	29.94	760.5	81	27.2	70	S	2	0.9		0	1ks		S	0	0	Clear	
Jacksboro, Texas	28.80	731.5	29.87	758.7	80	26.7	59	SE	12	5.4		5k	0	S		0	0	Fair	
Jacksonville, Florida	30.06	763.5	30.08	764.0	78	25.6	82	NE	3	1.3			10s		NE	Inap.	Inap.	Cloudy	
Keokuk, Iowa	29.45	748.0	30.06	763.5	54	12.2	55	E	14	6.3		0	0			0	0	Clear	
Key West, Florida	30.00	762.0	30.04	763.0	82	27.8	79	SE	6	2.7		0	0			0	0	Clear	
Kittyhawk, North Carolina	30.10	764.5	30.13	765.3	67	19.4	74	NE	32	14.3		5cs	2s	W	NE	0	0	Fair	
Knoxville, Tennessee	29.13	739.9	30.11	764.8	68.5	20.3	72	NE	3	1.3		1cs	5ks	NW	Calm	0	0	Fair	
La Crosse, Wisconsin	29.44	747.8	30.17	766.3	56	13.3	46	S	7	3.1		10k	0	S		0	0	Cloudy	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	70	21.1	32	W	2	0.9			10s		W	0	0	Cloudy	
Laredo, Texas	29.40	746.7	29.72	754.9	75	23.9	48	SE	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	72	22.2	58	S	6	2.7		0	0			0	0	Clear	
Los Angeles, California	29.56	750.8	29.90	759.4	58.0	14.4	76	W	2	0.9			10s		N	0	0	Cloudy	
Louisville, Kentucky	29.59	751.6	30.14	765.5	64	17.8	63	E	8	3.6		0	1s		Calm	0	0	Clear	
Lynchburg, Virginia	29.51	749.5	30.18	766.6	68	20.0	42	NE	7	3.1		0	1s		W	Inap.	Inap.	Clear	
Madison, Wisconsin	29.22	742.2	30.22	767.0	51	10.6	65	SE	11	4.9			8ks		NW	0	0	Cloudy	
Marquette, Michigan	29.49	749.0	30.20	767.1	52	11.1	54	NE	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.28	718.3	29.96	761.0	74	23.3	57	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.09	764.3	73	22.8	71	E	4	1.8		0	Haze		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.52	749.8	30.26	68.6	49	9.4	57	E	8	3.6		1c	0	Calm		0	0	Clear	
Mobile, Alabama	30.00	762.0	30.05	763.3	73	22.8	72	NE	8	3.6			10s		S	0.03	0.8	Cloudy	
Montgomery, Alabama	29.90	759.4	30.13	765.3	68	20.0	90	NE	4	1.8			10ks		W	0.35	8.9	Threatening	
Morgantown, West Virginia	29.25	742.9	30.25	768.3	50	13.3	54	Calm	0	0		0	0			0.08	2.0	Clear	
Mt. Washington, N. H	23.37	593.6	29.75	755.1	15	−8.9	100	NW	60	26.8			Fog		NW	0.52	13.2	Foggy	
Nashville, Tennessee	29.60	751.8	30.12	765.0	74	23.3	68	Calm	0	0		1cs	0	Calm		0	0	Clear	
New Haven, Connecticut	29.98	761.5	30.09	764.3	54	12.2	49	NW	15	6.7		0	0			0.22	5.6	Clear	
New London, Connecticut	30.01	762.2	30.06	763.5	55	12.8	39	NW	14	6.3		0	0			0.26	6.6	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.92	760.0	29.98	761.5	77	25.0	86	E	8	3.6		5k	2ks	SW	E	0.04	1.0	Fair	
Newport, Rhode Island	29.98	761.5	30.03	762.7	53	11.7	48	W	14	6.3		0	0			0.25	6.3	Clear	
New York, New York	29.97	761.2	30.15	765.8	51	10.6	59	NW	16	7.2		1k		SE		0.04	1.0	Clear	
Norfolk, Virginia	30.10	764.5	30.16	766.1	63	17.2	57	NE	13	5.8		0	5s		N	0.01	0.3	Fair	
North Platte, Nebraska	26.79	680.4	29.20	741.7	67	19.4	43	S	40	17.9		5c	Haze	SW	Calm	0	0	Fair	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	47	8.3	92	E	2	0.9			10s		Calm	0.01	0.3	Cloudy	
Omaha, Nebraska	28.78	731.0	29.83	757.7	66	18.9	74	SE	5	2.2		0	Haze		Calm	0	0	Clear	
Oswego, New York	29.87	758.7	30.20	767.1	46	7.8	77	NW	10	4.5		0	0			0.10	2.5	Clear	
Pembina, Dakota	29.06	738.1	29.88	758.9	54	12.2	67	S	16	7.2		2c	8ks	NW	SE	0	0	Cloudy	
Philadelphia, Pa	30.14	765.5	30.19	766.8	52	11.1	60	N	14	6.3		0	0			0.04	1.0	Clear	
Phœnix, Arizona	28.60	726.4	30.35	770.9	62	16.7	36	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.76	451.1	29.97	761.2	25	— 3.9	50	SW	30	13.4		8cs	0	SW		0	0	Cloudy	
Pioche, Nevada					40	4.4	82	NW	4	1.8		0	0			0.01	0.3	Clear	
Pittsburg, Pennsylvania	29.44	747.8	30.27	768.8	45	7.2	68	NE	4	1.8		0	0			Inap.	Inap.	Clear	
Port Huron, Michigan	29.60	751.8	30.28	769.1	46	7.8	69	N	8	3.6		0	0			0	0	Clear	
Portland, Maine	29.86	758.4	29.91	759.7	50	10.0	52	W	12	5.4		2k	0	W		0.26	6.6	Fair	
Portland, Oregon	29.98	761.5	30.05	763.3	52.0	11.1	76	W	5	2.2			10s		NW	0.30	7.6	Cloudy	
Prescott, Arizona	24.58	624.3	29.94	760.5	56	13.3	14	W	5	2.2		0	0			0	0	Clear	
Pilot Point, Texas	29.15	740.4	29.97	761.2	68	20.0	60	SE	4	1.8		0	0			0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	81	27.2	78	SE	15	6.7		5cs;k	0	SW;S		0.03	0.8	Fair	
Red Bluff, California	29.51	749.5	29.87	758.7	57	13.9	41	NW	17	7.6		0	0			0	0	Clear	
Rio Grande City, Texas	29.66	753.4	29.87	758.7	75	23.9	81	SE	12	5.4		0	0			0	0	Clear	
Rochester, New York	29.58	751.3	30.20	767.1	48	8.9	56	W	8	3.6		0	0			0.23	5.8	Clear	
Roseburg, Oregon	29.54	750.3	30.12	765.0	48	8.9	92	Calm	0	0			10s		Calm	0.05	1.3	Cloudy	
Sacramento, California	29.76	755.9	29.84	757.9	60	15.6	55	N	13	5.8		0	0			0	0	Clear	
St. Louis, Missouri	29.44	747.8	30.00	762.0	63	17.2	73	E	8	3.6		0	0			0	0	Clear	
St. Marks, Florida	30.06	763.5	30.07	763.8	73	22.8	85	NE	4	1.8		0	9s		Calm	0	0	Cloudy	
St. Paul, Minnesota	29.22	742.2	30.04	763.0	54	12.2	37	E	22	9.8		0	8ks		W	0	0	Fair	
Salt Lake City, Utah	25.45	646.4	29.78	756.4	48	8.9	63	E	10	4.5			10s		Calm	0.26	6.6	Threatening	
San Antonio, Texas	29.33	745.0	29.89	759.2	74	23.3	72	E	2	0.9			10s		Calm	0	0	Cloudy	
San Diego, California	29.89	759.2	29.96	761.0	57	13.9	94	S	6	2.7			10n		Calm	0.03	0.8	Heavy rain	
Sandusky, Ohio	29.62	752.3	30.30	769.6	55	12.8	62	S	5	2.2		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.10	764.5	30.13	765.3	52	11.1	54	NW	20	8.9		0	0			0.18	4.6	Clear	
San Francisco, California	29.83	757.7	29.90	759.4	51	10.6	86	SW	2	0.9		0	Fog		Calm	0	0	Clear	
Santa Fé, New Mexico	23.20	589.3	29.74	755.4	60	15.6	55	NE	2	0.9			10s		Calm	0	0	Cloudy	
Savannah, Georgia	30.01	762.2	30.10	764.5	73	22.8	72	NW	8	3.6			10n		W	Inap.	Inap.	Light rain	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	68	20.0	95	E	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Silver City, New Mexico	24.23	615.4	30.24	768.1	58	14.4	39	NW	1	0.4			10s		Calm	Inap.	Inap.	Cloudy	
Smithville, North Carolina	30.03	762.7	30.07	763.8	76	24.4	82	NW	5	2.2		8cr	0	W		0	0	Cloudy	
Springfield, Massachusetts	29.93	760.2	30.06	763.5	54	12.2	48	NW	14	6.3		0	0			Inap.	Inap.	Clear	
Stockton, Texas	26.82	681.2	29.82	757.4	75	23.9	30	SE	12	5.4		0	0			0	0	Clear	
Thatcher's Island, Mass	29.93	760.2	29.98	761.5	50	10.0	58	NW	19	8.5		5k	0	NW		0.25	6.3	Fair	
Toledo, Ohio	29.57	751.1	30.25	768.3	58	14.4	58	N	3	1.3		0	0			0	0	Clear	
Tucson, Arizona	27.38	695.4	29.93	760.2	63	17.2	33	Calm	0	0		0	0			0	0	Clear	
Umatilla, Oregon	29.52	749.8	30.01	762.2	51.0	10.6	79	SW	16	7.2			8s		W	0.02	0.5	Cloudy	
Uvalde, Texas	28.99	736.3	29.78	756.4	71	21.7	75	SE	2	0.9		0	0			0	0	Clear	
Vicksburg, Mississippi	29.81	757.2	30.07	763.8	68	20.0	90	SE	8	3.6		0	8s		SE	0.37	9.4	Fair	
Virginia City, Montana	23.97	608.8	29.45	748.0	39	3.9	73	Calm	0	0			10s		W	0.21	5.3	Cloudy	
Visalia, California	29.45	748.0	29.82	757.4	56	13.3	69	NW	3	1.3		0	0			0	0	Clear	
Washington, D. C	30.12	765.0	30.24	768.1	55	12.8	56	N	11	4.9		0	0			0.31	7.9	Clear	
Wickenburg, Arizona					72	22.2	27	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.97	761.2	30.05	763.3	74	23.3	76	NE	4	1.8		5c	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	43	6.1	67	N	4	1.8		2k	8ks	NW	NW	0.06	1.5	Cloudy	
Wood's Holl, Mass	29.97	761.2	30.01	762.2	52	11.1	53	NW	18	8.0		0	2s		NW	0.22	5.6	Clear	
Yankton, Dakota	28.53	724.6	29.77	756.1	62	16.7	77	SE	13	5.8		10k	0	SW		0	0	Cloudy	
Yuma, Arizona	29.61	752.1	29.77	756.1	64	17.8	53	W	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba. W. I	29.96	761.0	30.01	762.2	81	27.2	82	Calm	0	0		0	0			2.44	62.0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.30	642.6			65.5	18.6	85	Calm			0		8s;ks			0.41	10.4		Thomas Herran.
Navassa, W. I	29.94	760.5	30.02	762.5	79	26.1		SE				0	0					Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	78	25.6	86	E			2		8ks	E		1.40	35.6	Cloudy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.07‡	763.8‡			77	25.0	82	NE	9	4.0			10		SW	0.20	5.1			Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.78‡	756.4‡			70	21.1	77	WSW			3		1s		Calm	0	0			Clear	
Adams, Panama, U. S. C.	30.13‡	765.3‡			79	26.1	95	Calm			0		8							Fair	
Alaska, Sitka, Alaska	30.07‡	763.8‡			47	8.3	92	Calm			0		10			0	0			Foggy	
Alliance, N. 42° 05′, W. 9° 30′	29.78‡	756.4‡			60	15.6	82	SW			5		9		wsw			Mod'ate	SW	Pleasant	
Colorado, New York, N. Y.	30.12‡	765.0‡			54	12.2	44	WNW	16	7.2			2			0	0			Clear	
Constitution, Philadelphia, Pa	30.09‡	764.3‡			53	11.7	54	NW			1		2		Calm					Clear	
Despatch, N. 24° 32′, W. 34° 50′	30.22‡	767.6‡			77	25.0	77	ENE			2		4		Calm	0	0	Light	ENE	Fair	
Enterprise, Antwerp, Holland	29.86‡	758.4‡			70	21.1	66	Calm			0		3		W					Clear	
Franklin, Norfolk, Va.	30.14‡	765.5‡			65	18.3	68	ENE	14	6.3			8		NNE	0.01	0.3			Cloudy	
Hartford, Montevideo, Uruguay.*	30.01‡	762.2‡			49	9.4	100	SW			6		2		SW	0	0	Mod'ate	SW	Clear	
Kearsarge, Portsmouth, N. H.	29.96‡	761.0‡			55	12.8	68	WNW			3		1		WNW					Clear	
Marion, N. 23° 00′, W. 96° 50′	29.90‡	759.4‡			81	27.2	91	SE			3		2		Calm			Smooth		Fair	
Michigan, Erie, Pa					49	9.4	78	E			2		0							Clear	
Monocacy, Shanghai, China	29.95‡	760.7‡			69	20.6	95	ESE			1		10		ESE					Raining	
Monongahela, Yokohama, Japan	29.74‡	755.4‡			72	22.2	80	SW			1-2		k			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			76	24.4	73	W	16	7.2			10		W	0.01	0.3			Cloudy	
Onward, Callao, Peru.†	30.04‡	763.0‡			62	16.7	58	N			1		10					Long	W	Misty	
Palos, Shanghai, China	29.73‡	755.1‡			68	20.0	95	ESE			1		10							Misty	
Passaic, Washington, D. C.					62	16.7	66	N			2		0							Clear	
Pensacola, Callao, Peru	30.05‡	763.3‡			62	16.7	88	Calm	0	0			10			0	0			Overcast	
Portsmouth, New York, N. Y.	30.12‡	765.0‡			53	11.7	54	N			3		0					Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.13‡	765.3‡			62	16.7	66	NE			4		5		Calm	0	0			Fair	
Quinnebaug, Smyrna, Turkey	29.81‡	757.2‡			86	30.0	68	WNW			1		0							Clear	
Ranger, Amoy, China	29.79‡	756.7‡			81	27.2	91	SSE			2		5		Calm					Fair	
Richmond, Taku Bar, China	29.59‡	751.6‡			76	24.4	100	SSE			4		0			0	0	Smooth	SSE	Clear	
Rio Bravo, Brownsville, Texas	29.87‡	758.7‡			75	23.9	95	Calm			0		0			0	0			Clear	
Santee, Annapolis, Md.	30.22‡	767.6‡			58	14.4	64	N			3		5		N	0.34	8.6			Fair	
Saratoga, Santa Cruz, Canaries	30.18‡	766.6‡			76	24.4	91	NE			4		2		SW	0	0			Misty	
St. Louis, League Island, Pa	30.17‡	766.3‡			55	12.8	93	NW	9	4.0			0			0.1	3.			Clear	
Trenton, Gibraltar, Mediterranean.	30.08‡	764.0‡			70	21.1	70	NW			2-3		10		N;W	0	0	Smooth		Hazy	
Tuscarora, N. 18° 10′, W. 104° 01′	29.89‡	759.2‡			81	27.2	87	NNW			4		2		Calm	0.1	3.	Smooth		D. clouds	
Vandalia, Port Royal, S. C.	30.02‡	762.5‡			76	24.4	77	NW			3		8			2.	51.	Smooth		Cloudy	
Wabash, Boston, Mass.	29.94‡	760.6‡			50	10.0	93	NW	4	1.8			2			0	0			Fair	
Wyoming, Palermo, Sicily	29.97‡	761.2‡			69	20.6	80	ENE			2		0					Smooth		Clear	
Wachusett, N. 38° 10′, W. 68° 21′	29.99‡	761.7‡			63	17.2	83	N			4		8							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 43° 39′, W. 171° 51′		29.76‡	755.9‡	51	10.6		WSW			6		10			1. in. or 25. mm.	Heavy	SW	Rainy	L. B Walls.
S. S. Colima, N. 19° 16′, W. 105° 05′...†		29.96‡	761.0‡	78	25.6		NW			3		4		NNW		Small	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburv.
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter...†		30.00‡	762.0‡	50	10.0	93	ESE			1		4		SE				Rainy	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 15° 12′, W. 160° 27′		29.96‡	761.0‡				E			5-6				Var.		Heavy	ENE	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. Yokohama, Japan		29.79‡	756.7‡	72	22.2	90	SW			2		4ck			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig. N. 35° 00′, W. 74° 29′		30.00‡	762.0‡	77.0	25.0	73	NNE			5		8		N	0	Rough	NNE	Fair	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 45° 06′, W. 35° 25′		30.40‡	772.1‡				NW			2		5		WNW		5	NE	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 04′, W. 25° 02′		29.96‡	761.0‡	55	12.8	87	N			8		7		NNW	Mod'ate	Mod'ate	NE	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 28° 55′ W. 91° 05′		29.98‡	761.6‡	78	25.6	69	ESE	5	2.2			5k		SE	0	Smooth		D. clouds	Capt. James Jorgensen.
Schooner Charley Buck, N. 31° 34′, W. 80° 42′ †		30.11‡	764.8‡	77	25.0		WNW			1		10		NW		Smooth		Cloudy	W. H. Champlin.
Brigantine "George of Halifax", N. 41° 14′. W. 72° 03′ †		30.14‡	765.5‡				NW					1		NW	0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.79‡	756.7‡				ENE	5	2.2			5			0	Long	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 35° 21′. W. 51° 35′ †		30.09‡	764.3‡	71.5	21.9	90	E			4		8		ESE		Mod'ate	ESE	Cloudy	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		30.12‡	765.0‡	80	26.7		NE			2		5s		NW	0			½ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

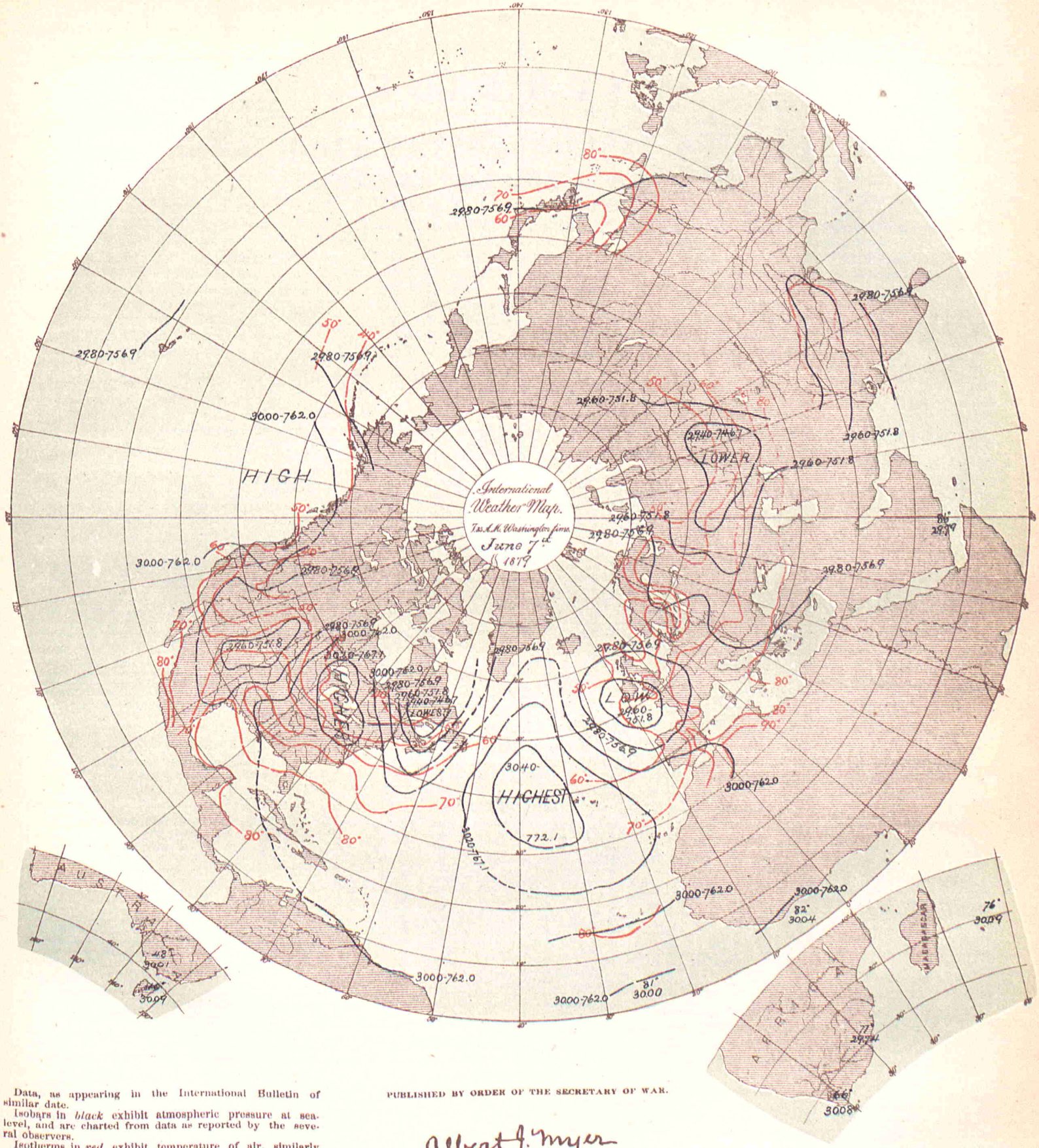
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assoc.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 8, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.04	763.1	71.2	21.8	66	NNW			2		10			0	0	Covered	Kesxuche.
Algiers			29.93	760.1	76.3	24.6	40	WNW			4		0			0	0	Clear	Tourilière.
La Calle			29.99	761.7	71.1	21.7	76	NE			2		2			0	0.	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.04	763.0															Gau.
Saida			30.06	763.4	75.6	24.2	27	N			2		0			0	0	Clear	Herbin.
Tebessa			29.96	760.9	91.0	32.8	22	S			6		5			0	0	Cloudy	Watrin.
Geriville			30.02	762.6	80.8	27.1	46	NNE			1		2			0	0	Fair	Brugniaux.
Laghouat			29.87	758.7	90.0	32.2	27	ENE			4		0			0	0	Clear	Bertrand.
Biskra			29.85	758.1	96.8	36.0	33	SE			5		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.27	743.5	29.79	756.7	81.5	27.5	40	W			5		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.7	29.82	757.4	74.1	23.4	72	ESE			1		8			0	0		Dr. Wierzbiski.
Eperies	28.97	735.9	29.81	757.2	73.8	23.2	56	S			2		10s			0	0		Julius Mikolik.
Gratz	28.60	726.3	29.78	756 3	76.5	24.7	54	S			3		0			0	0		Andreas Rospini.
Hermannstadt	28.47	723.0	29.81	757.2	77.5	25.3	46	NW			1		3			0	0		Prof. A. Gottschling.
Kremsmünster	28.43	722.2	29.70	754.4	76.3	24.6	51	ENE			2		6			0	0		Prof. C. Wagner.
Lemberg	28.87	733.2	29.82	757.3	69.6	20.9	65	S			1		0			0	0		Dr. T. Stanecki.
Pola	29.81	757.2	29.92	759.9	79.5	26.4	58	S			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.44	747.7	29.88	759.0	74.8	23.8	52	SW			2		3			0	0		Julius Csics, S. J.
Szegedin	29.56	750.8	29.82	757.5	80.4	26.9	48	S			1		5			0	0		Karl Stancel.
Trieste	29.82	757.5	29.93	760.1	75.2	24.0	66	W			1		1			0	0	Almost clear	P. Busin.
Vienna	29.07	738.4	29.80	756.8	77.5	25.3	58	ESE			2		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Dec., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.54	750.3	29.63	752.6	47.0	8.3		E	19	8.5			10			0.170	4.32	Raining	W. Boswell.
Ardrossan																			Wm. McNeil & G. Carrick
Armagh, Observatory			29.47	748.5	55.0	12.8													S. Call.
Bidston (Liverpool Obs)			29.49	749.0	64.4	18.0		SSE	16	7.2			7					D. clouds	John Hartnup.
Bolton (Sharples)			29.52	749.8	63.0	17.2		SSE	18	8.0			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire																1.02	25.9		J. McLandsborough.
Bridgetown (Barbadoes)	29.99	761.7	30.02	762.5	86	30.0		NE			2		2					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.50	749.3	29.58	751.3	64.0	17.8		S			1		5			Blank	Blank	D. clouds	H. Todd.
Cardington			29.57	751.1	65.0	18.3		S			2		9						John McLaren.
Chatham, School M. E.	29.51	749.5	29.64	752.8	63.0	17.2		SW			1		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.45	748.0	29.49	749.0	54	12.2		ENE			2		3					D. clouds	J. Mac Gowan.
Dover	29.63	752.6	29.65	753.1	60	15.6		WSW			2		5					Showery	J. Costello.
Falmouth, Observatory	29.22	742.2	29.44	747.8	54.7	12.6		SSE			4		10					Foggy	The Staff.
Fort Napier (Natal)	27.49	698.2	29.78	756.4	70.0	21.1		E			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	86	30.0		Calm			0		3					D. clouds	
Galway, Queen's College			29.39	746.5	56	13.3		W			1		10					Showery	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.01	762.2	72.6	22.6		W			3		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.30	744.2	29.51	749.5	57.1	13.9		E			3		10					Threatening	D. G. Maclean.
Great Yarmouth	29.65	753.1	29.65	753.1	58	14.4		SSE			4		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.45	748.0	29.62	752.3	61.2	16.2		SSW			1		9					Raining	The Staff, for G. B. Airy.
Guernsey	29.32	744.7	29.54	750.3	58	14.4		SSE			4		8					Squally	Dr. S. E. Hoskins, F.R.S.
Helston	29.46	748.3	29.58	751.3	60	15.6		S			4		10n			0.12	3.0	Showery	M. P. Moyle.
Holyhead	29.48	748.8	29.49	749.0	59	15.0		E			2		5					D. clouds	John Tilston.
Jersey	29.31	744.5	29.60	751.8	56.6	13.7		S			2		8					Showery	J. Fisher.
Kew, Observatory	29.57	751.1	29.61	752.1	62.6	17.0		S	15	6.7			10					Raining	The Met'g'l Office.
Leicester, Museum	29.40	746.7	29.65	753.1	62.2	16.8		SW			1		9					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.86	758.4	29.94	760.5	75	23.9		E			2		2ck					Blue sky	A. King.
Nairn	29.50	749.3	29.60	751.8	54	12.2		E			3		10					Covered	W. D. Penny.
Nassau (Bahamas)			30.08	764.0	81.0	27.2		SE			1		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.38	746.2	29.57	751.1	65.7	18.7		S			3		9ks;k;d		S	0.355	9.02	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.61	736.8	29.52	749.8	60.9	16.1		SSE			3		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.57	751.1	62	16.7		SE			2		10					Showery	H. E. Bellamy.
Plymouth	29.40	746.7	29.48	748.8	56.9	13.8		SE			4		10					Gloomy	John Merrifield.
Prince Town	28.07	713.0	29.52	749.8	51.4	10.8		S			2		10					Gloomy	W. H. Tooker.
*Roche's Point	29.35	745.5	29.46	748.3	62	16.7		ESE			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.73	755.1	50.8	10.4		E	30	13.4			10			0	0	Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.77	756.1	29.83	757.7	81.0	27.2		SW			1		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.30	744.2	29.57	751.1	62.7	17.1		S			2		3			0.08	2.0	D. clouds	W. F. Cooper.
Silloth Rectory	29.49	749.0	29.52	749.8	57.7	14.3	83	W			2		10			0.910	23.11	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.13	739.9	29.54	750.3	61.2	16.2		S			2		7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.37	746.0	29.58	751.3	63.2	17.3		S			3		9					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.46	748.3	29.48	748.8	59	15.0		S			4		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.41	747.0	29.44	747.8	55.2	12.9		NW	19	8.5			10			Blank	Blank	Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.99	761.7	30.03	762.8	57.6	14.2	70	WSW	12	5.4		3	4			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.84	757.9	40.0	4.4	86	NW			0		6k			0	0		Francis Abbott F.R.A.S.
Leith, Restalrig Park			29.56	750.8	53.2	11.8		E			2		10k	SW		0.04	1.0	Overcast	Andrew Gibb
Mauritius, Observatory	29.92	760.0	30.11	764.7	73.8	23.2	72	WSW	5.2	2.3		0	9		S	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	29.91	759.7	30.00	762.0	48.7	9.3	84	N	12	5.4			2			0	0	Very fair	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.54	750.3	51	10.6		E			6		10			0.4	10.		J. Youngclause.
North Unst (Shetland Is.)			29.84	757.9	48	8.9		SE			2	2	2	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 27° 05′			29.85‡	758.2‡	80.5	26.9		NNE			1		2					Blue sky	Capt. W. J. L. Wharton.
§Brig Alliance, N. 52° 38′, W. 21° 27′			29.82‡	757.4‡	55	12.8		NNW			4		4					D. clouds	Capt. W. Scott.
Barque Fedalma, N. 31° 30′, W. 65° 40′			30.04	763.0	72	22.2		NNE			4		10			3	W	Raining	Capt. H. L. Fox.
S. S. Iron Cross, N. 44° 30′, W. 49° 35′			30.00	762.0	54	12.2		S			5		8			2	WSW	Foggy	Capt. W. Randall.
S. S. Royal Alexandra, N. 50° 45′, W. 12° 15′			29.55	750.6	51	10.6		NW			8		10			7	NNW	Misty	W. P. Hughes.
S. S. Algeria, N. 43° 20′, W. 47° 50′			30.06	765.5	58	14.4		SSE			3		4			2		Misty	Capt. Wm. Watson.
Astarte, S. 4° 00′, W. 17° 30′ *			30.01‡	762.2‡	81.8	27.7		SE			3		8					Showery	Capt. Parson.
British Peer, N. 4° 50′, W. 25°, 50′			30.00‡	762.0‡	79	26.1		S			5		10					Showery	Capt. Greig.
Theophane, S. 17° 15′, E. 76° 35′			30.08‡	764.0‡	75.9	24.4		ESE			5		2					Blue sky	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Nizam																			Capt. Barlow.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.31	668.3	30.03	762.7	67.6	19.8	88	NE			1	8ck				0.2	5.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.80	756.8	29.84	758.0	61.9	16.6	56	SSE			2		5						
Fanöe	29.78	756.3	29.80	756.8	61.7	16.5	78	ESE			6		9						
Godthaab (Greenland)	29.87	758.8	29.92	759.9	41.9	5.5	93	NE			2		10						
Stykkisholm (Iceland)	29.97	761.2	30.01	762.3	50.0	10.0	72	W			2		0						
Thorshavn (Faröe)	29.87	758.7	29.91	759.6	48.4	9.1	88	NE			2		10						
Vestervig	29.61	752.2	29.78	756.5	64.0	17.8	58	SE			2		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.20	741.6	29.75	755.6	65.5	18.6	80	S			1		5	S	SW	0.47	12.	Cloudy	Collignon, Director.
Amiens, Normal School	29.61	752.0	29.72	754.8	57.9	14.4	89	ENE			1		0			1.008	25.6	Clear	Honvallet, Director.
Arras, Engin'r School	29.47	748.6	29.72	754.9	67.6	19.7	58	S			2				S	0.598	15.2		Klein* Commandant.
Avignon, Normal School	29.78	756.3	29.85	758.3	76.5	24.7	59	S			2		2	SW	S	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.23	742.4	29.76	755.8	72.1	22.8	49	S			1		8n		SW	0.516	13.1	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.45	748.0	29.71	754.5	69.3	20.7	58	S			3		5		SSW	0.226	5.75	Cloudy	Frere Eugene Marie.
Besançon, Normal School	28.96	735.6	29.82	757.4	73.0	22.8	48	SW			2		2		SW	0.091	2.3	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	28.94	735.1	29.88	758.9	73.8	23.2	56	S			2		kn	S	S	0.386	9.8		Marlot, Director.
Bourges, Normal School	29.21	741.8	29.74	755.3	69.1	20.6	71	NW			1		5	SW	SW	0.43	11.	Cloudy	M. Gende, Director.
Brest, Naval Observatory	29.26	743.2	29.50	749.4	59.4	15.2	80	SW			6		10		SW	0.089	2.25		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.54	750.2	29.93	760.3	73.9	23.3	52	NW			1		5	NW	W	0	0	Cloudy	September, Dir.
Caen, Normal School	29.57	751.0	29.64	752.8	65.8	18.8	78	SE			3		2		S	0.740	18.8	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.17	740.9	29.72	754.8	63.3	17.4	90	SE			4		9		E	0.650	16.5		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.45	748.1	29.76	755.9	72.3	22.4	48	SW			1		8	W	W	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.43	722.1	29.72	754.9	73.4	23.0	52	SW			1		8		SW	0.244	6.2		Alluard, Director.
Commercy, Normal School	28.94	735.0	29.75	755.7	74.8	23.8	45	W			1		5kn		W	0.031	0.8	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.5	29.98	761.5	73.4	23	45	SE			3		5		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.10	739.0	29.84	757.8	72.7	22.6	60	WNW			3		2ck		ESE	0.020	0.5	Slightly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29.54	750.2	29.75	755.6	57.7	14.3	93	SSW			1		8		SSW	0.197	5.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.44	747.8	29.74	755.5	61.5	16.4	85	SW			4		5	SSW	SW	0.55	14.	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.93	734.7	29.81	757.1	75.0	23.9	55	SW			2		2ck	SW	SW	0.211	5.35	Slightly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.50	749.2	29.60	751.7	61.5	16.4	83	SSW			4			SW	S	0.161	4.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.59	751.5	29.85	758.2	74.7	23.7	53	SSE			2		5			0.004	0.10	Very cloudy?	E. Stephan, Director
Mirecourt, Normal School	28.78	731.1	29.83	757.6	69.8	21	63	S			1		2		S	0.350	8.9	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.66	753.4	29.86	758.4	72.0	22.2	67	E			4		5		N	0	0	Cloudy	M. Boyer, Director.
Privas, Normal School	28.80	731.4	29.82	757.5	71.6	22	51	S			1		k	SW	S	0.04	1.		Cantier, Director.
Puy de Dome (Summit) Obs	25.04	636.0			49.6	9.8	64	SW			3		5			0.224	5.7	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.74	755.5	29.78	756.3	69.4	20.8	68	WSW			1		2	WSW	WSW	0	0	¼ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.61	752.0	29.69	754.1	69.6	20.9	48	S			6		8		S	0.343	8.7	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.55	750.5	29.58	751.3	63.0	17.2	69	S			6		5	S	S	0.039	1.00	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.57	751.1	29.74	755.3	71.2	21.8	59	S			1-2			SSW	SSW	0.130	3.3	Thunder	E. Renou, Director.
Tarbes, Normal School	28.78	730.9	29.84	757.8	62.6	17	70	NNW			2		5	NW	WNW	0.55	14.	Cloudy	T. Huguet, Director
Toulouse, Observatory	29.08	738.7	29.80	756.9	73.9	23.3	66	SSE			3		2			0.760	19.3		M. Julier Mercadier.
Versailles, Observatory	29.24	742.8	29.74	755.3	70.2	21.2	54	S			3		8			0.021	0.53	Very cloudy	Dr. A. Berigny, Director.
Villefranche-sur-Saone, N.S.	29.12	739.7	29.82	757.3	64.6	18.1	80	SE			1		8		SW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	82.4	28										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.20	741.7	29.78	756.5	73.0	22.8	49	S			4		7		S	0.173	4.40	Cloudy	Ch. André, Director.
Mont-Louis	24.75	628.7	30.07	763.7	59.4	15.2	53	SW	18.6	8.3			3		NW	0	0		M. Cave.
Nice			29.97	761.1	69.8	21.0	70	SSE			3		5						Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.45	748.1			72.0	22.2	60	SSW			3		6		SSW	0.327	8.3		Marié Davy, Director.
Perpignan	29.71	754.6	29.82	757.3	68.7	20.4	69	SE	18.6	8.3			2		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.41	569.1			41.2	5.1		S			3		3			0	0	Clear	Gen'l de Nansouty.
Tours	29.57	751.0	29.76	756.0	67.1	19.5	55	SW			4		7		SW	0.421	10.7		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.76	755.8	29.78	756.4	70.0	21.1	88	NNW	7.2	3.2			10			0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.8	29.89	759.2	65.5	18.6	84	SW			4		7	SW		0.098	2.5	Raining	Prof. Dr. Hoh.
Berlin	29.64	752.9	29.81	757.1	72.5	22.5	55	SE			1		8			0	0		Prof. Dr. Arndt.
Breslau	29.33	744.9	29.85	758.3	76.8	24.9	46	SE			1		8			0	0		Royal University Obs'y
Carlsruhe	29.40	746.8	29.81	757.2	68.4	20.2	68	S			0		5	SW		0.327	8.3		Albert Senz.
Cassel	29.26	743.2	29.86	758.5	67.3	19.6	75	S			1		7	SSW		0.169	4.28		Dr. H. Möhl.
Crefeld	29.61	752.3	29.78	756.4	71.2	21.8	54	NW			2		5k			0.08	2.		Director Lose.
Emden			29.84	757.8	63.0	17.2	79	W			2		10	SE		0.291	7.4		Prof. Dr. Prestel.
Frankfort on the Main	29.46	748.3	29.82	757.5	65.3	18.5		SSW			1		9			0.240	6.1		Physical Society.
Freienwalde on the Oder	29.76	755.9	29.80	756.9	72.5	22.5	55	E			1		6ks	W		0	0		Dr. Assmann.
Friedrichshafen	28.42	721.8	29.80	756.9	69.1	20.6	69	SW			3		7	SW		0.028	0.7	Light rain	M. Wilhelm.
Hamburg	29.69	754.0	29.76	755.8	64.0	17.8	80	ESE			6		10ks			0.012	0.3	Raining	Captain F. Hegemann.
Kiel	29.74	755.4	29.76	755.8	60.6	15.9	83	ESE			1		10			0.011	0.27		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.80	757.0	29.89	759.1	66.7	19.3	48	NE			3		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.40	746.8	29.81	757.2	66.6	19.2	79	WSW			1		9					Sprinkling	Prof. Brahns, Privy Counsellor.
Memel	29.83	757.6	29.87	758.8	54.1	12.3	85	WNW			2		1k						Skalweit.
Munich (München)	28.08	713.1	29.93	760.2	67.8	19.9	58	W			6		6	NW		0	0		Dr. C. Larg.
Neufahrwasser	29.91?	759.7?	29.91?	759.7?	56.8	13.8	67	NE			3		4			0	0		A. Lothe.
Posen	29.58	751.4	29.86	758.4	75.2	24.0	52	SE			2		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.2	29.83	757.6	72.6	22.2	59	SE			3		4	W		0.152	3.87		Imp. University Observatory.
Stuttgart	28.91	734.4	29.83	757.7	63.5	17.5	75	W					8	W		0.150	3.8		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.39	721.2	29.85	758.3	64.2	17.9	59	Calm	0	0			10		W	0.039	1.0		T. Hopfner.
Wustrow	29.74	755.3	29.76	755.9	66.0	18.9	64	SE			2		8s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:6, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.49	749.0	29.86	758.4	87.3	30.7		SW			2.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.0	29.70	754.2	86.6	30.3	61	WSW					5			0	0	D. clouds	
Dessa	29.23	742.5	29.69	754.1	98.3	36.8	29	SW	14.3	6.4			1	SW		0	0	D. clouds	
Bombay	29.76	755.9	29.80	756.8	86.6	30.3	74	W	11.0	4.9			3		WSW	0	0	D. clouds	
Poona	27.80	706.0	29.78	756.3	83.7	28.7	61	WSW					4		WNW	0	0	D. clouds	
Lahore	28.85	732.7	29.56	750.8	96.9	36.1	26	Calm	2.1	0.9			0			0	0		
Belgaum	27.29	693.2	29.82	757.4	77.4	25.2	78	WSW	18.0	8.0			5	W	W	0	0	D. clouds	
Roorkee	28.69	728.7	29.55	750.7	94.8	34.9	28	NW	4.8	2.2						0	0		
Agra	29.05	737.9	29.59	751.6	97.1	36.2	28	W								0	0	D. clouds	
Nagpur	28.60	726.3	29.61	752.0	93.2	24.0	39	Calm	5.5	2.5			2	E		0.09	2.3	Gloomy	
Lucknow	29.20	741.6	29.56	750.6	100.0	37.8	18	WNW	3.3	1.5						0	0	Blue sky	
Allahabad	29.26	743.3	29.56	750.8	100.9	38.3	21	Calm	3.4	1.5			0			0	0		
Patna	29.35	745.5	29.52	749.9	101.1	38.4	20	WNW	1.8	0.8			2	WNW	NW	0	0		
Hazaribagh	27.61	701.2	29.55	750.5	93.8	34.3	26	WNW	6.4	2.9			5			0	0	Blue sky	
Cuttack	29.54	750.2	29.62	752.3	82.0	27.8	79	WSW	2.0	0.9						0.19	4.8	D. clouds	
Calcutta (Alipore)	29.57	751.2	29.60	751.7	87.8	31.0	69	SSW	9.0	4.0			2			0	0	D. clouds	
Goalpara	29.20	741.6	29.58	751.3	83.8	28.8	83	Calm	1.9	0.8			1			0.10	2.5	Misty	
Chittagong	29.67	753.5	29.76	755.8	83.3	28.5	85	SW	3.2	1.4			7			0	0	D. clouds	
Sibsagar	29.27	743.5	29.60	751.9	85.2	29.6	79	WNW	1.6	0.4			5			0	0	D. clouds	
Jubbulpore	28.27	718.0	29.59	751.7	92.7	33.7	39	NE	2.4	1.1			5		W	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.51	749.5	29.91	759.6	77.4	25.2	78	SW	4.9	2.2			5			0.201	5.1		Prof. Giovanni Clodig.
Milan	29.39	746.5	29.89	759.3	76.5	24.7	38	W			2		2	SW		0	0		Prof. Schiaparelli.
Padua	29.78	756.5	29.89	759.2	77.2	25.1	57	S	1.3	0.6			6	SSW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.01	736.8	29.89	759.2	68.2	20.1	67	NE	2.5	1.1			7	W		0	0		Prof. P. F. Denza.
Genoa	29.80	756.8	29.98	761.6	71.1	21.7	65	S	6.3	2.8			0?	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.08	711.9	29.89	759.2	71.6	22.0	49	NE			2		4	SW		0	0		Prof. D. C. Bruno.
Pesaro	29.85	758.3	29.90	759.5	77.0	25.0	46	E	13.7	6.1			0			0	0		Prof. Luigi Guidi.
Florence	29.70	754.3	29.95	760.7	78.8	26.0	42	SW			4		2	S		0	0		Cav. F. Meucci.
Leghorn	29.87	758.7	29.96	760.9	75.4	24.1	56	S			6		0			0	0		Prof. P. Monte.
Rome	29.82	757.4	29.99	761.8	77.2	25.1	60	WSW	9.4	4.2			0			0	0		Prof. P. S. Ferrari.
Lecce	29.71	754.7	29.96	760.9	81.8	27.4	34	ESE	7.4	3.3			0			0	0		Prof. C. De Giorgi.
Cosenza	29.08	738.7	29.95	760.6	86.7	30.4	63	SE	0	0			0			0	0		Prof. D. Conti.
Cagliari	29.72	755.0	29.91	759.8	70.9	21.6	64	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.74	755.3	29.98	761.6	72.3	22.4	67	NE	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.87	758.6	29.94	760.4	82.4	28.0	53	SW	1.3	0.6			1	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.4	30.02	762.5	78.4	25.8	64	NW	0.7	0.3			0			0	0		Prof. P. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Hiroshima, I. M. Obs'y	29.77	756.1	29.79	756.6	70.5	21.4	68	S	1.6	0.7			7s			0.225	5.71	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.55	750.6	29.75	755.6	62.7	17.1	95	SSE	3.0	1.3			10n			1.335	33.91	Raining	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.78	756.4	29.85	758.2	68.1	20.1	86	SSW	4.0	1.8		1ck	0			0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Cuernavaca																			P. Ceballos.
Guadalajara	25.02	635.6	30.00	761.9	60.4	15.8	71	SE			1	0	9			0.10	2.5	Very cloudy	Prof. L. Perez.
Leon	24.40	619.7	30.01	762.2	64.0	17.8	85	W			2	4c	3s	NE		0.02	0.5	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.1	30.00	762.0	55.9	13.3	81	Calm	0	0		10c	0			0.06	1.5	Covered	The Staff.
Pabellon (Aguascalientes)					61.5	16.4	87	NW			1	3cs	0	NE		0.04	1.0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.84	757.9	29.85	758.2	78.3	25.7	81	SE			3	4	5	N	NE	0	0	Threatening	M. M. Chàzaro.
San Luis Potosi	24.18	614.1	30.05	763.3	64.0	17.8	50	E			1	5	1	W	E	0	0	½ clouded	G. Barroeta, M D
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.55	572.7	30.08	764.0	60.1	15.6	76	Calm			0	5c	2s	E	Calm	0	0	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.8	30.14	765.6	51.6	10.9	82	NE	4.9	2.2		8c	0	E		Inap.	Inap.	Cloudy	Prof. P. Spina.
Colima	28.34	719.8	29.95	760.6	81.3	27.4	71	E			1	0	10		E	1.64	41.9	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.76	756.0	30.05	763.3	74.8	23.8	88	Calm			0	1	3	SE		0	0	Foggy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

STATIONS.	Barometer. Corrected for instrument error and temperature. Inches.	Barometer. Corrected for instrument error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing	29.74	755.3	29.74	755.3	70.3	21.3		NNW								0.441	11.2		
Groningen	29.69	754.1	29.74	755.5	60.6	15.9		W								0.079	2.0		
Helder	29.72	754.9	29.72	754.9	58.6	14.8		SW			4					0.169	4.3		
Hellevoetsluis	29.70	754.3	29.70	754.3	73.4	22.9	64	W			1					0.409	10.4		
Utrecht	29.72	754.9	29.77	756.1	69.6	20.9	61	SW			2		5			0.669	17.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.76	756.0	29.82	757.4	67.3	19.6	47	Calm	0	0			1			0	0		
Brönø	29.91	759.6	29.95	760.6	48.2	9.0	78	N	7	3			8			0	0		
Christiania	29.68	753.9	29.82	757.5	70.9	21 6	40	ESE	9	4			3			0	0		
Tromsö	29.91	759.6	29.95	760.7	45.1	7.3	61	WNW	18	8			9			0.157	4.0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.17	766.2	30.35	771.0	64.6	18.1	67	N	9.8	4.4			3			0	0		Dr. J. A. Sampaio.
Campo Major	28.99	736.3	30.00	762.1	65.7	18.7	57	SW	9.4	4.2			8	SW		0.055	1.4		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.1	30.21	767.3	67.5	19.7	55	SE	4.9	2.2			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.2	30.05	763 3	62.6	17.0	79	SW	18.6	8.3			7			0.240	6.1		The Staff.
Ponta Delgada (Azores)	30.27	768.8	30.34	770.6	66.9	19.4	51	N	12.5	5.6			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swel. Height scale 0-9	Sea or swel. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande,Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 2° 58,' W. 4° 46'			30.03	762.8	83.3	28.5		SSE			2		10		S	1	S	Raining	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.93	760.3	79.2	26.2		W			3		5		WNW	1	W	D. Clouds	J.C. M. Cabrate, 1st Lt
Rio Duro																			J.T.d'Oliveria,Com'd't
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.03	762.8	75.2	24.0		NNE			4		1		NNE	2		Blue sky	P. de Fair .
Sá da Bandeira																			F. Teixeira da Silva, Com'd't
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.76	756.0	83.1	28.4		SE			3		8			2	SE	D. clouds, 10 [hours rain-fall.	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.43	747.5	29.84	757.8	72.0	22.2	53	ENE	4	2			8ks;c						Astronomical Obs.
Wilna	29.46	748.2	29.86	758.5	66.2	19.0	45	WNW	2	1			5						Astronomical Obs.
Dorpat	29.62	752.3	29.85	758.2	65.3	18.5	44	NE	7	3			6k						Prof. Dr. Weihrauch.
St. Petersburg	29.80	757.0	29.82	757.4	58.5	14.9	84	NW	11	5			10n;ks						Central Physical Obs.
Kieff	29.16	740.6	29.77	756.1	68.7	20.4	44	NE	4	2			3k;ks;	c;ck]				Light clouds	Physical Cabinet.
Nikolaiev	29.62	752.3	29.69	754.1	75.7	24.3	65	NW	13	6			7ks;n						Kurdakof.
Kertch	29.68	753.9	29.70	754.4	74.5	23.6	88	S	4	2			5						Lagorio.
Moscow	29.27	743.4	29.80	756.8	66.7	19.3	44	N	7	3			5ks						Meteorological Obs.
Lugan	29.45	748.1	29.65	753.1	75.2	24.0	36	NE	4	2			4						Meteorological Obs.
Archangel	29.72	754.8	29.74	755.3	61.0	16.1	34	NW	13	6			4cs						Capt. Sseliwerstow.
Tiflis	28.32	719.4	29.64	752.9	87.1	30.6	53	Calm	0	0			5ks						Physical Observatory.
Astrakhan	29.75	755.7	29.67	753.6	79.3	26.3	40	NE	7	3			7s						Capt. Wisganow.
Krotkowo*	29.14	740.1	29.60	751.9	52.9	11.6	64	NNW	13	6			3						Cand. Fatjanow.
Kasan	29.25	743.0	29.52	749.8	47.7	8.7	88	NNW	4	2			10					Raining	Physical Cabinet.
Ekaterinburg	28.23	717.7	29.18	741.2	52.9	11.6	92	NE	9	4			10						Meteorological Obs.
Nukuss	29.50	749.2	29.72	754.8	85.6	29.8	41	WNW	4	2			1ks						
Tashkend	28.23	717.0	29.72	754.8	77.0	25.0	67	Calm	0	0			10						Teich, A. M.
Barnaul	29.04	737.6	29.51	749.6	72.9	22.7	37	NE	4	2			0						Meteorological Obs.
Yeniseisk	29.60	751.7	29.88	758.9	60.8	16.0	42	Calm	0	0			0						Marks.
Irkutsk																			
Peking (China)	29.63	752.5	29.77	756.1	77.5	25.3	50	SE	4	2			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.63	752.5	29.72	755.0	54.7	12.6	91	NW	36	16			8n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.77	756.2	29.87	758.8	76.3	24.6	42	SSW	3.2	1.44			2			0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	29.75	755.7	29.81	757.1	74.8	23.8	40	SW	5.7	2.53		3	5	W		0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.5			54.5	12.5	76	W	14.5	6.50			8			0.457	11.6	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.72	704.0	29.89	759.3	65.8	18.8	65	SW	17.2	7.67		0	7			Inap.	Inap.	Cloudy	The Staff.
Murcia, Met. Obs'y	29.75	755.6	29.89	759.3	82.9	28.3	39	N	6.9	3.09		3	4	E		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.93	734.8	29.82	757.5	56.8	13.8	89	W	8.7	3.9			10			2.241	56.9	Rainy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.96	761.0	30.02	762.6	82.3	27.9	81	SE	8.1	3.6		1ck	2k;sk			Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.79	756.9	29.85	758.2	82.1	27.8	90	E	2.7	1.2						0.031	0.8	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.3	30.11	764.7	67.1	19.5	66	W	9.1	4.1		0	8		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.95	761.4	30.07	763.7	82.8	28.2	81	SE	0	0		4cs	3k	Calm	Calm	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.79	756.6	29.83	757.6	66.2	19.0	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.82	757.3	29.87	758.6	58.3	14.6	78	S	.....	.....	2	.....	8	.....	.....	0.197	5.0	.....	
Hernosand	29.84	758.0	29.89	759.3	63.0	17.2	64	SSW	.....	.....	2	.....	5	.....	.....	0.020	0.5	.....	
Stockholm	29.68	753.9	29.86	758.4	54.0	12.2	74	NNW	.....	.....	4	.....	10	.....	.....	0.110	2.8	.....	
Wisby	29.75	755.7	29.81	757.2	54.7	12.6	75	WNW	.....	.....	6	.....	5	.....	.....	0.020	0.5	.....	
Sub-Series.																			
Upsala	29.79	756.6	29.86	758.5	53.2	11.8	78	N	10.1	4.5	.....	.....	9	.....	NE	0.002	0.05	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.28	718.4	29.88	758.9	66.9	19.4	65	SE	.....	.....	2	.....	4	.....	.....	0.264	6.7	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, —— per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople	.....	.....	29.87	758.8	58.1	29.5	41	SW	6	2.5	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96?	761.0?	98.6	37.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.9	77.4	25.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.71	754.6	29.82	757.5	85.8	29.9	64	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.84	757.9	30.14	765.5	58	14.4	.....	NW	1	0.4	.....	2c	0	W	.....	0	0	Clear	W. R. Bigg.
Chatham, N. B	29.73	755.1	29.79	756.7	45	7.2	59	NW	16	7.2	.....	2k	8ks	NW	NW	Inap.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.73	755.1	29.77	756.1	45	7.2	67	W	11	4.9	.....	.....	8s	.....	W	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.93	760.2	30.12	765.0	50.8	10.4	64	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.84	757.9	29.86	758.4	41	5.0	66	NW	12	5.4	.....	5k	2k;s	NW	NW	0.05	1.3	Cloudy	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.89	759.2	46.9	8.8	44	NW	12	5.4	.....	0	9ks	.....	.....	0.03	0.8	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba	28.80	731.5	29.59	751.6	64	17.8	91	S	10	4.5	.....	5ck	Haze	W	.....	0.060	1.52	Clearing	James Stewart.
Granton, Ontario	29.14	740.1	30.22	767.6	58	14.4	88	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.68	753.9	29.82	757.4	49	9.4	57	NW	13	5.8	.....	0	2ks	.....	NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.83	757.7	30.20	767.1	55.7	13.2	69	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.83	757.7	30.16	766.1	57	13.9	71	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.92	760.0	30.12	765.0	51	10.6	54	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.51	749.5	30.21	767.3	49	9.4	85	S	4	1.8	.....	2cs	2ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.19	766.8	56.7	13.7	51	NW	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.55	750.6	30.24	768.1	55	12.8	81	W	3	1.3	.....	5c	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.59	751.6	30.24	768.1	52	11.1	91	NW	4	1.8	.....	2ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.71	754.6	30.04	763.0	44	6.7	52	NW	.....	.....	3	2c	2s	NW	NW	0.02	0.5	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.75	755.6	30.21	767.3	48	8.9	66	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.87	758.7	29.93	760.2	47	8.3	50	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.72	754.9	29.88	758.9	46	7.8	84	W	15	6.7	.....	0	9k	.....	.....	0.01	0.3	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.50	749.3	30.22	767.6	51	10.6	78	SW	11	4.9	.....	.....	10ks	.....	.....	Inap.	Inap.	Cloudy.	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.94	735.1	30.25	768.3	43.0	6.1	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.73	755.1	29.76	755.9	55	12.8	63	SW	10	4.5	.....	0	8ks	.....	SW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.85	758.2	30.24	768.1	54	12.2	63	W	1	0.4	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.74	755.4	29.83	757.7	47.0	8.3	62	NW	8	3.6	.....	0	5k	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.66	753.4	29.91	759.7	59.0	15.0	100	S	.....	.....	.....	.....	10n	.....	.....	0.60	15.2	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.94	760.5	30.17	766.3	56	13.3	57	NW	8	3.6		0	0			0.16	4.1	Clear	
Alpena, Michigan	29.56	750.8	30.21	767.3	49	9.4	78	Calm	0	0			10s		W	0	0	Cloudy	
Atcha, Aleutian Islands					38	3.3	100	N			4		10n		NW	0.16	4.1	Cloudy	
Atlanta, Georgia	28.99	736.3	30.09	764.3	74	23.3	63	E	6	2.7		0	0			0	0	Clear	
Atlantic City, New Jersey	30.21	767.3	30.22	767.6	63	17.2	52	NW	6	2.7		0	0			0	0	Clear	
Augusta, Georgia	30.00	762.0	30.17	766.3	73	22.8	76	Calm	0	0			10s		Calm	0	0	Cloudy	
Baltimore, Maryland	30.20	767.1	30.25	768.3	61	16.1	61	NW	2	0.9		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.17	766.3	30.20	767.1	63	17.2	47	NW	9	4.0		0	0			0	0	Clear	
Bismarck, Dakota	27.75	704.8	29.61	752.1	68	20.0	74	NE	6	2.7		0	Haze			0.21	5.3	Clear	
Boerne, Texas	28.49	723.6	29.75	755.6	72	22.2	80	SE	8	3.6		5k	0	SE		0	0	Fair	
Boise City, Idaho	27.11	688.6	30.07	763.8	46	7.8	70	NW	3	1.3		5k	0	W		Inap.	Inap.	Fair	
Boston, Massachusetts	29.96	761.0	30.11	764.8	53	11.7	48	NW	9	4.0		0	0			0.05	1.3	Clear	
Brackettville, Texas	28.79	731.5	29.77	756.1	78	25.6	65	SE	7	3.1		0	0			0	0	Clear	
Breckenridge, Minnesota	28.70	729.0	29.64	752.8	68	20.0	84	SE	9	4.0		0	8ks		S	0	0	Cloudy	
Brownsville, Texas	29.82	757.4	29.86	758.4	83	28.3	56	SE	8	3.6		8k	0	SE		0	0	Fair	
Buffalo, New York	29.53	750.0	30.23	767.8	52	11.1	79	SW	7	3.1		2cs	0	Calm		0	0	Clear	
Burkes, Arizona					61	16.1	35	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.85	758.2	30.14	765.5	47	8.3	62	W	4	1.8		0	0			0	0	Clear	
Cairo, Illinois	29.72	754.9	30.10	764.5	74	23.3	68	E	4	1.8		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.16	639.0	29.96	761.0	61	16.1	26	NE	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					55	12.8	28	SW			2	0	0			0	0	Clear	
Campo, California	27.38	695.4	29.94	760.5	46	7.8	92	Calm	0	0			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.23	767.8	30.24	768.1	65	18.3	54	NE	14	6.3		0	1s		Calm	0	0	Clear	
Cape Henry, Virginia	30.23	767.8	30.25	768.3	62	16.7	61	SE	6	2.7		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.22	767.6	30.23	767.8	67	19.4	55	NE	18	8.0		0	0			0	0	Clear	
Cape May, New Jersey	30.16	766.1	30.19	766.8	61	16.1	71	W	11	4.9		0	0			0	0	Clear	
Castroville, Texas	29.14	740.1	29.80	756.9	80	26.7	66	S	6	2.7		0	5ks		S	0	0	Fair	
Charleston, South Carolina	30.09	764.3	30.15	765.8	75	23.9	72	E	12	5.4		2k	0	E		0	0	Fair	
Charlotte, North Carolina	29.36	745.7	30.16	766.1	65	18.3	89	SE	2	0.9			10n		SE	0.22	5.6	Light rain	
Chattanooga, Tennessee	29.33	745.0	30.10	764.5	73	22.8	72	N	1	0.4		0	Sm'e		Calm	0	0	Clear	
Cheyenne, Wyoming	23.93	607.8	29.87	758.7	48	8.9	43	N	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.47	748.5	30.14	765.5	63	17.2	62	S	3	1.3		5ck	0	N		0	0	Fair	
Cincinnati, Ohio	29.58	751.3	30.23	767.8	60	15.6	55	E	6	2.7		0	0			0	0	Clear	
Cleveland, Ohio	29.54	750.3	30.27	768.8	53	11.7	61	E	6	2.7		0	0			0	0	Clear	
Coleman City, Texas	28.13	714.5	29.72	754.9	73	22.8	55	SE	6	2.7		0	5ks		SW	0	0	Fair	
Columbus, Ohio	29.38	746.2	30.21	767.3	60	15.6	55	E	4	1.8		0	0			0	0	Clear	
Concho, Texas	28.02	711.7	29.60	751.8	76	24.4	60	S	4	1.8		0	0			0	0	Clear	
Corsicana, Texas	29.51	749.5	29.96	761.0	71	21.7	85	S	6	2.7		0	0			0	0	Clear	
Davenport, Iowa	29.45	748.0	30.07	763.8	67	19.4	74	E	6	2.7		2cs	0	Calm		0	0	Fair	
Deadwood, Dakota	25.12	638.0			61	16.1	31	Calm	0	0		0	0			Inap.	Inap.	Clear	
Decatur, Texas	28.74	730.0	29.86	758.4	72	22.2	67	SE	16	7.2		0	5ks		S	0	0	Fair	
Denison, Texas	29.15	740.4	29.91	759.7	72	22.2	80	SE	7	3.1		0	0			0	0	Clear	
Denver, Colorado	24.67	626.6	29.89	759.2	51	10.6	59	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.94	760.5	70	21.1	75	S	7	3.1		2c	0	NW		0	0	Clear	
Detroit, Michigan	29.57	751.1	30.24	768.1	57	13.9	69	SW	1	0.4		0	0			0	0	Clear	
Dodge City, Kansas	27.27	692.6	29.44	747.8	68	20.0	74	S	24	10.7			10ks		S	0	0	Cloudy	
Dubuque, Iowa	29.36	745.7	30.04	763.0	66	18.9	74	SE	4	1.8		10cs;k	Haze	S;SE	Calm	0	0	Cloudy	
Duluth, Minnesota	29.24	742.7	29.91	759.7	51	10.6	72	SE	2	0.9		5c	Haze	SW	Calm	Inap.	Inap.	Fair	
Eagle Pass, Texa	29.10	739.1	29.78	756.4	76	24.4	73	SE	8	3.6			10s		SE	0	0	Cloudy	
Eastport, Maine	29.85	758.2	29.91	759.7	48	8.9	43	NW	14	6.3		5k	0	NW		0	0	Fair	
Edinburg, Texas					80	26.7	74	S			4	0	5s		S	0	0	Fair	
El Paso, Texas	26.16	664.4			61	16.1	7	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Erie, Pennsylvania	29.54	750.3	30.25	768.3	56	13.3	63	S	2	0.9		0	0			0	0	Clear	
Escanaba, Michigan	29.48	748.8	30.13	765.3	56	13.3	57	S	9	4.0		0	2s		S	0	0	Fair	
Florence, Arizona	28.97	735.8	29.97	761.2	75	23.9	19	Calm	0	0		0	0			0	0	Clear	
Fort Buford, Dakota	27.60	701.0			55	12.8	87	SW	4	1.8		1cs	0	Calm		0	0	Clear	
Fort Craig, New Mexico	25.44	646.2	29.51	749.5	51	10.6	27	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.16	639.0	30.12	765.0	64	17.8	39	SW	5	2.2		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	75	23.9	77	SE	6	2.7		0	0			0	0	Clear	
Fort Griffin, Texas	28.63	727.2	29.84	757.9	73	22.8	63	SE	12	5.4		0	0			0	0	Clear	
Fort Keogh, Montana	27.12	688.8			55	12.8	68	NW	2	0.9		0	5s		Calm	0.47	11.9	Fair	
Fort McKavett, Texas	27.67	702.8	29.51	749.5	71	21.7	71	SE	8	3.6		0	8s		SE	0	0	Fair	
Fort St. Michael, Alaska	29.71	754.6	29.74	755.4	35	1.7	100	SE	12	5.4			10s		Calm	0	0	Cloudy	
Fort Sill, Indian Territory	28.69	728.7	29.74	755.4	73	22.8	67	SE	14	6.3		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.76	705.1			64	17.8	83	E	2	0.9		1ck	0	Calm		0.85	21.6	Fair	
Fredericksburg, Texas	28.20	716.3	29.69	754.1	75	23.9	72	S	12	5.4		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.92	760.0	29.96	761.0	79	26.1	82	S	7	3.1		0	0			0	0	Clear	
Graham, Texas	28.82	732.0	29.82	757.4	74	23.3	68	S	4	1.8		4cs	0	SW		0		Fair	
Grand Haven, Michigan	29.54	750.3	30.17	766.3	66	18.9	54	SE	4	1.8		0	0			0	0	Clear	
Henrietta, Texas	28.93	734.8	29.82	757.4	73	23.3	76	SE	8	3.6		0	5s		SW	0	0	Fair	
Indianapolis, Indiana	29.39	746.5	30.15	765.8	64	17.8	58	E	1	0.4		0	0			0	0	Clear	
Indianola, Texas	29.93	760.2	29.95	760.7	79	26.1	82	S	5	2.2		1k	0	S		0	0	Clear	
Jacksboro, Texas	28.77	730.7	29.85	758.2	74	23.3	68	S	8	3.6		5ck	0	S		0	0	Fair	
Jacksonville, Florida	30.10	764.5	30.12	765.0	78	25.6	78	NE	4	1.8		2cs	8s	Calm	NE	0.16	4.1	Cloudy	
Keokuk, Iowa	29.40	746.7	29.99	761.7	70	21.1	82	SE	12	5.4		2c	0	W		0	0	Clear	
Key West, Florida	30.02	762.5	30.05	763.3	81	27.2	83	SE	11	4.9		8k	0	S		0	0	Cloudy	
Kittyhawk, North Carolina	30.23	767.8	30.25	768.3	63	17.2	62	E	9	4.0		0	0			0	0	Clear	
Knoxville, Tennessee	29.16	740.7	30.13	765.3	73	22.8	67	NE	2	0.9		0	Haze			0	0	Clear	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	66	18.9	74	S	9	4.0		2k	0	S		0	0	Clear	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	47	8.3	48	Calm	0	0		0	0			Inap.	Inap.	Clear	
Laredo, Texas	29.45	748.0	29.78	756.4	75	23.9	52	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.90	759.4	73	22.8	76	S	10	4.5		0	0			0	0	Clear	
Los Angeles, California	29.60	751.8	29.94	760.5	58.5	14.7	73	Calm	0	0		0	5s		NW	0	0	Fair	
Louisville, Kentucky	29.61	752.1	30.16	766.1	62	16.7	54	NE	6	2.7		0	0			0	0	Clear	
Lynchburg, Virginia	29.57	751.1	30.25	768.3	59	15.0	70	SE	2	0.9			10s		SW	0	0	Cloudy	
Madison, Wisconsin	29.[illegible]	738.4	30.08	764.0	59	15.0	76	S	8	3.6		5k	0	NE		0	0	Fair	
Marquette, Michigan	29.34	745.2	30.03	762.7	58	14.4	64	S	8	3.6		0	0			0	0	Clear	
Mason, Texas	28.30	718.8	29.99	761.7	73	22.8	72	SE	4	1.8		1k	1s	Calm	SE	0	0	Fair	
Memphis, Tennessee	29.72	754.9	30.05	763.3	78	25.6	69	E	2	0.9		0	0			0	0	Clear	
Milwaukee, Wisconsin	29.41	747.0	30.14	765.5	50	10.0	72	E	6	2.7		10ck	0	Calm		0	0	Cloudy	
Mobile, Alabama	29.97	761.2	30.01	762.2	75.5	24.2	93	E	8	3.6			10n		SE	0.09	2.3	Light rain	
Montgomery, Alabama	29.86	758.4	30.09	764.3	75	23.9	76	E	10	4.5		5k	2ks	SE	SE	0.10	2.5	Fair	
Morgantown, West Virginia	29.23	742.4	30.22	767.6	56	13.3	81	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.6	599.4	29.96	761.0	18	— 7.8	83	NW	60	26.8			Fog		NW	0	0	Foggy	
Nashville, Tennessee	29.55	751.3	30.09	764.3	78	25.6	57	NE	1	0.4		0	0			0	0	Clear	
New Haven, Connecticut	30.04	763.0	30.16	766.1	63	17.2	52	W	9	4.0		0	0			0	0	Clear	
New London, Connecticut	30.11	764.8	30.16	766.1	62	16.7	51	NW	8	3.6		0	0			0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. illimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.91	759.7	29.97	761.2	77	25.0	86	NE	6	2.7			10n		NE	0.28	7.1	Light rain	
Newport, Rhode Island	30.07	763 8	30.12	765.0	59	15.0	48	W	8	3.6		0	0			0	0	Clear	
New York, New York	30.03	762.7	30.21	767.3	60	15.6	55	NW	6	2.7		0	Haze		Calm	0	0	Clear	
Norfolk, Virginia	30.20	767.1	30.26	768.6	68	20.0	56	S	4	1.8		0	0			0	0	Clear	
North Platte, Nebraska	26.89	683.0	29.32	744.7	66	18.9	76	S	24	10.7		5c	5s	SW	S	0.18	4.6	Cloudy	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	46.5	8.1	88	SW	1	0.4		5ck	0	W		0	0	Fair	
Omaha, Nebraska	28.76	730.5	29.79	756.7	76	24.4	69	SE	9	4.0		0	Haze		Calm	0	0	Clear	
Oswego, New York	29.90	759.4	30.23	767.8	48	8.9	78	W	12	5.4		2c	0	W		0	0	Fair	
Pembina, Dakota	28.77	730.7	29.55	750.6	65	18.3	89	SE	20	8.9			10ks		SW	0.02	0.5	Threatening	
Philadelphia, Pa	30.19	766.8	30.24	768.1	61	16.1	55	NW	11	4.9		0	0			0	0	Clear	
Phœnix, Arizona	28.63	727.2	30.38	771.6	64	17.8	30	NE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.75	450 9	29.96	761.0	26	— 3.3	52	SW	22	9.8		0	0			0	0	Clear	
Pioche, Nevada					42	5.6	34	NW	4	1.8		0	2s		NW	0	0	Fair	
Pittsburg, Pennsylvania	29.44	747.8	30.26	768.6	50	10.0	65	N	2	0.9		0	0			0	0	Clear	
Port Huron, Michigan	29.55	750.6	30.21	767.3	58	14.4	76	SW	4	1.8		0	0			0	0	Clear	
Portland, Maine	30.02	762.5	30.07	763.8	51	10.6	46	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Portland, Oregon	29.98	761.5	30.05	763.3	52.0	11.1	86	SE	3	1.3			10s		W	0.07	1.8	Threatening	
Prescott, Arizona	24.63	625.6	29.99	761.7	45	7.2	18	SW	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.10	739.1	29.91	759.7	69	20.6	79	SE	11	4.9		0	0			0	0	Clear	
Punta Rassa, Florida	30.06	763.5	30.07	763.8	76	24.4	86	E	9	4.0		2k	5s	W	Calm	0.02	0.5	Fair	
Red Bluff, California	29.53	750.0	29.88	758.9	56	13.3	57	NW	3	1.3		0	0			0	0	Clear	
Rio Grande City, Texas	29.65	753.1	29.86	758.4	79	26.1	78	SE	12	5.4		0	8ks		SE	0	0	Fair	
Rochester, New York	29.59	751.6	30.21	767.3	52	11.1	66	W	10	4.5		5c	0	W		0	0	Fair	
Roseburg, Oregon	29.50	749.3	30.07	763.8	49	9.4	85	Calm	0	0		5ck	5cs	Calm	Calm	Inap.	Inap.	Cloudy	
Sacramento, California	29.80	756.9	29.88	758.9	53	11.7	80	S	6	2.7		0	0			0	0	Clear	
St. Louis, Missouri	29.52	749.8	30.07	763.8	71	21.7	75	SE	8	3.6		0	0			0	0	Clear	
St. Marks, Florida	30.09	764.3	30.11	764.8	72	22.2	95	SE	6	2.7			10s		SE	0.06	1.5	Cloudy	
St. Paul, Minnesota	29.03	737.3	29.82	757.4	67	19.4	64	SE	18	8.0		1c	0	W		0	0	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	45	7.2	61	SE	5	2.2		0	8ks		W	0.11	2.8	Cloudy	
San Antonio, Texas	29.25	742.9	29.80	756.9	76	24.4	86	E	4	1.8			10s		E	0	0	Cloudy	
San Diego, California	29.92	760.0	29.99	761.7	57	13.9	75	E	6	2.7			10s		Calm	0.04	1.0	Cloudy	
Sandusky, Ohio	29.58	751.3	30.25	768.3	58	14.4	58	S	7	3.1		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.16	766.1	30.19	766.8	64	17.8	48	NW	11	4.9		0	0			0	0	Clear	
San Francisco, California	29.87	758.7	29.94	760.5	50	10.0	86	SW	6	2.7		0	Fog		SW	0	0	Fair	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	46	7.8	26	E	5	2.2		0	0			Inap.	Inap.	Clear	
Savannah, Georgia	30.06	763.5	30.16	766.1	75	23.9	90	E	8	3.6			10s		E	0.06	1.5	Cloudy	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	74	23.3	86	Calm	0	0		0	2ks		SW	0	0	Fair	
Silver City, New Mexico	24.26	616.2	30.47	773.9	43	6.1	43	NW	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.19	766.8	30.23	767.8	70	21.1	57	NE	10	4.5		0	0			0	0	Clear	
Springfield, Massachusetts	30.02	762.5	30.15	765.8	60	15.6	60	SW	2	0.9		0	0			0	0	Clear	
Stockton, Texas	26.87	682.5	29.87	758.7	75	23.9	19	S	4	1.8		0	0			Inap.	Inap.	Clear	
Thatcher's Island, Mass	30.03	762.7	30.09	764.3	54	12.2	61	NW	19	8.5		0	0			0	0	Clear	
Toledo, Ohio	29.54	750.3	30.21	767.3	62	16.7	46	Calm	0	0		0	0			0	0	Clear	
Tucson, Arizona	27.43	696.7	29.98	761.5	60	15.6	19	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.57	751.1	30.06	763.5	55.0	12.8	56	W	8	3.6		8cs	0	W		0	0	Fair	
Uvalde, Texas	28.88	733.5	29.67	753.6	76	24.4	73	S	3	1.3		2k	5s	S	S	0	0	Fair	
Vicksburg, Mississippi	29.78	756.4	30.03	762.7	74	23.3	86	SE	4	1.8		8k	0	SE		Inap.	Inap.	Fair	
Virginia City, Montana	24.12	612.6	29.60	751.8	42	5.6	58	W	12	5.4			10s		W	0.03	0.8	Cloudy	
Visalia, California	29.49	749.0	29.86	758.4	58	14.4	48	N	3	1.3		0	0			0	0	Clear	
Washington, D. C.	30.14	765.5	30.25	768.3	61	16.1	66	NW	3	1.3		0	0			0	0	Clear	
Wickenburg, Arizona					55	12.8	28	S			2	0	0			0	0	Clear	
Wilmington, N. Carolina	30.14	765.5	30.22	767.6	66	18.9	68	NE	5	2.2		2ck	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	34	1.1	90	NE	11.	4.9		1c	0	W		0.20	5.1	Clear	
Wood's Holl, Mass	30.08	764.0	30.11	764.8	56	13.3	51	NW	10	4.5		0	0			0.05	1.3	Clear	
Yankton, Dakota	28.50	723.9	29.71	754.6	71	21.7	66	S	24	10.7		10c	0			0	0	Cloudy	
Yuma, Arizona	29.65	753.1	29.81	757.2	61	16.1	66	W	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.97	761.2	30.02	762.5	82	27.8	78	SE	1.2	0.5		4cs	0	Calm		0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.29	642.4			65.0	18.3	85	Calm			0		10s/ks			0.28	7.1		Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	82	27.8		E								0.04	1.0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	79	26.1	87	SE			1	0	3k			0	0	Clear	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,323 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,888.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.5 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	29.91‡	759.7‡			79	26.1	95	SE	20	8.9			10		SE	0	0			Stormy	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.90‡	759.4‡			69.5	20.8	87	SSW			1		3k		SW	0	0			Fair	
Adams, Panama, U. S. C.	30.13‡	765.3‡			79	26.1	95	NW			1		5		NW					Fair	
Alaska, Sitka, Alaska	29.96‡	761.0‡			49	9.4	93	Calm			0		10			0.012	0.30			Foggy	
Alliance. N. 44° 40′, W. 9° 04′	29.80‡	756.9‡			57	13.9	69	WNW			4–5		9		NW			Mod'ate	NW	Pleasant	
Colorado, New York, N. Y.	30.11‡	764.8‡			59	15.0	59	WNW	3	1.3			0			0	0			Hazy	
Constitution, Philadelphia, Pa.	30.14‡	765.5‡			62	16.7	51	NW			2		0							Clear	
Despatch, N. 24° 35′, W. 38° 05′	30.26‡	768.6‡			77	25.0	77	ENE			2		1			0	0	Light	ENE	Clear	
Enterprise, Antwerp, Holland	29.76‡	755.9‡			66	18.9	74	SW			2		4		SW					Clear	
Franklin. Norfolk, Va.	30.23‡	767.8‡			65	18.3	68	ESE	3.6	1.6			0			0	0			Clear	
Hartford, Montevideo, Uruguay.*	30.04‡	763.0‡			45	7.2	68	NW			5		0			0	0			Clear	
Kearsarge, Portsmouth, N. H.	30.08‡	764.0‡			54	12.2	61	W			2		1							Clear	
Marion, N. 24° 25′, W. 95° 10′	29.92‡	760.0‡			82	27.8	91	ESE			3		2		Calm			Smooth		Fair	
Michigan, Erie, Pa.					57	13.9	81	SSE			2		0							Clear	
Monocacy, Shanghai, China	29.77‡	756.1‡			70	21.1	90	N			3		10		N					Cloudy	
Monongahela, Yokohama, Japan	29.82‡	757.4‡			72	22.2	71	SSW			0–1		cs			0	0			Hazy	
New Hampshire, Port Royal, S. C.	30.11‡	764.8‡			75	23.9	86	N	11	4.9			10		NE	0.05	1.3			Cloudy	
Onward, Callao, Peru.†	30.04‡	763.0‡			64	17.8	83	NW			2		10					Long	W	Misty	
Palos, Shanghai, China	29.75‡	755.6‡			67	19.4	100	N			3		10							Overcast	
Passaic, Washington, D. C.					63	17.2	67	SW			1		0							Clear	
Pensacola, Callao, Peru	30.09‡	764.3‡			63	17.2	83	W	2	0.9			10			0	0			Overcast	
Portsmouth. New York, N. Y.	30.18‡	766.6‡			58	14.4	53	NW			2		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.22‡	767.6‡			64	17.8	68	S			2		0			0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.82‡	757.4‡			85	29.4	54	W			4		0							Clear	
Ranger, Amoy, China	29.79‡	756.7‡			82	27.8	91	SSE			1–2		5?		S					Clear?	
Richmond, Taku Bar, China	29.71‡	754.6‡			70	21.1	75	ESE			2		0			0	0	Smooth	ENE	Clear	
Rio Bravo, Brownsville, Texas	29.86‡	758.4‡			80	26.7	96	SE			1		2		SE	0	0			Fair	
Santee, Annapolis, Md.	30.23‡	767.8‡			62	16.7	72	W			1		2		NW	0	0			Clear	
Saratoga, Santa Cruz, Canaries	30.18‡	766.6‡			74	23.3	76	ENE			4		8		SE	0	0			D. clouds	
St. Louis, League Island, Pa.	30.21‡	767.3‡			61	16.1	66	Calm	0	0			0			0	0			Clear	
Trenton, Gibraltar, Mediterranean.	30.09‡	764.3‡			67	19.4	74	WSW			2		8		W	0	0	Smooth		Fair	
Tuscarora, N. 18° 51′, W. 104° 52′	29.83‡	757.7‡			81	27.2	83	NW			2		5		Calm	0	0	Smooth		Hazy	
Vandalia, N. 32° 23′, W. 78° 56′	30.11‡	764.8‡			76	24.4	91	ENE			4		0			0	0	Mod'ate	ENE	Clear	
Wabash, Boston, Mass.	30.12‡	765.0‡			58	14.4	82	NW	4	1.8			0			0	0			Clear	
Wyoming, N. 38° 15′, E. 15° 17′	29.98‡	761.5‡			71	21.7	85	NE			1–2		0					Smooth		Clear	
Wachusett, N. 36° 09′, W. 69° 55′	30.20‡	767.1‡			63	17.2	78	NNW			3		5							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			*Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 43° 24′, W. 165° 31′		29.89‡	759.2‡	47	8.3		WNW			6		10			0	Heavy	NW	Misty	L. B. Walls.
S. S. Colima, N. 21° 40′, W. 108° 24′...†		29.92‡	760.0‡	76	24.4		WNW			3		4		Calm	0	Mod'ate	WNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburv.
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†		29.98‡	761.5‡	58	14.4	43	Calm			0		4						Rainy	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 19° 13′, W. 158° 33′		30.15‡	765.8‡				E			4				ENE		Heavy	E	Squally	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokohama, Japan		29.80‡	758.4‡	69	20.6	85	N			4		5ck			0	Smooth		D. clouds	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 37° 48′, W. 70° 51′		30.13‡	765.3‡	67.0	19.4	60	NNW			3		2		NE	0	Long	NE	Clear	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 46° 26′, W. 30° 12′		30.20‡	767.1‡				NW			5		10		WNW		3	WNW	Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 44′, W. 32° 59′		30.14‡	765.5‡	58	14.4	82	NNW			6		9		NW	Mod'ate	Mod'ate	WNW	Cloudy	Captain R. W. Sargent
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Ship Shoal, N. 28° 55′, W. 91° 05′		29.98‡	761.5‡	80	26.7	82	Calm	0	0			2k			0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck, N. 30° 58′, W. 51° 17′ †.		30.16‡	766 1‡	77	25.0		NE			1		10		NE	Blank	Smooth		Cloudy	W. H. Champlin.
Brigantine "George of Halifax", N. 38° 40′, W. 71° 45′ †.		30.21‡	767.3‡				NNW			5		0			0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.79‡	756.7‡				NE	5	2.2			2			0.5 in. or 13. mm.		SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden. N. 37° 10′. W. 49° 58′ †.		29.99‡	761.7‡	71	21.7	92	SE			5		10		SSE		Mod'ate	SE	Light rain	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°22′ †		30.16‡	766.1‡	78	25.6		NE			2		5ck			0			½ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

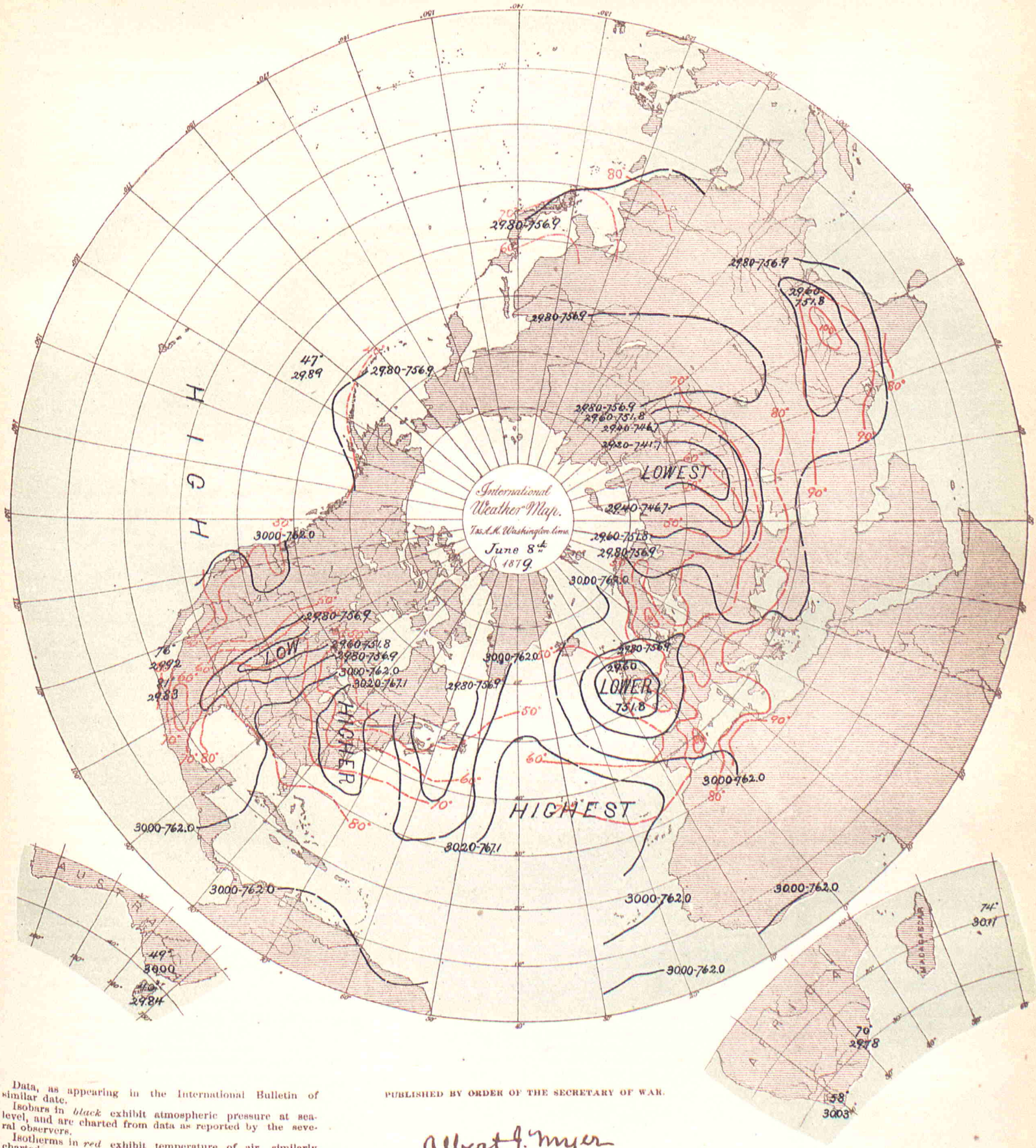
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 9, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.08	763.9	72.9	22.7	71	NNW			2		2			0.012	0.3	Fair	Kesxuche.
Algiers			30.00	762.0	71.6	22.0	62	NNE			3		0			Inap.	Inap.	Clear	Touriliere.
La Calle			30.02	762.5	77.7	25.4	77	N			1		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.8															Gau.
Saida			30.09	764.3	77.0	25.0	28	NNW			4		0			0	0	Clear	Herbin.
Tebessa			29.95	760.7	93.6	34.2	23	E			4		8			0	0	Very cloudy	Watrin.
Geriville			30.05	763.3	75.6	24.2	66	N			1		2			0	0	Fair	Brugniaux.
Laghouat			29.91	759.8	92.1	33.4	37	SW			2		0			0	0	Clear	Bertrand.
Biskra			29.85	758.3	100.6	38.1	34	SE			3		8			Inap.	Inap.	Very cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.36	745.7	29.87	758.8	83.3	28.5	39	S			3		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.3	29.84	757.9	77.7	25.4	60	WNW			1		8			0.295	7.5		Dr. Wiersbiski.
Eperies	28.99	736.4	29.83	757.6	77.0	25.0	73	SE			2		9c;cs			0.559	14.20		Julius Mikolik.
Gratz	28.66	727.9	29.85	758.3	74.5	23.6	60	SSW			2		8			0.059	1.5		Andreas Rospini.
Hermannstadt	28.52	724.5	29.87	758.6	80.6	27.0	52	NW			1		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.61	726.8	29.91	759.8	67.8	19.9	68	NW			1		10			0.217	5.5		Prof. C. Wagner.
Lemberg	28.88	733.5	29.82	757.4	78.0	22.8	76	NW			1		0			0.287	7.3		Dr. T. Stanecki.
Pola	29.87	758.7	29.98	761.5	79.2	26.2	59	SSE			1		6			0	0		I.R. Hydrographic Office.
Szathmar	29.45	748.1	29.89	759.3	81.0	27.2	52	SW			4		2			0.024	0.6		Julius Csics, S. J.
Szegedin	29.01	752.2	29.88	758.9	81.0	27.2	66	S			1		3			0	0		Karl Stancel.
Trieste	29.91	759.8	30.02	762.4	74.7	23.7	59	NE			1		9			Inap.	Inap.	Almost cl'dy	P. Busin.
Vienna	29.17	744.0	29.85	758.3	75.6	24.2	60	NNE			2		10			0.433	11.0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 415 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.71	754.6	29.81	757.2	47.0	8.3		ENE	10	4.5			10			0	0	Overcast	W. Boswell.
Ardrossan	29.62	752.3	29.64	752.8	60	15.6		Calm			0		9					Raining	Wm. McNeil & G. Carrick
Armagh, Observatory			29.61	752.1	55.0	12.8		NW	3	1.3			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.65	753.1	58.8	14.9		SSW	10	4.5			10					Raining	John Hartnup.
Bolton (Sharples)			29.68	753.9	60.9	16.1		S	30	13.4			8					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.30	744.2	29.70	754.4	59.0	15.0		SW			2		6			0.04	1.0	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.94	760.5	78	25.6		NE			1		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.71	754.6	29.80	756.9	63.0	17.2		S			1		10					Overcast	H. Todd.
Cardington			29.77	756.1	64.6	18.1		S			2		9						John McLaren.
Chatham, School M. E.	29.73	755.1	29.86	758.4	57.7	14.3		Calm			0		8					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.60	751.8	29.64	752.8	56	13.3		SE			4		3					D. clouds	J. Mac Gowan.
Dover	29.86	758.4	29.89	759.2	59	15.0		SW			3		4					½ clouded	J. Costello.
Falmouth, Observatory	29.54	750.3	29.76	755.9	59.0	15.0		SW			4		7					Overcast	The Staff.
Fort Napier (Natal)	27.39	695.7	29.68	753.9	70.0	21.1		E			2		6					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	85	29.4		SW			1		4					D. clouds	
Galway, Queen's College			29.61	752.1	58.5	14.7		WNW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.98	761.5	30.03	762.7	71.4	21.9		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.45	748.0	29.66	753.4	59.0	15.0		NE			5		10					Threatening	D. G. Maclean.
Great Yarmouth	29.83	757.7	29.83	757.7	60	15.6		S			3		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.66	753.4	29.83	757.7	61.4	16.3		SSW			4		9					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.62	752.3	29.84	757.9	58.5	14.7		SSW			3		7					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.78	756.4	29.90	759.4	61	16.1		SW			4		4ck;s			0.11	2.8	Fine	M. P. Moyle.
Holyhead	29.67	753.6	29.68	753.9	58	14.4		SSW			4		10					Raining	John Tilston.
Jersey	29.60	751.8	29.89	759.2	58.6	14.8		SW			4		7					Gloomy	J. Fisher.
Kew, Observatory	29.80	756.9	29.83	757.7	61.5	16.4		SSW	21	9.4			9					Threatening	The Met'g'l Office.
Leicester, Museum	29.48	748.8	29.72	754.9	64.0	17.8		S			1		6					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	77.4	25.2		E			2		2ck					Blue sky	A. King.
Nairn	29.67	753.6	29.76	755.9	54	12.2		E			2		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			30.07	763.8	81.2	27.3		E			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.54	750.3	29.75	755.6	62.5	16.9		S			5		10ks;	k;dj	S	0.470	11.94	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.20	741.7	29.71	754.6	61.5	16.4		S			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.79	756.7	57	13.9		SSE			3		10					Showery	H. E. Bellamy.
Plymouth	29.68	753.9	29.75	755.6	58.1	14.5		SE			2		10					Gloomy	John Merrifield.
Prince Town	28.31	719.1	29.77	756.1	49.4	9.7		SW			2		10					Foggy	W. H. Tooker.
*Roche's Point	29.60	751.8	29.70	754.4	60	15.6		NNW			3		10					Covered	Wm. Kennedy.
Saint Ann's Head	29.52	749.8	29.68	753.9	54	12.2		SSW			1		10					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.86	758.4	53	11.7		E	15	6.7			10			0	0	Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.90	759.4	29.96	761.0	88.6	31.4		NE			2		1					D. clouds	Serg't W. H. Lyne.
Sheffield	29.44	747.8	29.72	754.9	62.1	16.7		SSE			2		10			0.33	8.4	Overcast	W. F. Cooper.
Silloth Rectory	29.62	752.3	29.65	753.1	59.7	15.4	82	W			1		10			0.467	11.86	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.29	744.0	29.69	754.1	57.2	14.0		E			1		10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.59	751.6	29.81	757.2	58.3	14.6		SW			4		9					Gloomy	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.76	755.9	29.78	756.4	62	16.7		SW			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.68	753.9	29.71	754.6	53.9	12.2		NW	10	4.5			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.17	766.3	30.21	767.3	53.6	12.0	91	SE	7	3.1		2	1			0.009	0.23	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.82	757.4	44.0	6.7	86	NW			2		4k			0.02	0.5		Francis Abbott F.R.A.S.
Leith, Restairig Park			29.73	755.1	49.0	9.4		E			4		10s			0.15	3.8	Overcast	Andrew Gibb
Mauritius, Observatory	29.90	759.4	30.09	764.3	73.8	23.2	63	NE	8.0	3.6		0	8		SW	0.04	1.2	Cloudy	C. Meldrum.
Melbourne, Observatory	29.98	761.5	30.07	763.8	62.6	11.4	56	WNW	7	3.1			10			0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.73	755.1	55	12.8		E			4	5	5	E		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.92	760.0	48	8.9		E			4		5					Foggy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25'. E. 27° 05'			30.01‡	762.2‡	75	23.9		NE			3		2					Blue sky	Capt. W. J. L. Wharton
§Brig Alliance, N. 53° 02', W. 18° 53'			29.67‡	753.6‡	52.9	11.6		ENE			4		7					Showery	Capt. W. Scott.
Barque Fedalma, N. 33° 05', W. 65° 40'			30.13	765.3	72	22.2		NNE			3		3	W		1		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 46° 30', W. 45° 05'			29.95	760.7	55	12.8		SSE			5		10			3	SW	Rain & fog	Capt. W. Randall.
S. S. Nizam, N. 14° 09', E. 42° 45'			29.70‡	754.4‡	93	33.9		Calm			0		5					D. clouds	Capt. Barlow.
S. S. Royal Alexandra, N. 50° 50', W. 9° 30'								WNW			4		7			4	WNW	D. clouds	W. P. Hughes.
S. S. Algeria, N. 46° 10', W. 40° 45'			30.14	765.5	62	16.7		ESE			4		6	SSE		2	S	D. clouds	Capt. Wm. Watson.
Astarte, S. 2° 35', W. 19° 10'.....*			30.00‡	762.0‡	83.3	29.5		ESE			4		5					D. clouds	Capt. Parson.
British Peer, N. 6° 20', W. 25°, 40'			30.04‡	763.0‡	81.7	27.6		S			4		7					D. clouds	Capt. Greig.
Theophane, S. 18° 10', E. 74° 05'			30.05‡	763.3‡	75.8	24.3		SE			4		7					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.26	667.0	29.98	761.5	65.3	18.5	88	NE			2	7c;cs	1d		E	0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.3	29.90	759.5	59.5	15.3	88	SSE			2		10						
Fanöe	29.91	759.6	29.93	760.1	63.3	17.4	75	WSW			2		7					Foggy	
Godthaab (Greenland)	29.73	755.1	29.77	756.2	45.1	7.3	93	S			4		10					Raining	
Stykkisholm (Iceland)	30.11	764.7	30.15	765.8	50.7	10.4	85	W			2		0						
Thorshavn (Faröe)	30.02	762.6	30.07	763.5	46.4	8.0	96	NE			2		10					Foggy	
Vestervig	29.78	756.5	29.95	760.8	56.1	13.4	96	SE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.42	747.3	29.97	761.3	63.0	17.2	81	SW			1		5		W	0.098	2.5	Cloudy	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.92	760.0	73.0	22.8	53	S			1		8		NE	0	0	Very clear	Bonvallet, Director.
Arras, Engin'r School	29.68	753.9	29.93	760.3	63.3	17.4	64	SW			2				SW	0.315	8.0		Klein, Commandant.
Avignon, Normal School	29.88	759.0	29.96	761.0	76.5	24.7	59	S			2		2		S	0	0	Partly cl'dy	Giraud, Director.
Bar-sur-Seine	29.43	747.4	29.97	761.2	69.1	20.6	50	W			1		8kn		WSW	0.177	4.5	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.68	753.8	29.93	760.2	69.8	21	54	SSE			2		8		SW	0.16	4.	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.11	739.4	29.97	761.2	71.2	21.8	54	SW			1		2		S	0.12	3.	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.07	738.3	29.99	761.8	76.6	24.8	50	N			1		kns	N	N	0	0		Marlot, Director.
Bourges, Normal School	29.44	747.8	29.98	761.5	67.3	19.6	67	S			2		5	S	S	0	0	Cloudy	M. Gence, Director
Brest, Naval Observatory	29.58	751.3	29.82	757.5	59.7	15.4	78	SW			3		10		SW	0.069	1.75	Raining	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.63	752.7	30.03	762.8	74.5	23.6	58	E			3		2		E	0.47	12.	Slightly cl'dy	September, Dir.
Caen, Normal School	29.80	756.8	29.87	758.6	66.2	19	59	SSE			2		5		SE	0	0	Cloudy	Lair, Director.
Chartres, Normal School	29.33	745.0	29.88	758.9	71.2	21.8	69	SSW			3		7		SW	0.665	16.9	Cloudy	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.6	29.98	761.6	67.1	19.5	59	SW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.60	726.4	29.91	759.7	71.6	22.0	64	W			1		8		SW	0.858	21.8		Alluard, Director.
Commercy, Normal School	29.10	739.2	29.94	760.5	64.8	18.2	63	W			1		5kn		W	0.287	7.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.89	733.8	30.03	762.8	75.2	24	35	S			2		5		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.21	741.9	29.95	760.6	73.4	23	47	W			1		ckn		WSW	0	0		Ablard, Directo
La Roche-sur-Yon, N. School	29.79	756.7	30.00	762.1	64.4	18.0	50	SSW			4		5		SW	0.055	1.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.65	753.1	29.95	760.8	63.7	17.6	47	W			2		5		W	0.287	7.3	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.08	738.5	29.97	761.1	74.3	23.5	52	NW			2		5ck	SW	SW	0.063	1.60	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.84	757.9	29.94	760.4	59.4	15.2	66	SW			4				SW	0.185	4.7		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.61	752.1	29.95	760.8	76.1	24.5	48	SSE			1-2		2			0	0	Slightly cl'dy	E. Stephan, Director
Mirecourt, Normal School	28.78	730.9	29.79	756.7	64.0	17.8	76	SE			1		10		SE	0.12	3.	Covered	Barbier, Director
Nismes, Normal School	29.76	756.0	29.96	761.0	79.5	26.4	58	SW			1		5		S	0	0	Partly cl'dy	M. Boyer, Director.
Privas, Normal School	28.95	735.4	29.99	761.8	64.4	18	63	S			1		n	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.17	639.2			44.6	7.0	94	SSE			1		10		S	0.067	1.7	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.97	761.3	30.00	762.1	67.5	19.7	51	SW			1		5	SW	SW	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.83	757.7	29.92	759.9	66.4	19.1	45	SSE			4		2		SW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.92	759.9	29.95	760.6	65.3	18.5	43	SSW			4		1	SSW	SSW	0.150	3.81	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.30	757.0	29.97	761.2	65.3	18.5	67	WSW			2				SSW	0.091	2.3		E. Renou, Director.
Tarbes, Normal School	28.89	733.8	29.93	760.1	73.4	23	59	NW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.31	744.4	30.03	762.8	65.8	18.8	78	WNW			2		7			0.429	10.9		M. Julier Mercadier.
Versailles, Observatory	29.47	748.5	29.96	761.0	66.9	19.4	50	WSW			3					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.5	30.00	762.0	74.3	23.5	71	SE			1		5		S	0.024	0.6	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	82.4	28										0.98	25.		L'Abbé Marel ésl.
Lyons Obs'y (Park Station)	29.34	745.2	29.93	760.2	70.5	21.4	50	ESE			1		8		SW	0	0	Threatening	Ch. André, Director.
Mont-Louis	24.83	630.7	30.15	765.7	57.6	14.2	64	E	15.0	6.7			6		N	0	0		M. Cave.
Nice			30.02	762.6	71.6	22.0	70	WSW			2		2			0.016	0.4		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.68	753.9			66.6	19.2	66	S			3		8		SW	0.122	3.1		Marié Davy, Director.
Perpignan	29.87	758.8	29.98	761.5	68.7	20.4	67	SE	11.2	5.0			5		SSW	Inap.	Inap.		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.49	571.3			37.0	2.8		S			1		10			0.046	1.18	Threatening	Gen'l de Nansouty.
Tours	29.76	756.0	29.96	761.0	66.2	19.0	54	W			1		7		WSW	0.020	0.5		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.85	758.1	29.87	758.7	65.3	18.5	97	ESE	6.5	2.9			0			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. (0–1)	Clouds. Amount. Up'er (0–10)	Low'r (0–10)	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.12	739.6	29.96	761.0	69.6	20.9	65	SW			4		7	W		0.020	0.5	Raining	Prof. Dr. Hoh.
Berlin	29.77	756.1	29.93	760.3	73.9	23.3	47	NW			1		6			0.063	1.6		Prof. Dr. Arndt.
Breslau	29.40	746.8	29.93	760.2	75.9	23.9	54	W			2		4			Inap.	Inap.		Royal University Obs'y.
Carlsruhe	29.53	750.1	29.95	760.6	72.0	22.2	57	SW			1		10	SW		0	0		Albert Senz.
Cassel	29.43	747.4	30.03	762.8	68.7	20.4	79	W			3		9	WSW		0.183	4.65		Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	74.8	23.5	48	W			3		5k			0	0		Director Lose.
Emden			29.86	758.5	69.1	20.6	67	SW			1		5			0.299	7.6		Prof. Dr. Prestel.
Frankfort on the Main	29.60	751.8	29.96	761.0	71.2	21.8		SW			2		6			0.071	1.8		Physical Society.
Freienwalde on the Oder	29.87	758.6	29.91	759.6	73.4	23.0	61	NNW			3		6cs	W		0.004	0.1		D. Assmann.
Friedrichshafen	28.58	725.9	29.97	761.1	70.7	21.5	60	SSW			4		6	WSW		0.035	0.9	Light rain	M. Wilhelm.
Hamburg	29.86	758.5	29.93	760.2	64.8	18.2	71	WSW			1		10n			0.484	12.3	Raining	Captain F. Hegemann.
Kiel	29.89	759.2	29.91	759.6	67.8	19.9	67	WSW			2		10			0.192	4.87		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.85	758.1	29.93	760.2	63.5	17.5	44	NE			2		4			0	0		Prof. E. Luther
Köslin																			H. Müller.
Leipsic Observatory	29.52	749.8	29.93	760.2	69.4	20.8	63	WNW			3		10	NW		0.004	0.1		Prof. Bruhns, Privy Counsellor.
Memel	29.88	759.0	29.93	760.2	60.4	15.8	59	NW			3		1s						Skalweit.
Munich (München)	28.19	716.1	30.06	763.4	66.2	19.1	59	N			3		9	SW		0.020	0.5		Dr. C. Larg.
Neufahrwasser	29.94	760.5	29.96	760.9	61.5	16.4	71	NNE			2		7			0.079	2.0		A. Lothe.
Posen	29.65	753.0	29.92	760.0	76.1	24.5	47	SW			4		6			0.067	1.7		Dr. Magener.
Strassburg (in Alsace)	29.44	747.8	29.97	761.3	69.6	20.9	58	Calm			0		8	S		0.012	0.29		Imp. University Observatory.
Stuttgart	29.02	737.2	29.93	760.3	69.3	20.7	51	W					4	W		0.201	5.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.50	724.0	29.98	761.4	61.9	16.6	81	Calm	0	0			10		W	0.138	3.5	Hazy	T. Hopfner.
Wustrow	29.88	758.9	29.90	759.5	55.9	13.3	90	W			2		10			0.047	1.2		E. Schnitz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 6, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.2	29.98	761.6	90.9	32.7		NE			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.2	29.70	754.4	87.3	30.7	60	SW					4			0	0	D. clouds	
Deesa	29.23	742.3	29.68	753.9	100.0	37.5	26	SW	11.9	5.3			1	SW		0	0	D. clouds	
Bombay	29.74	755.3	29.77	756.2	86.3	30.2	72	W	14.0	6.3			2		W	0	0	D. clouds	
Poona	27.78	705.7	29.77	756.1	83.8	28.5	56	W					4		W	0	0	D. clouds	
Lahore	28.84	732.6	29.55	750.6	97.2	36.2	25	W	3.2	1.4			0			0	0	Blue sky	
Belgaum	27.29	693.2	29.82	757.4	96.8	24.6	87	WNW	13.0	5.8			10	E	E	0	0	D. clouds	
Roorkee	28.66	728.0	29.52	749.9	96.9	36.1	20	NW	5.3	2.4						0	0		
Agra	29.00	736.6	29.54	750.3	101.6	38.7	19	W								0	0		
Nagpur	28.56	725.5	29.56	750.9	97.9	36.6	33	Calm	5.6	2.5			2	NE		0	0	D. clouds	
Lucknow	29.20	741.5	29.56	750.7	100.0	37.8	20	NNW	3.6	1.6						0	0	Blue sky	
Allahabad	29.23	742.5	29.53	750.0	103.1	39.5	19	NW	3.0	1.3			0			0	0	Blue sky	
Patna	29.33	744.9	29.50	749.3	102.5	39.2	19	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.58	700.6	29.51	749.6	95.8	35.4	43	WNW	5.6	2.5			0			0	0	Blue sky	
Cuttack	29.51	749.5	29.59	751.6	90.7	32.6	63	W	1.0	0.4			2			0	0	D. clouds	
Calcutta (Alipore)	29.54	750.3	29.56	750.9	83.7	28.7	77	SSW	5.0	2.2			2	SW		0	0	D. clouds	
Goalpara	29.18	741.1	29.56	750.8	84.8	29.3	77	Calm	1.1	0.5			1	W		0.87	22.1	D. clouds	
Chittagong	29.56	750.8	29.65	753.1	82.5	28.1	87	Calm	1.7	0.8			9			0	0	Gloomy	
Sibsagar	29.26	743.2	29.59	751.3	87.4	30.8	71	WNW	1.8	0.9			4			0	0	Blue sky	
Jubbulpore	28.23	717.0	29.53	750.2	98.7	37.1	30	Calm	2.4	1.1			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 2,000.4 ft., or 609.7 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or under-no error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.60	751.9	30.00	762.0	73.4	23.0	64	W	0.7	0.3			10			0	0		Prof. Giovanni Clodig.
Milan	29.48	748.9	29.99	761.7	72.7	22.6	58	E			2		8			0	0		Prof. Schiaparelli.
Padua	29.93	760.1	30.03	762.8	68.7	20.4	78	NNW	3.8	1.7			10	W		0.051	1.3		Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	30.00	761.9	68.0	20.0	66	NE	5.6	2.5			8			0	0		Prof. P. F. Denza.
Genoa	29.85	758.2	30.04	763.0	67.5	19.7	77	N	1.8	0.8			4	SE		0.118	3.0		Prof. G. M. Garibaldi.
Mondovi	28.11	713.9	29.97	761.2	68.9	20.5	55	NE			2		2			0	0		Prof. D. C. Bruno.
Pesaro	29.95	760.6	29.99	761.7	73.4	23.0	84	NW	14.3	6.4			10			0	0		Prof. Luigi Guidi.
Florence	29.77	756.2	30.02	762.6	76.1	24.5	59	W			4		10			0	0		Cav. F. Meucci.
Leghorn	29.97	761.1	30.05	763.3	68.4	20.2	73	WSW			4		10			0	0		Prof. P. Monte.
Rome	29.85	758.1	30.02	762.5	81.1	27.3	43	SW	11.9	5.3			7			0	0		Prof. P. S. Ferrari.
Lecce	29.75	755.7	30.00	761.9	81.7	27.6	37	ESE	3.8	1.7			0			0	0		Prof. C. De Giorgi.
Cosenza	29.13	740.0	30.00	762.0	80.6	32.0	69	SE	0	0			0			0	0		Prof. D. Conti.
Cagliari	29.76	755.8	29.95	760.6	77.2	25.1	59	SE			2		10	S		0	0		Prof. A. Pacinotti.
Palermo	29.77	756.2	30.02	762.6	74.5	23.6	64	ENE	3.8	1.7			0			0	0		Prof. G. Cacciatore.
Syracuse	29.92	760.0	29.99	761.8	84.6	29.2	54	SE	0.7	0.3			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.7	30.07	763.8	82.2	27.9	49	WNW	0.7	0.3			0			0	0		Prof. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.78	756.4	29.79	756.6	66.1	18.9	86	NNE	2.6	1.1			1s			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.61	752.1	29.81	757.2	65.1	18.4	86	ENE	2.3	1.0			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.63	752.6	29.70	754.4	61.8	16.6	90	NNW	8.2	3.7			10s			0.150	3.81	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.00	635.1	29.93	760.2	64.4	18.0	74	NW			2		10		SE	0.09	2.4	Covered	Prof. L. Perez.
Leon	24.38	619.2	29.97	761.2	65.5	18.6	78	SW			1	4c	1k			0	0	Very hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.02	584.8	29.95	760.7	58.1	14.5	82	NW	0.7	0.3		10k	0	NE		0	0	Covered	The Staff.
Pabellon (Aguascalientes)					60.4	15.8	56	SE			1	3cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.85	758.1	29.86	758.4	77.0	25.0	85	SE			3	0	10		SE	0.91	23.2	Rainy	M. M. Cházaro.
San Luis Potosi	24.18	614.1	30.19	766.9	54.0	12.2	51	E			1	4	0	W		0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.53	572.3	30.06	763.6	59.5	15.3	51	Calm			0	2c	1s	Calm	Calm	0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.9	30.15	765.7	59.9	15.5	85	Calm	0	0			10		NW	0.41	10.5	Covered	Prof. P. Spina.
Colima	28.34	719.9	29.95	760.8	86.0	27.0	77	NE			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.73	755.0	30.01	762.3	74.1	23.4	87	SE			1	0	1			0	0	Foggy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.93	760.2	29.93	760.2	66.2	19.0		W								0.051	1.3		
Groningen	29.83	757.7	29.89	759.1	66.9	19.4		SW								0	0		
Helder	29.91	759.6	29.91	759.6	58.3	14.6		SSW			4					0.118	3.0		
Hellevoetsluis	29.90	759.5	29.90	759.5	71.6	22.0	61	WSW			1					0.169	4.2		
Utrecht	29.91	759.8	29.96	761.0	71.6	22.0	59	W			3		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.85	758.2	29.91	759.6	65.5	18.6	44	W	6.5	2.9			2			0	0		
Brönö	29.95	760.6	29.95	761.6	48.6	9.2	71	N	11	5			1			0	0		
Christiania	29.75	755.6	29.89	759.1	73.2	22.9	41	Calm	0	0			8			0	0		
Tromsö	29.90	759.4	29.94	760.5	46.9	8.3	63	W	11	5			9			0.51	1.3		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.04	762.9	30.23	767.7	64.4	18.0	75	W	14.3	6.4			7			0	0		Dr. J. A. Sampaio.
Campo Major	29.02	737.1	30.00	762.1	67.1	19.5	51	SW	4.3	1.9			7	W		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.11	764.9	30.20	767.1	69.1	20.6	47	SW	3.8	1.7			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.7	30.07	763.8	63.7	17.6	50	W	11.2	5.0			7			0.059	1.5		The Staff.
Ponta Delgada (Azores)	30.17	766.3	30.24	768.1	67.6	19.8	62	WNW	16.1	7.2			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from —	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 2° 59′, W. 4° 07′			30.03	762.8	81.5	27.5		S			2		6		S	3	S	D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. St. Paul de Loando			29.95	760.6	77.4	25.2		W			3		9		WNW	1	W	D clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.03	762.8	78.1	25.6		NE			3		2		NE	2		D. clouds	P. de Fair. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimarães. Macao, China			29.82	757.3	80.8	27.1		S			3		7		S	2	S	D. clouds, 2 [hours rain-fall.	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.45	747.9	29.85	758.1	75.6	24.2	48	N	9	4			9ks;c					Solar corona	Astronomical Obs.
Wilna	29.47	748.4	29.87	758.7	68.2	20.1	29	NW	7	3			4						Astronomical Obs.
Dorpat	29.61	752.1	29.84	758.0	64.2	17.9	77	WNW	7	3			10n					Thunder-storm.	Prof. Dr. Weihrauch.
St. Petersburg	29.73	755.1	29.74	755.5	60.3	15.7	64	NNW	16	7			9n;ks						Central Physical Obs.
Kieff	29.22	742.3	29.83	757.7	73.9	23.2	53	NW	4	2			7k;ks; c;ck]						Physical Cabinet.
Nikolaiev	29.93	760.2	30.00	762.0	78.8	26.0	42	Calm	0	0			4k						Kurdakof.
Kertch	29.93	760.1	29.95	760.6	71.2	21.8	70	WNW	9	4			2						Lagorio.
Moscow	29.26	743.3	29.79	756.7	68.4	20.2	48	S	9	4			8ks						Meteorological Obs.
Lugan	29.58	751.2	29.78	756.3	68.4	20.2	54	E	4	2			4						Meteorological Obs.
Archangel	29.65	753.1	29.67	753.6	54.5	12.5	58	WNW	13	6			10						Capt. Sseliwerstow.
Tiflis	28.42	721.9	29.78	756.4	72.5	22.5	50	N	18	8			6k						Physical Observatory.
Astrakhan	29.84	758.0	29.76	755.9	72.9	22.7	40	SE	9	4			9s						Capt. Wisganow.
Krotkowo*	29.31	744.5	29.76	756.0	66.6	19.2	28	N	11	5			1k						Cand. Fatjanow.
Kasan	29.45	748.0	29.71	754.6	66.0	18.9	35	N	4	2			1						Physical Cabinet.
Ekaterinburg	28.53	724.7	29.48	748.8	48.2	9.0	71	NNW	27	12			8c;ks						Meteorological Obs.
Nukuss	29.41	747.0	29.63	752.6	82.4	28.0	45	WSW	11	5			2ks						
Tashkend	28.19	715.9	29.64	752.9	86.0	30.0	53	NE	13	6			6					Light clouds	Teich, A. M.
Barnaul	28.97	735.9	29.44	747.8	73.6	23.1	61	Calm	0	0			10						Meteorological Obs.
Yeniseisk	29.19	741.4	29.47	748.4	69.3	20.7	35	SSE	13	6			3						Marks.
Irkutsk																			
Peking (China)	29.46	748.7	29.62	752.3	84.9	29.4	43	S	4	2			2k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.58	751.4	29.68	753.9	53.6	12.0	91	E	9	4			4c						
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.87	758.8	29.98	761.4	69.8	21	59	SE	4.5	2.02			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.94	760.4	29.99	761.8	64.4	18.0	74	S	2.2	0.96			10			0.272	6.9	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.7			61.2	16.2	72	SW	8.0	3.59			6			0.236	6.0	Cloudy	Domingo Martin y Peres.
Madrid, Royal Observatory	27.76	705.2	29.91	759.8	73.2	22.9	56	SW	14.9	6.67		0	8			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.80	757.0	29.95	760.6	84.0	28.9	43	NE	7.3	3.25		4	5	N		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.04	737.6	29.93	760.1	61.2	16.2	80	SW	8.7	3.9			7			0.079	2.0	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	84.5	29.3	80	SE	3.4	1.5		1c	1k;s	SSW		0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.9	29.85	758.2	85.1	29.5	75	ENE	1.8	0.8			1s		W	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	761.9	30.09	764.4	67.3	19.6	67	W	13.1	5.9		0	7		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	84.9	29.4	75	S	2.6	1.15		8cs	3k	S	S	0.315	8.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.79	756.7	29.83	757.5	57.2	14.0	.....	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.78	756.3	29.83	757.6	63.8	17.4	68	W	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.76	755.8	29.81	757.1	70.9	21.6	61	SSE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Stockholm	29.78	756.4	29.96	760.9	64.8	18.2	52	WSW	.....	.....	2	.....	2	.....	.....	0.024	0.6	.....	
Wisby	29.88	759.0	29.94	760.5	50.0	10.0	82	N	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	26.85	758.1	29.92	760.0	66.2	19.0	52	WSW	5.8	2.6	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.38	720.8	29.97	761.1	69.1	20.6	60	SE	.....	.....	2	.....	6	.....	.....	0.055	1.4	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, —— per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.5	83.1	28.4	42	ENE	13	6.0	.....	.....	2	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	98.6	37.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.3	80.2	26.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.72	754.9	29.83	757.7	86.0	30.0	63	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.75	755.6	30.05	763.3	53	11.7	.....	SW	3	1.3	.....	.....	8s	.....	SW	0	0	Cloudy	W. R. Bigg.
Chatham, N. B	29.77	756.1	29.83	757.7	48	8.9	56	NW	13	5.8	.....	8k	2ks	NW	NW	Inap.	Inap.	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.75	755.6	29.79	756.7	44	6.7	84	NW	8	3.6	.....	.....	10n	.....	.....	0.055	1.40	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.77	756.1	29.96	761.0	53.0	11.7	84	NW	.....	.....	1	9cs	0	NW	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.69	754.1	29.86	758.4	46.5	8.1	69	N	.....	.....	2	0	5ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.91	759.7	29.94	760.5	43	6.1	71	NW	3	1.3	.....	0	2s	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.85	758.2	29.91	759.7	47.3	8.5	54	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.85	732.8	29.65	753.1	60	15.6	79	W	6	2.7	.....	5c	2ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.93	734.8	30.00	762.0	61	16.1	88	S	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.69	754.1	29.83	757.7	49	9.4	62	NW	12	5.4	.....	.....	10ks	.....	NW	Inap.	Inap.	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.68	753.9	30.05	763.3	61.7	16.5	68	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.72	754.9	30.05	763.3	58	14.4	88	S	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.82	757.4	30.02	762.5	58	14.4	70	SE	4	1.8	.....	2c	Sm'e	N	.....	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.01	762.2	54	12.2	93	SE	18	8.0	.....	5k	5n	W	W	0.17	4.3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.33	745.0	30.08	764.0	54.9	12.7	97	SW	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.04	763.0	55	12.8	87	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	46.1	7.8	.....	N	2	0.9	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.05	763.3	58	14.4	88	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.71	754.6	30.03	762.7	49	9.4	57	N	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.55	750.6	30.01	762.2	49	9.4	96	Calm	0	0	.....	.....	10s	.....	SW	0.05	1.3	Light rain	W. H. McIntyre.
St. Andrews, N. B	29.87	758.7	29.92	760.0	49	9.4	60	NW	.....	.....	2	5k	5s	.....	.....	0.02	0.5	Cloudy	Dr. Gove.
St. John, N. B	29.73	755.1	29.90	759.4	47	8.3	55	NW	13	5.8	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.01	762.2	62	16.7	66	S	9	4.0	.....	.....	8ks	.....	SW	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.18	741.2	29.94	760.5	56	13.3	75	SE	8	3.6	.....	10k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.75	730.2	30.00	762.0	56.9	13.8	74	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.76	755.9	29.90	759.9	47	8.3	84	SW	11	4.9	.....	.....	10n	.....	SW	0.01	0.3	Heavy rain	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.03	762.7	58	14.4	75	S	1	0.4	.....	5cs	5s	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.75	755.6	29.84	757.9	46.0	7.8	77	NW	6	2.7	.....	0	9k	.....	.....	0.07	1.8	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.70	754.4	29.95	760.7	52.0	11.1	73	SW	.....	.....	.....	2k	5s	.....	.....	0.62	15.7	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.09	764.3	58	14.4	67	Calm	0	0		8cs	0	Calm		0	0	Fair	
Alpena, Michigan	29.26	743.2	29.87	758.7	70	21.1	44	SW	15	6.7		0	0			0	0	Clear	
Atcha, Aleutian Islands					36	2.2	100	NW			4		10n		W	0.32	8.1	Cloudy	
Atlanta, Georgia	28.92	734.6	30.04	763.0	68	20.0	90	E	15	6.7			10s		Calm	0.08	2.0	Cloudy	
Atlantic City, New Jersey	30.09	764.3	30.10	764.5	63	17.2	83	NW	2	0.9		5ck	0	Calm		0	0	Fair	
Augusta, Georgia	29.93	760.2	30.10	764.5	75	23.9	77	SE	4	1.8			10s		Calm	0	0	Cloudy	
Baltimore, Maryland	30.05	763.3	30.10	764.5	66	18.9	74	NW	2	0.9		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.07	763.8	30.09	764.3	66	18.9	59	NW	1	0.4		8k	0	NW		0	0	Fair	
Bismarck, Dakota	27.93	709.4	29.78	756.4	57	13.9	81	SW	4	1.8		2c	8s	S	S	0	0	Cloudy	
Boerne, Texas	28.46	722.9	29.71	754.6	75	23.9	56	SW	8	3.6		8k	0	S		0	0	Fair	
Boise City, Idaho	27.02	686.3	29.98	761.5	51	10.6	65	W	2	0.9		2ck	0	Calm		0	0	Fair	
Boston, Massachusetts	29.91	759.7	30.07	763.8	58	14.4	64	E	4	1.8		1cs	0	Calm		0	0	Clear	
Brackettville, Texas	28.77	730.7	29.75	755.6	80	26.7	66	E	8	3.6			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.71	729.2	29.66	753.4	62	16.7	100	SW	2	0.9			10n		Calm	0.03	0.8	Light rain	
Brownsville, Texas	29.81	757.2	29.86	758.4	84	28.9	64	SE	4	1.8		2cs	0	Calm		0	0	Clear	
Buffalo, New York	29.33	745.0	30.01	762.2	61	16.1	61	S	4	1.8		5ck	Haze	NW	Calm	0	0	Fair	
Burkes, Arizona					66	18.9	23	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.76	755.9	30.04	763.0	57	13.9	58	W	2	0.9		5c	Haze	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.62	752.3	29.99	761.7	77	25.0	77	S	3	1.3		5ck	2s	S	Calm	Inap.	Inap.	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.19	639.8	29.99	761.7	61	16.1	26	N	8	3.6		0	0			0	0	Clear.	
Camp Verde, Arizona					56	13.3	29	SW			1	2k	0	W		0	0	Fair	
Campo, California	27.38	695.4	29.94	760.5	50	10.0	72	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.16	766.1	30.16	766.1	73	22.8	72	SW	8	3.6		1cs	0	W		0	0	Clear	
Cape Henry, Virginia	30.10	764.5	30.12	765.0	69	20.6	43	SW	11	4.9		0	2s		W	0	0	Clear	
Cape Lookout, N. Carolina	30.14	765.5	30.16	766.1	74	23.3	63	S	12	5.4		8ck	0	W		0	0	Cloudy	
Cape May, New Jersey	30.03	762.7	30.06	763.5	66	18.9	84	N	6	2.7		5ck	0	N		0	0	Fair	
Castroville, Texas	29.10	739.1	29.77	756.1	81	27.2	67	SE	4	1.8		0	5ks		SE	0	0	Fair	
Charleston, South Carolina	30.05	763.3	30.10	764.5	78	25.6	82	SE	7	3.1		2c	2s	SE	Calm	0	0	Fair	
Charlotte, North Carolina	29.27	743.4	30.06	763.5	74	23.3	72	SW	5	2.2		2k	Haze	W	Calm	0.03	0.8	Fair	
Chattanooga, Tennessee	29.27	743.4	30.04	763.0	71	21.7	85	E	3	1.3			10s		SE	0.10	2.5	Cloudy	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	48	8.9	23	W	14	6.3		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.27	743.4	29.93	760.2	68	20.0	51	SW	7	3.1		5ck	0	W		0	0	Fair	
Cincinnati, Ohio	29.40	746.7	30.04	763.0	64	17.8	58	E	3	1.3		0	Sme'		Calm	0	0	Clear	
Cleveland, Ohio	29.34	745.2	30.05	763.3	60	15.6	65	SE	8	3.6		0	0			0	0	Clear	
Coleman City, Texas	28.08	713.2	29.65	753.1	75	23.9	72	SE	8	3.6			10ks		S	0	0	Cloudy	
Columbus, Ohio	29.21	741.9	30.02	762.5	62	16.7	61	E	1	0.4		0	Sm'e		Calm	0	0	Clear.	
Concho, Texas	27.93	709.4	29.51	749.5	76	24.4	49	S	7	3.1		0	5s		S	0	0	Fair	
Corsicana, Texas	29.47	748.5	29.92	760.0	74	23.3	86	S	8	3.6			10c		S	0	0	Cloudy	
Davenport, Iowa	29.26	743.2	29.87	758.7	70	21.1	75	S	4	1.8		5cs	0	SW		0	0	Fair	
Deadwood, Dakota	25.19	639.8			47	8.3	85	W	2	0.9		0	2ks		W	0.10	2.5	Fair	
Decatur, Texas	28.70	729.0	29.80	756.9	76	24.4	73	S	16	7.2		0	0			0	0	Clear.	
Denison, Texas	29.08	738.6	29.83	757.7	76	24.4	77	S	8	3.6		0	0			0	0	Clear	
Denver, Colorado	24.72	627.9	29.94	760.5	51	10.6	72	S	2	0.9		0	0			0	0	Clear.	
Des Moines, Iowa	28.89	733.8	29.72	754.9	70	21.1	85	SW	6	2.7		2k	2ks	SW	SW	0.08	2.0	Fair	
Detroit, Michigan	29.34	745.2	30.00	762.0	61	16.1	66	SW	3	1.3		0	0			0	0	Clear	
Dodge City, Kansas	27.18	690.4	29.30	744.2	74	23.3	55	S	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.15	740.4	29.80	756.9	72	22.2	67	S	6	2.7		5c	0	Calm		0	0	Fair	
Duluth, Minnesota	29.09	738.9	29.74	755.4	62	16.7	88	Calm	0	0			10s		Calm	0.61	15.5	Cloudy	
Eagle Pass, Texa	29.06	738.1	29.75	755.6	78	25.6	78	SE	8	3.6			10s		SE	0	0	Cloudy	
Eastport, Maine	29.86	758.4	29.93	760.2	49	9.4	51	NW	13	5.8		10k	0	NW		0.02	0.5	Cloudy.	
Edinburg, Texas					80	26.7	87	S			4	0	5s		S	0	0	Fair	
El Paso, Texas	26.17	664.7			63	17.2	5	NW	8	3.6		0	0			0	0	Clear	
Erie, Pennsylvania	29.32	744.7	30.01	762.2	65	18.3	58	S	9	4.0		0	Haze		Calm	0	0	Clear	
Escanaba, Michigan	29.20	741.7	29.82	757.4	65	18.3	73	S	8	3.6		5k	0	SW		0	0	Fair	
Florence, Arizona	28.99	736.3	29.99	761.7	80	26.7	25	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.65	702.3			52	11.1	86	SW	9	4.0		10cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.46	646.7	29.53	750.0	51	10.6	33	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.15	638.8	30.11	764.8	74	23.3	55	SW	3	1.3		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.34	745.2	29.84	757.9	77	25.0	73	SE	6	2.7		0	0			0	0	Clear	
Fort Griffin, Texas	28.58	725.9	29.78	756.4	77	25.0	69	SE	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.20	690.9			52	11.1	86	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.64	702.0	29.46	748.3	74	23.3	72	SE	12	5.4		0	8s		SE	0	0	Fair	
Fort St. Michael, Alaska	29.80	756.9	29.84	757.9	36	2.2	100	N	5	2.2			10k		N	0.02	0.5	Cloudy	
Fort Sill, Indian Territory	28.62	726.9	29.66	753.4	76	24.4	69	S	12	5.4		0	0			0	0	Clear	
Fort Stevenson, Dakota	27.89	708.4			54	12.2	73	SW	4	1.8			8s		SW	0	0	Cloudy	
Fredericksburg, Texas	28.18	715.8	29.66	753.4	77	25.0	65	S	9	4.0		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.91	759.7	29.95	760.7	79	26.1	78	S	5	2.2		0	2ks		S	0	0	Clear	
Graham, Texas	28.77	730.7	29.76	755.9	78	25.6	69	S	6	2.7		0	0			0	0	Clear	
Grand Haven, Michigan	29.31	744.5	29.93	760.2	72	22.2	46	S	12	5.4		0	0			0	0	Clear	
Henrietta, Texas	28.88	733.5	29.76	755.9	80	26.7	66	S	8	3.6		0	0			0	0	Clear	
Indianapolis, Indiana	29.21	741.9	29.96	761.0	68	20.0	60	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Indianola, Texas	29.91	759.7	29.94	760.5	81	27.2	78	S	6	2.7		0	1ks		S	0	0	Clear	
Jacksboro, Texas	28.71	729.2	29.76	755.9	80	26.7	59	SE	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.10	764.5	76	24.4	91	E	1	0.4			10n		Calm	0.27	6.9	Light rain	
Keokuk, Iowa	29.23	742.4	29.80	756.9	76	24.4	73	SE	5	2.2		0	0			0.05	1.3	Clear	
Key West, Florida	30.00	762.0	30.03	762.7	82	27.8	79	SE	9	4.0		2k	0	SE		0.15	3.8	Fair	
Kittyhawk, North Carolina	30.10	764.5	30.13	765.3	70	21.1	75	SW	11	4.9		0	0			0	0	Clear	
Knoxville, Tennessee	29.09	738.9	30.05	763.3	72	22.2	78	E	4	1.8		1ck	Haze	Calm		0	0	Clear	
La Crosse, Wisconsin	29.09	738.9	29.78	756.4	71	21.7	75	S	5	2.2		5k	0	S		0	0	Fair	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	52	11.1	35	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.40	746.7	29.72	754.9	80	26.7	51	SE	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	28.97	735.8	29.76	755.9	74	23.3	76	S	9	4.0		0	0			0.35	8.9	Clear	
Los Angeles, California	29.63	752.6	29.97	761.2	52.0	11.1	76	NE	3	1.3		0	8s		SE	0	0	Cloudy	
Louisville, Kentucky	29.46	748.3	30.00	762.0	71	21.7	49	SE	2	0.9		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.42	747.3	30.08	764.0	71	21.7	90	SW	3	1.3		0	0			0	0	Clear	
Madison, Wisconsin	28.90	734.0	29.84	757.9	69	20.6	80	SW	6	2.7		5cs	0	SW		0	0	Fair	
Marquette, Michigan	29.10	739.1	29.76	755.9	69	20.6	75	SW	4	1.8		5c	0	SW		0	0	Fair	
Mason, Texas	28.27	718.0	29.94	760.5	77	25.0	73	SE	9	4.0		0	8s		SE	0	0	Fair	
Memphis, Tennessee	29.65	753.1	29.98	761.5	73	22.8	90	SE	4	1.8		2k	0	NW		1.13	28.7	Clear	
Milwaukee, Wisconsin	29.18	741.1	29.87	758.7	69	20.6	52	SW	5	2.2		1c	0	Calm		0	0	Clear	
Mobile, Alabama	29.95	760.7	30.00	762.0	78	25.6	91	S	4	1.8		0	8s		SW	0.17	4.3	Fair	
Montgomery, Alabama	29.79	756.7	30.02	762.5	75	23.9	85	S	5	2.2		2k	2ks	S	S	0.69	17.5	Fair	
Morgantown, West Virginia	29.10	739.1	30.08	764.0	60	15.6	71	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.73	602.7	30.09	764.3	27	— 2.8	65	NW	40	17.9		0	0			0	0	Clear	
Nashville, Tennessee	29.48	748.8	29.99	761.7	81	27.2	59	SE	4	1.8		5k	0	S		0	0	Fair	
New Haven, Connecticut	29.96	761.0	30.08	764.0	66	18.9	59	NW	2	0.9		5cs	0			0	0	Fair	
New London, Connecticut	30.02	762.5	30.07	763.8	66	18.9	50	N	2	0.9		1c	0	NW		0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrument'al error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r —10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
New Orleans, Louisiana	29.93	760.2	29.99	761.7	80	26.7	78	S	2	0.9		0	5ks		SW	0.08	2.0	Fair	
Newport, Rhode Island	30.00	762.0	30.05	763.3	63	17.2	52	NW	4	1.8		0	0			0	0	Clear	
New York, New York	29.92	760.0	30.10	764.5	67	19.4	50	NW	3	1.3		0	2s;Hz			0	0	Fair	
Norfolk, Virginia	30.06	763.5	30.12	765.0	74	23.3	59	SW	9	4.0		0	5ks		SE	0	0	Fair	
North Platte, Nebraska	26.88	682.7	29.34	745.2	61	16.1	53	NW	24	10.7		0	0			0	0	Clear	
Olympia, Washington Ter.	29.91	759.7	29.95	760.7	50.5	10.3	93	Calm	0	0			10s		SW	0	0	Cloudy	
Omaha, Nebraska	28.58	725.9	29.60	751.8	74	23.3	76	SE	11	4.9		0	2s		Calm	0.10	2.5	Clear	
Oswego, New York	29.78	756.4	30.10	764.5	52	11.1	86	W	8	3.6			10s		W	Inap.	Inap.	Cloudy	
Pembina, Dakota	28.83	732.3	29.63	752.6	59	15.0	70	SW	6	2.7		5c	0	W		0	0	Fair	
Philadelphia, Pa	30.05	763.3	30.10	764.5	64	17.8	68	W	2	0.9			10ks		NW	Inap.	Inap.	Cloudy	
Phœnix, Arizona	28.67	728.2	30.41	772.4	67	19.4	37	NE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.78	451.6	29.99	761.7	25	— 3.9	38	SW	26	11.6		0	Haze			0	0	Hazy	
Pioche, Nevada					47	8.3	34	S	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.28	743.7	30.08	764.0	53	11.7	86	N	1	0.4			Fog		Calm	0	0	Foggy	
Port Huron, Michigan	29.34	745.2	29.98	761.5	60	15.6	71	S	9	4.0		0	0			0	0	Clear	
Portland, Maine	30.00	762.0	30.05	763.3	54	12.2	55	W	8	3.6		0	0			0	0	Clear	
Portland, Oregon	29.94	760.5	30.01	762.2	53.0	11.7	93	SE	4	1.8			10n		Calm	0.03	0.8	Light rain	
Prescott, Arizona	24.68	626.9	30.04	763.0	46	7.8	40	W	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.04	737.6	29.84	757.9	81	27.2	87	SE	10	4.5		0	0			0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	79	26.1	78	E	13	5.8		5ck	0	W		0	0	Fair	
Red Bluff, California	29.57	751.1	29.93	760.2	57	13.9	69	SE	6	2.7		1cs	0	S		0	0	Clear	
Rio Grande City, Texas	29.65	753.1	29.86	758.4	78	25.6	82	SE	8	3.6		2c	0	Calm		0	0	Clear	
Rochester, New York	29.47	748.5	30.08	764.0	57	13.9	75	SE	5	2.2			10s		SE	0.03	0.8	Cloudy	
Roseburg, Oregon	29.47	748.5	30.04	763.0	51	10.6	79	Calm	0	0		5k	5cs	Calm	Calm	0	0	Cloudy	
Sacramento, California	29.55	758.2	29.93	760.2	53	11.7	80	S	12	5.4		0	0			0	0	Clear	
St. Louis, Missouri	29.38	746.2	29.92	760.0	73	22.8	76	S	8	3.6		0	0			0.01	0.3	Clear	
St. Marks, Florida	30.05	763.3	30.06	763.5	74	23.3	95	SE	9	4.0			10s		SE	0.13	3.3	Cloudy	
St. Paul, Minnesota	28.91	734.3	29.69	754.1	67	19.4	78	E	10	4.5		8c	0	W		0.13	3.3	Fair	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	48	8.9	49	S	4	1.8		7k	0	W		0	0	Fair	
San Antonio, Texas	29.21	741.9	29.76	755.9	78	25.6	78	SE	4	1.8			10s		SE	0	0	Cloudy	
San Diego, California	29.93	760.2	30.01	762.2	59	15.0	76	SW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.38	746.2	30.03	762.7	63	17.2	67	S	5	2.2		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.04	763.0	30.08	764.0	69	20.6	52	NW	8	3.6		5ck	0	W		0	0	Fair	
San Francisco, California	29.92	760.0	29.98	761.5	50	10.0	93	W	16	7.2		0	Fog		W	0	0	Fair	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	47	8.3	34	E	2	0.9		0	0			0	0	Clear	
Savannah, Georgia	30.01	762.2	30.10	764.5	77	25.0	86	E	3	1.3		2c	5s	E	Calm	3.18	80.8	Fair	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	77	25.0	82	SW	3	1.3		0	0			0	0	Clear	
Silver City, New Mexico	24.28	616.7	30.47	773.9	45	7.2	37	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.14	765.5	30.17	766.3	74	23.3	81	S	8	3.6		2ck	0	N		0	0	Fair	
Springfield, Massachusetts	29.95	760.7	30.08	764.0	61	16.1	66	SW	2	0.9			Fog			0	0	Foggy	
Stockton, Texas	26.86	682.2	29.86	758.4	78	25.6	61	SE	16	7.2		2k	0	Calm		0	0	Fair	
Thatcher's Island, Mass	30.03	762.7	30.08	764.0	58	14.4	70	NE	5	2.2		0	0			0	0	Clear	
Toledo, Ohio	29.33	745.0	29.99	761.7	67	19.4	60	Calm	0	0		0	Haze		Calm	0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	61	16.1	40	SW	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.57	751.1	30.05	763.3	56.0	13.3	57	SW	14	6.3		0	0			0	0	Clear	
Uvalde, Texas	28.98	736.1	29.76	755.9	79	26.1	70	S	7	3.1			10s		S	0	0	Cloudy	
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	78	25.6	82	Calm	0	0		0	0			0	0	Clear	
Virginia City, Montana	24.15	613.4	29.63	752.6	36	2.2	80	Calm	0	0		0	0			0.05	1.3	Clear	
Visalia, California	29.56	750.8	29.93	760.2	51	10.6	76	NW	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.97	761.2	30.08	764.0	66	18.9	79	NW	1	0.4		0	Sm'e		Calm	0	0	Clear	
Wickenburg, Arizona					70	21.1	40	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	73	22.8	72	S	3	1.3		10ck	0	S		0	0	Cloudy	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	46.0	7.8	47	SW	7	3.1		0	1s		Calm	0	0	Clear	
Wood's Holl, Mass	30.02	762.5	30.06	763.5	58	14.4	64	NW	6	2.7		2c	0	Calm		0	0	Clear	
Yankton, Dakota	28.40	721.3	29.59	751.6	72	22.2	76	S	9	4.0		5k	0	S		0	0	Fair	
Yuma, Arizona	29.08	753.9	29.84	757.9	62	16.7	72	N	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.97	761.2	30.02	752.5	84	28.9	79	SE	2.4	1.1		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.21	640.3			66.0	18.9	85	Calm			0	2k	3ks			0.11	2.8		Thomas Herran.
Navassa, W. I	29.93	760.2	30.01	762.2	80	26.7		NE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	78	25.6	91	E			2	5k	7ks	E		0.10	2.5	Cloudy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,885 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cla.																					
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			78.5	25.8	95	SSE	5	2.2			d		SSE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.72‡	754.9‡			62.2	16.8	88	NNE			3		10k s;n		NE	0.24	6.1			Cloudy	
Adams, Panama, U. S. C.	30.08‡	764.0‡			80	26.7	96	NW			2		8		NW					Fair	
Alaska, Sitka, Alaska	29.75‡	755.6‡			52	11.1	86	SSW			2		10		SW	0	0			Overcast	
Alliance. N. 46° 38′, W. 7° 40′	29.91‡	759.7‡			57	13.9	69	W			2-3		4		S; W			Mod'ate	N; W	Pleasant	
Colorado, New York, N. Y.	30.12‡	765.0‡			65	18.3	53	Calm	0	0			5			0	0			Hazy	
Constitution, Philadelphia, Pa	30.01‡	762.2‡			66	18.9	84	Calm			0		10		Calm					Cloudy	
Despatch. N. 24° 45′, W. 41° 05′	30.24‡	768.1‡			80	26.7	70	E			1		5		Calm	0	0	Light	ENE	Fair	
Enterprise, Antwerp, Holland	29.88‡	758.9‡			64	17.8	73	SSW			2		3		SSW					Clear	
Franklin. Norfolk, Va.	30.10‡	764.5‡			70	21.1	57	SW	8.4	3.8			5		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay.*	29.95‡	760.7‡			45	7.2	76	NW			5		5		NW	0	0			Fair	
Kearsarge, Portsmouth, N. H.	30.07‡	763.8‡			54	12.2	67	SE			1		0							Clear	
Marion, N. 25° 50′, W. 94° 05′	29.96‡	761.0‡			82	27.8	91	E			2		2		Calm			Smooth		Fair	
Michigan, Erie, Pa					59.5	15.3	85	S			2		0							Clear	
Monocacy, Shanghai, China	29.87‡	758.7‡			69	20.6	85	ESE			1-2		0							Clear	
Monongahela, Yokohama, Japan	29.87‡	758.6‡			64	17.8	83	NW			2		10			Mod'ate	Mod'ate			Overcast	
New Hampshire, Port Royal, S. C.	30.09‡	764.3‡			78	25.6	78	SSE	8	3.6			8		SSE	0	0			Cloudy	
Onward, Callao, Peru †	30.05‡	763.3‡			65	18.3	84	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.85‡	758.2‡			65	18.3	94	SE			2		2		NW					Hazy	
Passaic, Washington, D. C.					68	20.0	79	E			1		0							Clear	
Pensacola, Callao, Peru †	30.03‡	762.7‡			64	17.8	94	Calm	0	0			10			0	0			Misty	
Portsmouth, New York, N. Y.	30.09‡	764.8‡			72	22.2	61	SW			1		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.09‡	764.3‡			68	20.0	70	SW			2		5		Calm	0	0			Fair	
Quinnebaug, Smyrna, Turkey	29.90‡	759.4‡			91	32.8	36	NNE			1		0							Clear	
Ranger, Amoy, China	29.83‡	757.7‡			83	28.3	91	SSE			3-4		5?		SE					Clear?	
Richmond, Taku Bar, China	29.59‡	751.6‡			74	23.3	72	SSE			4		0			0	0	Smooth	SE	Clear	
Rio Bravo, Brownsville, Texas	29.86‡	758.4‡			79	26.1	95	SE			1		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.07‡	763.8‡			79	26.1	90	Var.			1		2			0	0			Clear	
Saratoga, Santa Cruz, Canaries	30.19‡	766.8‡			71	21.7	53	NE			4		2		S	0	0	Mod'ate	NE	D. clouds	
St. Louis, League Island, Pa	30.09‡	764.3‡			66	18.9	94	SSE	5	2.2			8		NNE	0	0			Cloudy	
Trenton, Gibraltar, Mediterranean.	30.06‡	763.5‡			73	22.8	58	W			1-2		5			0	0	Smooth		Fair	
Tuscarora, N. 19° 49′, W. 105° 42′	29.84‡	757.9‡			81	27.2	83	NW			2		8		ESE	0	0	Smooth		Hazy	
Vandalia, N. 33° 33′, W. 7° 46′	30.14‡	765.5‡			74	23.3	72	NE			3		5		E	0	0	Smooth		Fair	
Wabash, Boston, Mass.	30.04‡	763.0‡			60	15.6	88	WNW	3	1.3			2			0	0			Fair	
Wyoming, N. 38° 33′, E. 16° 59′	30.02‡	762.5‡			77	25.0	73	Calm			0		0					Smooth		Clear	
Wachusett, N. 34° 18′, W. 71° 58′	30.18‡	766.6‡			70	21.1	66	WSW			2		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper 0—10.	Low'r 0—10.	Upper. From—	Lower From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 43° 08′, W. 159° 07′		29.82‡	757.4‡	48	8.9		SW			2		10			0	Heavy	NW	Misty	L. B Walls.
S. S. Colima, N. 24° 06′, W. 111° 28′...†		29.92‡	760.0‡	62	16.7		NW			3–4		0			0	Mod'ate	WNW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†		29.96‡	761.0‡	55	12.8	68	Calm			0		4						Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Honolulu, Sandwich I.		30.05‡	763.8‡				ENE			3				ENE				Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. Yokohama, Japan		29.81‡	757.2‡	65	18.3	89	N			5		3n				Smooth		Showery	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 39° 12′, W. 65° 48′		29.94‡	760.5‡	65.0	18.3	73	WNW			5		0			0	Long	NW	Hazy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 47° 18′, W. 24° 48′		29.97‡	761.2‡				NNE			4		8		N		5	NE	Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 46° 25′, W. 40° 17′		30.17‡	766.3‡	66	18.9	74	SE			1		3		SE	0	Smooth		Fair	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Ship Shoal, N. 28° 55′, W. 91° 05′		30.00‡	762.0‡	80	26.7	82	Calm	0	0			2k			0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck, St. Illa, Ga		30.11‡	764 8‡	79	26.1		SSE			0		10		SW	Blank			Cloudy	W. H. Champlin.
Brigantine "George of Halifax", N. 36° 30′, W. 69° 50′ †		30.18‡	766.6‡				NNW			3		8		Calm	0	Tranquil.		Fair	N. B. Foss.
Schooner Harry and Fred, Arroyo, Porto Rico, W.I.		29.81‡	757.2‡				NE	3	1.3			0			0		SE	Clear	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 38° 26′ W. 46° 50′ †		29.96‡	761.0‡	72	22.2	92	S			4		5		SW		Smooth	SSW	Fair	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		30.12‡	765.0‡	79	26.1		SE			2		8		SE	Blank			¾ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

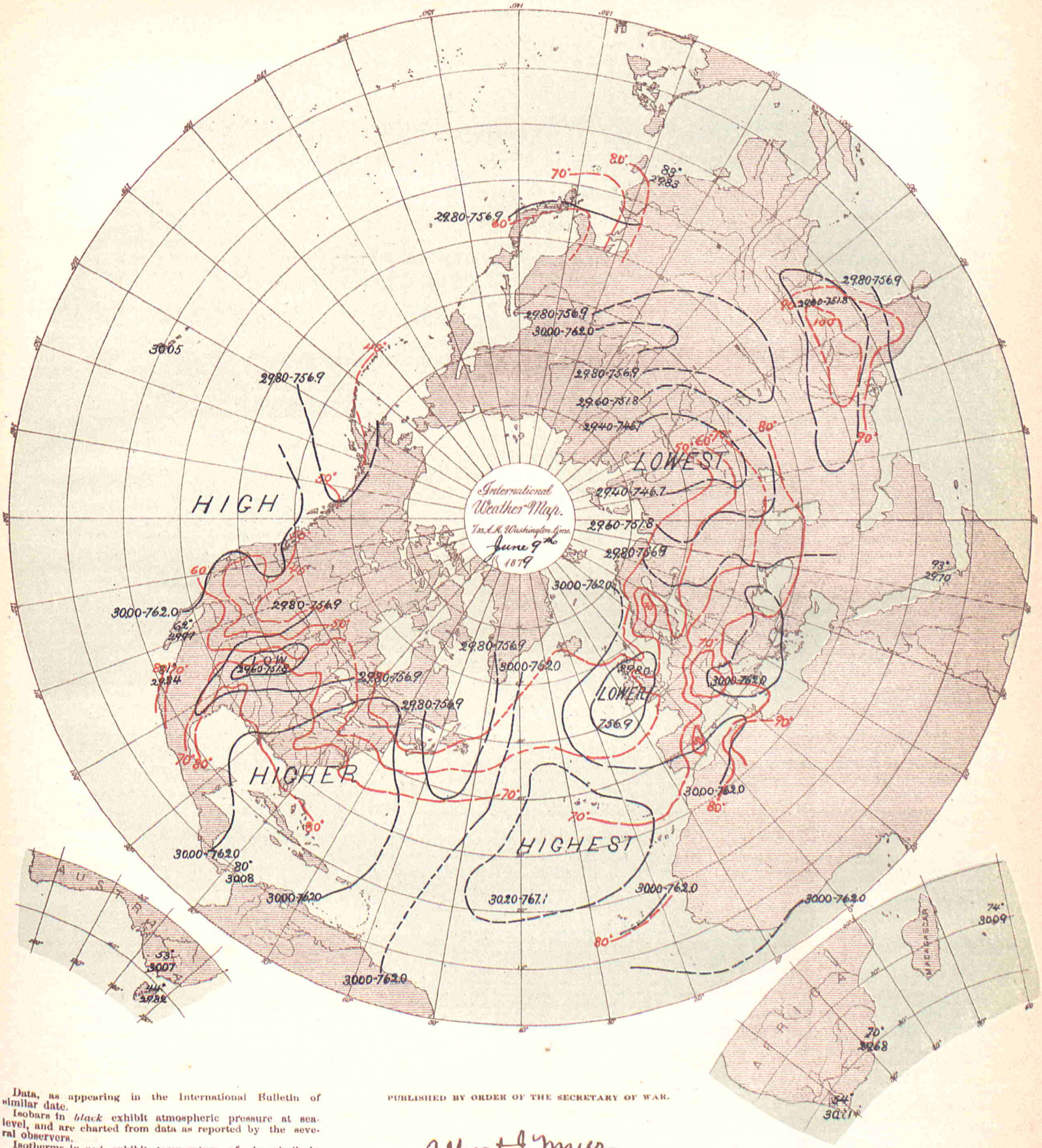
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 10, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.13	765.4	71.6	22.0	67	NNW			2		2			0	0	Fair	Kesxuche.
Algiers			30.07	763.8	70.5	21.4	58	WNW			2		0			0	0	Clear	Touriliere.
La Calle			30.10	764.4	73.0	22.8	86	NW			2		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax																			Gau.
Saida			30.13	765.5															
Tebessa			30.13	765.2	79.7	26.5	27	N			5		0			0	0	Clear	Herbin.
Geriville			30.04	762.9	92.3	33.5	20	S			7		8			0	0	Very cloudy	Watrin.
Laghouat			30.11	764.8	84.9	29.4	50	WNW			1		0			0	0	Clear	Brugniaux.
Biskra			29.98	761.4	98.2	36.8	27	NW			2		2			0	0	Fair	Bertrand.
			29.95	760.7	102.2	39.0	33	SE			1		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 690? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.46	748.2	29.98	761.5	79.9	26.6	48	E			2		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.24	742.8	30.00	761.9	64.4	18.0	95	NE			2		10			0.484	12.3		Dr. Wierzbiski.
Eperies	29.06	738.2	29.90	759.5	74.5	23.6	64	NW			2		10k			2.045	51.95		Julius Mikolik.
Gratz	28.78	730.9	29.97	761.3	75.9	24.4	45	ENE			3		5			0	0		Andreas Rospini.
Hermannstadt	28.53	724.6	29.87	758.7	81.3	27.4	41	NW			4		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.66	727.9	29.95	760.6	72.9	22.7	68	ESE			2		3			0.260	6.6		Prof. C. Wagner.
Lemberg	28.98	736.1	29.94	760.4	66.2	19.0	84	NW			1		10			0.784	19.0		Dr. T. Stanecki.
Pola	29.94	760.5	30.05	763.3	71.6	22.0	76	WNW			1		8			0	0		I.R.Hydrographic Office.
Szathmar	29.51	749.5	29.95	760.7	79.3	26.3	52	SW			2		5			0	0		Julius Csics, S. J.
Szegedin	29.70	754.3	29.97	761.1	78.1	25.6	52	W			2		6			0	0		Karl Stancel.
Trieste	29.97	761.3	30.08	763.9	76.1	24.5	61	W			1		9			0	0		P. Busin.
Vienna	29.30	744.3	30.01	762.2	74.1	23.4	48	NW			1		5			0.866	22.0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.88	758.9	29.98	761.5	51.4	10.8		ENE	9	4.0			7			0	0	D. clouds	W. Boswell.
Ardrossan	29.93	760.2	29.95	760.7	60	15.6		Calm			0		5					D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory			29.96	761.0	60.0	15.6		SW	5	2.2			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.00	762.0	62.2	16.8		NNW	8	3.6			2					Blue sky	John Hartnup.
Bolton (Sharples)			30.00	762.0	57.1	13.9		SE	6	2.7			9					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.62	752.3	30.02	762.5	58.6	14.8		W			2		3			0.03	0.8	Blue sky	J. McLandsborough.
Bridgetown (Barbadoes)	29.92	760.0	29.95	760.7	77	25.0		NE			1		8					Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.94	760.5	30.03	762.7	69.5	20.8		SSW			1		7					D. clouds	H. Todd.
Cardington			30.01	762.2	69.0	20.6		W			1		3					D. clouds	John McLaren.
Chatham, School M. E.	29.93	760.2	30.06	763.5	63.5	17.5		Calm			0		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.93	760.2	29.97	761.2	58	14.4		SSE			3		3					D. clouds	J. Mac Gowan.
Dover	30.04	763.0	30.07	763.8	60	15.6		Calm			0		0					Clear	J. Costello.
Falmouth, Observatory	29.79	756.7	30.02	762.5	57.3	14.1		SE			2		3					D. clouds	The Staff.
Fort Napier (Natal)	27.46	697.5	29.75	755.6	61.0	16.1		SE			3		4					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	80	26.7		Calm			0		4					D. clouds	
Galway, Queen's College			29.90	759.4	58	14.4		SW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.03	762.7	30.08	764.0	72.6	22.6		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.74	755.4	29.95	760.7	59.9	15.5		N			1		0					Thunder	D. G. Maclean.
Great Yarmouth	30.04	763.0	30.04	763.0	59	15.0		SE			1		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.04	763.0	65.5	18.8		WSW			1		7					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.82	757.4	30.04	763.0	59.5	15.3		SE			2		0					Blue sky	Dr. S.E.Hoskins,F.R.S.
Helston	30.02	762.5	30.13	765.3	64	17.8		S			4		3ck			0	0	Very fine	M. P. Moyle.
Holyhead	30.02	762.5	30.02	762.5	59	15.0		SW			4		0					Blue sky	John Tilston.
Jersey	29.79	756.7	30.08	764.0	59.9	15.5		SSE			1		3					D. clouds	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	64.6	17.8		SW	9	4.0			6					D. clouds	The Met'g'l Office.
Leicester, Museum	29.76	755.9	30.02	762.5	63.0	17.2		SW			1		6					D. clouds	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.97	761.2	30.05	763.3	78	25.6		E			2		2ck					Blue sky	A. King.
Nairn	29.87	758.7	29.97	761.2	53	11.7		E			1							Foggy	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	80.2	26.8		SE			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.83	757.7	30.02	762.5	60.8	16.0		SSW			3		10ck; k;d]	SSE		0.004	2.39	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.49	749.0	30.01	762.2	57.2	14.0		NNE			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.03	762.7	62	16.7		W			1		7					Showery	H. E. Bellamy.
Plymouth	29.95	760.7	30.03	762.7	59.6	15.3		SE			3		4					D. clouds	John Merrifield.
Prince Town	28.68	725.9	30.06	763.5	52.1	11.2		SSW			1		5					Fine	W. H. Tooker.
*Roche's Point	29.90	759.4	30.02	762.5	62	16.7		S			3		5					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.84	757.9	30.00	762.0	55	12.8		SSE			1		0					Blue sky	John C. Walker.
Sandwick-Manse (Orkneys)			30.01	762.2	56.3	13.5		SE	15	6.7			0			0	0	Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.86	758.4	29.92	760.0	81.0	27.2		S			1		0					Blue sky	Serg't W. H.Lyne.
Sheffield	29.74	755.4	30.01	762.2	66.1	18.9		SW			1		4			0.04	1.0	D. clouds	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	60.7	15.9	73	SW			5		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.62	752.3	30.02	762.5	57.2	14.0		N			1		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.82	757.4	30.03	762.7	63.5	17.5		SW			3		3					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.00	762.0	30.02	762.5	62	16.7		SE			6		4					D. clouds	W. Newcombe.
Valencia, Observatory	29.91	759.7	29.94	760.5	62.5	16.9		SSE	12	5.4			7					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.32	770.1	30.36	771.1	61	16.1	61	SE	18	8.0		1	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.85	758.2	46.0	7.8	85	SE			2		6k			0.02	0.5		FrancisAbbott F.R.A.S.
Leith, Restalrig Park			29.99	761.7	56.0	13.3		E			1	*10ck		SW		0	0	Overcast	Andrew Gibb
Mauritius, Observatory	29.91	759.7	30.10	764.5	72.6	22.6	62	ENE	6.5	2.9		0	2		ENE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.08	764.0	30.17	766.3	48.0	8.9	84	NNE	10	4.5			0			0	0	Very fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.97	761.2	58	14.4		E			2				E	0	0		J. Youngclause.
North Unst (Shetland Is.)			30.07	763.8	48	8.9		E			4	4	5		Calm				Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 55′. E. 28° 00′			29.95‡	760.7‡	77	25.0	SE			1		0					Misty	Capt. W. J. L. Wharton.
§Brig Alliance, N. 53° 51′, W. 18° 51′			29.90‡	759.4‡	55	12.8	N			3		10					Overcast	Capt. W. Scott.
Barque Fedalma, N. 33° 35′, W. 64° 55′			30.19	766.8	70	21.1	NW			2		4			1	NNW	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 48° 40′, W. 40° 55′			30.02	762.5	59	15.0	SSE			6		10			3	S	Misty	Capt. W. Randall.
S. S. Nizam, N. 17° 37′, E. 40° 18′			29.73‡	755.1‡	88	31.1	N			2		0					Blue sky	Capt. Barlow.
S. S. Royal Alexandra, Off Minnehead, Bristol Channel			29.98	761.5	55	12.8	SE			3		8			1	WSW	D. clouds	W. P. Hughes.
S. S. Algeria, N. 48° 05′, W. 33° 25′			30.10	764.5	55	12.8	NE			3		10		NE	2	NE	Overcast	Capt. Wm. Watson.
Astarte, S. 0° 25′, W. 20° 15′			29.98‡	761.5‡	84	28.9	SE			3		5					D. clouds	Capt. Parson.
British Peer, N. 7° 20′, W. 26°, 30′			30.62‡	762.5‡	81.6	27.6	NNE			4		5					D. clouds	Capt. Greig.
Theophane, S. 19° 00′, E. 71° 50′			30.08‡	764.0‡	76.2	24.6	SE			4		2					Blue sky	Capt. Raymond.
Agnes Wilson																		Capt. H. W. Dyke
S. S. Amanda																		Capt. B. Boyes.
Barque Belle-Isle																		Capt. A. J. Brown.
Ship British Commodore																		Capt. J. W. Thorne.
Barque Commewyne																		Capt. A. Buchan.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made us to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	65.8	18.8	88	SE			1	10s		E		Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.98	761.5	30.03	762.7	61.2	16.2	81	SE			2		7						
Fanöe	30.06	763.5	30.08	764.0	61.3	16.3	72	W			4		1						
Godthaab (Greenland)	29.81	757.1	29.85	758.2	43.9	6.6	98	S			4		10					Raining	
Stykkisholm (Iceland)	30.12	765.1	30.17	766.2	45.9	9.4	89	W			4		10						
Thorshavn (Faröe)	30.08	764.0	30.11	764.9	46.9	8.3	100	NE			2		10					Foggy	
Vestervig	29.87	758.6	30.04	762.9	59.0	15.0	86	W			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.55	750.6	30.10	764.6	63.7	17.6	72	S			1		5		SW	0	0	Cloudy	Colignon, Director.
Amiens, Normal School	29.95	760.7	30.06	763.4	74.1	23.4	35	S			1		5		N	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.81	757.1	30.06	763.5	67.3	19.6	42	WNW			2				W	0	0		Klein, Commandant.
Avignon, Normal School	30.00	762.0	30.08	764.0	77.0	25	50	S			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.56	750.8	30.10	764.6	65.3	18.5	66	NE			1		8kn		S	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.80	756.8	30.06	763.4	68.9	20.5	46	SSW			1		5		SW	0	0	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.19	741.5	30.06	763.4	73.8	23.2	47	SW			2		5		NW	0.138	3.5	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.21	741.9	30.14	765.6	74.8	23.8	53	S			1		kn	SW	SW	0.138	3.5		Marlot, Director.
Bourges, Normal School	29.50	749.2	30.03	762.8	66.7	19.3	63	ENE			1		5	ENE	ENE	0.51	13.	Cloudy	M. Gence, Director
Brest, Naval Observatory	29.69	754.2	29.94	760.4	67.6	19.8	61	S			1		8		SSW	0.118	3.00		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.70	754.3	30.10	764.6	72.0	22.2	59	E			2		10	W	W	0.04	1.	Covered	September, Dir.
Caen, Normal School	29.98	761.5	30.05	763.3	66.6	19.2	59	N			2		2		NE	0	0	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.48	748.9	30.03	762.8	71.4	21.9	67	E			1		9		SW	0.799	20.3		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.77	756.2	30.09	764.3	65.5	18.6	71	WSW			3		2			0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.6	29.93	761.7	68.0	20.0	58	NE			1		5		SW	0.181	4.6		Alluard, Director.
Commercy, Normal School.	29.21	741.9	30.05	763.2	64.6	18.1	77	WNW			1		8kn		WNW	0.004	0.1	Very cloudy	Dr. Coulet, Director.
Commune de Grêasque*	29.02	737.1	30.16	766.1	75.9	24.4	38	S			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.31	744.5	30.06	763.4	71.6	22	66	NW			2		5k	W		0.094	2.4	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.81	757.2	30.02	762.6	70.2	21.2	58	SE			3		5		SE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.75	755.7	30.06	763.5	69.3	20.7	54	ESE			2		2		S	0	0	Slightly cl'dy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.13	740.6	30.05	763.3	69.6	20.9	69	W			2		10n	W	W	0.154	3.90	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.92	760.0	30.02	762.5	65.5	18.6	60	SSE			3				S	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.83	757.7	30.10	764.4	71.4	21.9	64	W			1-2		1			0	0	V. slightly cloudy	E. Stephan, Director
Mirecourt, Normal School	29.01	736.9	30.02	762.6	69.4	20.8	69	S			1		5		S	0.075	1.9	Cloudy	Barbier, Director
Nismes, Normal School	29.88	759.0	30.08	764.0	79.2	26.2	47	SW			3		2		SW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.99	736.3	29.98	761.4	68.0	20	60	S			1		4	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.26	641.5			50.5	10.3	61	W			2		5		W	1.012	25.7	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.3	29.97	761.1	76.1	24.5	50	SE			1		8	SSE	SSE	0.12	3.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.99	761.7	30.08	763.9	66.7	19.3	51	SSE			1		2		SW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.99	761.8	30.02	762.6	68.0	20.0	54	SE			2		1	SSE	SSE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.91	759.8	30.08	764.0	68.0	20.0	49	SE			1				W	0	0		E. Renou, Director.
Tarbes, Normal School	28.97	735.8	30.00	762.1	75.2	24	60	NW			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.34	745.3	30.07	763.7	71.2	21.8	74	SSE			2		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.58	751.4	30.08	763.9	70.2	21.2	48	SW			2					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.4	29.99	761.8	75.4	24.1	49	ESE			1		5	NW	SW	0.04	1.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.77	756.1	29.80	756.8	77.0	25										0.85	22.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.43	747.5	30.03	762.7	69.8	21.0	60	S			1		8		S	0.167	4.25		Ch. André, Director.
Mont-Louis	24.95	633.7	30.26	768.7	59.9	15.5	45	W	24.2	10.8			10			0	0		M. Cave.
Nice			30.12	765.0	73.4	23.0	80	S			1		5			0	0		Dr. A. Nieppe, Jr.
Paris, Montsouris Obs'y	29.80	756.8			70.5	21.4	53	SE			2		3		SW	Inap.	Inap.		Marié Davy, Director.
Perpignan	29.97	761.2	30.08	763.9	67.1	19.5	72	SE	11.2	5.0			1		S	0	0	Foggy	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.57	573.4			43.7	6.5		SW			3		5			0	0	Fair	Gen'l de Nansouty.
Tours	29.83	757.7	30.03	762.7	69.1	20.6	49	ESE			1		5		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.74	755.5	29.76	756.1	66.2	19.0	95	ESE	11.2	5.0			10			0.024	0.6	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Grêasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Grêasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.20	741.8	30.05	763.2	73.0	22.8	43	SE			4		6	S		0	0		Prof. Dr. Hoh.
Berlin	29.89	759.3	30.06	763.5	68.5	20.3	64	NE			1		10			0.008	0.2		Prof. Dr. Arndt.
Breslau	29.50	749.3	30.03	762.8	72.7	22.6	41	NW			2		2			0.411	10.42		Royal University Obs'y.
Carlsruhe	29.58	751.4	30.00	761.9	72.0	22.2	57	SE			1		9	SW		0	0		Albert Senz.
Cassel	29.49	749.0	30.10	764.5	66.7	19.3	68	ENE			1		10	ENE		0.150	3.80		Dr. H. Möhl.
Crefeld	29.89	759.1	30.05	763.2	67.6	19.8	63	N			3		6k			0	0		Director Lose.
Emden			30.06	763.4	62.2	16.8	79	NE			1		10			0.276	7.0		Prof. Dr. Prestel.
Frankfort on the Main	29.65	753.2	30.02	762.4	70.5	21.4		NE			2		9			0.087	2.2		Physical Society.
Freienwalde on the Oder	30.00	762.1	30.04	763.1	72.9	22.7	61	NNE			1		7cs;k	W		0.154	3.9		Dr. Assmann.
Friedrichshafen	28.61	726.7	30.00	762.0	69.3	20.7	64	SW			4		9	SW		0.059	1.5	Raining	M. Wilhelm.
Hamburg	30.00	761.9	30.07	763.6	70.0	21.1	50	N			2		5k	NW		0.012	0.3	Fair	Captain F. Hegemann.
Kiel	30.06	763.4	30.07	763.8	66.0	18.9	64	N			1		1			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.95	760.6	30.03	762.7	68.0	20.0	50	NW			3		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.63	752.5	30.03	762.8	73.2	22.9	54	NNW			1		7			0.232	5.9		Prof. Bruhns, Privy Counsellor.
Memel	29.97	761.1	30.01	762.3	58.1	14.5	84	NW			3		1cs						Skalweit.
Munich (München)	28.21	716.5	30.08	763.9	70.0	21.1	52	N			5		8			0	0		Dr. C. Larg.
Neufahrwasser	30.067	763.4?	30.067	763.4?	59.0	15.0	72	NNE			2		4			0	0		A. Lothe.
Posen	29.75	755.7	30.03	762.7	72.3	22.4	54	E			1		9			Inap.	Inap.		Dr. Magener.
Strassburg (in Alsace)	29.50	749.4	30.04	762.9	72.0	22.2	54	W			3		10	SW		0.051	1.29	Thunder-storm	Imp. University Observatory.
Stuttgart	29.08	738.6	29.98	761.6	72.5	22.5	52	S					8	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.56	725.4	30.02	762.4	70.7	21.5	49	S	2	1			6ck			0.024	0.6	Hazy	T. Hopfner.
Wustrow	30.00	762.0	30.02	762.6	60.4	15.8	85	NW			1		3k			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.62	752.4	29.99	761.8	92.7	33.7		S			1.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.66	753.4	29.71	754.6	86.9	30.5	67	SW		5.2			4			0	0	D. clouds	
Deesa	29.23	742.4	29.68	754.0	100.2	37.9	27	W	11.7	5.8			1	SW		0	0	D. clouds	
Bombay	29.75	755.6	29.78	756.5	84.7	29.3	74	WNW	13.0				10		NW	0.02	0.5	Overcast	
Poona	27.95	710.0	29.82	757.5	74.3	23.5	81			1.0			8	Calm		0.11	2.8	D. clouds	
Lahore	28.82	732.0	29.52	749.9	102.3	39.1	22	Calm.	2.2	8.9			0			0	0	Blue sky	
Belgaum	27.26	692.3	29.79	756.6	76.7	24.8	84	W	20.0	2.3			10	W	W	0.02	0.5	D. clouds	
Roorkee	28.65	727.8	29.51	749.5	100.5	38.1	17	W	5.1							0	0		
Agra	28.99	736.3	29.52	749.9	104.6	40.3	15	N		1.8						0	0		
Nagpur	28.57	725.7	29.58	751.3	94.7	34.8	39	Calm	4.1	2.1			2	E		0	0	D. clouds	
Lucknow	29.09	738.9	29.45	748.0	101.0	38.3	24		4.7	1.6						0	0	Gloomy	
Allahabad	29.22	742.0	29.51	749.5	104.6	40.3	14	NW	3.7	0.2			0			0	0	Blue sky	
Patna	29.31	744.5	29.48	748.8	104.1	40.1	22	NW	0.4	2.8			0			0	0	Blue sky	
Hazaribagh	27.57	700.3	29.50	749.2	96.3	35.7	45	NNW	6.3	0.9			2			0	0		
Cuttack	29.46	748.3	29.54	750.2	93.1	33.9	55	W	2.0	2.7			0			0	0	Blue sky	
Calcutta (Alipore)	29.54	750.2	29.56	750.7	86.7	30.9	78	S	6.0				7	S		0	0	D. clouds	
Goalpara	29.17	740.9	29.55	750.5	86.4	30.2	81	Calm	1.5	0.7			2			0.09	2.3	D. clouds	
Chittagong	29.56	750.7	29.65	753.1	84.3	29.1	81	Calm	1.8	0.8			5			0	0		
Sibsagar	29.24	742.8	29.57	751.1	88.3	31.3	70	WNW	1.6	0.7			2			0	0	Blue sky	
Jubbulpore	28.23	717.0	29.54	750.2	98.9	37.2	27	Calm	2.2	1.0			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,551 ft., or 472 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.65	753.2	30.05	763.3	76.1	24.5	59	S	1.8	0.8			8			0.181	4.6		Prof. Giovanni Clodig.
Milan	29.54	750.4	30.05	763.2	77.5	25.3	46	SW			2		7	WSW		0	0		Prof. Schiaparelli.
Padua	29.95	760.8	30.06	763.5	74.8	23.8	58	WSW	0.7	0.3			7	W		0.075	1.9		Prof. Dott. Lorenzoni.
Moncalieri	29.15	740.3	30.03	762.7	73.0	22.8	54	ESE	1.8	0.8			4	SE		0	0		Prof. P. F. Denza.
Genoa	29.93	760.1	30.11	764.8	72.5	22.5	62	SW	5.6	2.5			8	SW		0	0		Prof. G. M. Garibaldi
Mondovi	28.18	715.7	30.04	763.0	72.9	22.7	48	S			2		7			0	0		Prof. D. C. Bruno.
Pesaro	30.04	763.0	30.09	764.2	71.1	21.7	75	NE	6.9	3.1			10	SW		0	0		Prof. Luigi Guidi.
Florence	29.85	758.2	30.10	764.6	76.1	24.5	57	W			2		5	SW		0	0		Cav. F. Meucci.
Leghorn	29.99	761.7	30.07	763.8	72.9	22.7	66	S			4		9			0	0		Prof. P. Monte.
Rome	29.92	760.0	30.10	764.4	74.1	23.4	58	N	9.4	4.2			10			0	0		Prof. P. S. Ferrari
Lecce	29.84	757.9	30.09	764.2	77.9	25.5	54	ENE	12.5	5.6			1			0	0		Prof. C. De Giorgi.
Cosenza	29.20	741.6	30.07	763.6	91.8	33.2	67	SE	0	0			0			0	0		Prof. D. Conti.
Cagliari	29.84	758.0	30.03	762.8	75.0	23.9	59	S			2		4	W		0	0		Prof. A. Pacinotti.
Palermo	29.82	757.3	30.07	763.6	76.5	24.7	53	ENE	4.9	2.2			2			0	0		Prof. G. Caccialore
Syracuse	29.96	760.9	30.03	762.8	85.5	29.7	46	SW	2.5	1.1			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.59	751.5	30.14	765.6	83.5	28.6	56	WNW	4.9	2.2			7			0	0		Prof. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.81	757.2	29.82	757.4	68.6	20.3	77	NNE	5.6	2.5			2cs			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.65	753.1	29.85	758.2	64.7	18.2	70	WSW	0.9	0.4			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.76	755.9	29.83	757.7	62.6	17.0	74	NNW	5.4	2.4		0	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	24.99	634.7	29.98	761.4	58.6	14.8	76	Calm			0	0	9		SE	0.80	20.2	Very cloudy	Prof. L. Perez.
Leon	24.37	618.9	29.95	760.7	65.8	18.8	88	E			1	4c	1k	NW		0.24	6.0	½ clouded	Prof. M. Leal.
Mexico, Central Obs'y	23.01	584.5	29.94	760.4	57.9	14.4	83	Calm	0	0		8k	0	SE		0.28	7.1	Cloudy	The Staff.
Pabellon (Aguascalientes)					69.4	18.3	72	N			1	2ok	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.80	757.0	29.82	757.3	77.9	25.5	80	SE			4	5	0	SE		0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.14	613.1	29.98	761.4	66.0	18.9	55	E			2	5	1	W	E	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.5	30.08	764.0	58.1	14.5	78	NE			1	3c	0	SE		0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.3	30.16	766.1	57.4	14.1	82	E	2.7	1.2		1	8	Calm	SW	0.09	2.4	Very cloudy	Prof. P. Spina.
Colima	28.32	719.4	29.95	760.6	78.3	25.7	82	E			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.73	755.1	30.02	762.4	75.4	24.1	90	SE			1	1	1	SE		0	0	Foggy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.8 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.06	763.5	30.06	763.5	69.3	20.7		NNW								0	0		
Groningen	30.05	763.2	30.10	764.6	61.0	16.1		NE								0.276	7.0		
Helder	30.06	763.5	30.06	763.5	61.2	16.2		N			1					0	0		
Hellevoetsluis	30.05	763.2	30.05	763.2	71.6	22.0	67	N			2					0	0		
Utrecht	30.01	762.2	30.06	763.4	66.7	19.3	23	SE			2		5			0.134	3.4	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.94	760.5	30.00	761.9	61.5	16.4	69	W	8.5	3.8	.....	.....	0	.....	.....	0	0	.....	
Brönø	30.00	762.1	30.04	763.1	50.7	10.4	65	N	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.78	756.4	29.92	759.9	74.1	23.4	42	SSW	13	6	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.89	759.3	29.94	760.4	47.5	8.6	65	W	13	6	.....	.....	9	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.95	760.7	30.14	765.5	64.8	18.2	84	WNW	9.8	4.4	.....	.....	6	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.6	30.09	764.2	70.5	21.4	39	SSW	8.7	3.9	.....	.....	4	SSW	.....	0.039	1.0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.11	764.7	30.19	766.9	68.5	20.3	60	WSW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.10	764.4	59.5	15.3	97	SSW	22.4	10.0	.....	.....	10	.....	.....	0.059	1.5	Raining	The Staff.
Ponta Delgada (Azores)	30.09	764.2	30.16	766.0	67.3	19.6	79	NW	8.7	3.9	.....	.....	10	.....	.....	0.024	0.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—5	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 3° 07', W. 3° 18'	.....	.....	29.98	761.6	78.1	25.6	.....	SSW	.....	.....	3	.....	4	.....	S	2	S	D. clouds	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. St. Paul de Loando	.....	.....	29.95	760.8	75.2	24.0	.....	W	.....	.....	3	.....	10	.....	WNW	1	W	Overcast	J.C. M. Cabrate, 1st Lt J.T.d'Oliveria, Com'd't
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	30.02	762.6	74.5	23.6	.....	NE	.....	.....	5	.....	1	.....	NE	2	NE	Blue sky	P. de Fair[illegible]. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.80	757.0	84.2	29.0	.....	SW	.....	.....	4	.....	6	.....	SW	3	SW	D. clouds. 1 [hours rain-fall.	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	22.59	751.5	30.00	761.9	69.8	21.0	49	NE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.58	751.2	29.98	761.5	68.5	20.3	36	N	2	1	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.68	753.8	29.91	759.7	69.6	20.9	47	NNW	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.86	758.4	29.87	758.8	62.4	16.9	44	E	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.22	742.1	29.83	757.6	68.4	20.2	45	N	11	5	.....	.....	7k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.77	756.1	29.84	757.9	65.3	18.5	90	N	18	8	.....	.....	9n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.5	29.84	758.0	71.6	22.0	77	SSW	11	5	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.11	739.4	29.64	752.9	62.4	16.9	62	N	13	6	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.51	749.6	29.71	754.7	63.5	17.5	80	ESE	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.75	755.7	29.77	756.2	42.6	5.9	68	NNW	18	8	.....	.....	9k	.....	.....	.....	.....	.....	Capt. Ssoliwerstow.
Tiflis	28.50	723.8	29.85	758.3	74.1	23.4	40	NW	18	8	.....	.....	6cs	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.90	759.4	29.82	757.3	79.0	26.1	26	WSW	9	4	.....	.....	8s;n	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.15	740.4	29.60	751.8	70.0	21.1	32	SW	11	5	.....	.....	9k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.24	742.8	29.50	749.3	69.6	20.9	39	S	18	8	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.76	730.4	29.69	754.1	62.2	16.8	35	W	13	6	.....	.....	8k;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.2	29.64	752.8	84.2	29.0	51	Calm	0	0	.....	.....	7n	.....	.....	.....	.....	.....	
Tashkend	28.18	715.8	29.63	752.7	87.8	31.0	55	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.13	739.9	29.60	751.9	71.1	21.7	32	SW	7	3	.....	.....	7	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.14	740.2	29.42	747.2	66.4	19.1	84	SSE	16	7	.....	.....	2?	.....	.....	.....	.....	Thunder-storm.?	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.48	748.8	29.62	752.4	75.9	24.4	45	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.54	750.4	29.64	752.9	61.9	16.6	66	Calm	0	0	.....	.....	8k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.99	761.7	30.09	764.3	68.9	20.5	72	E	4.0	1.78	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.89	759.2	29.95	760.6	80.2	26.8	24	SE	3.0	1.35	.....	2	1	SW	.....	0.126	3.2	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.2	.....	.....	67.1	19.5	69	SW	7.1	3.16	.....	.....	6	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.3	30.00	762.1	73.2	22.9	59	SW	16.4	7.33	.....	1	5	SSW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.89	759.1	30.03	762.7	84.2	29.0	37	NNE	3.4	1.53	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.95	735.3	29.84	758.0	55.2	12.9	96	SW	14.3	6.4	.....	.....	10	.....	.....	0.354	9.0	Raining	R. Gil-Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.6	30.01	762.3	79.2	26.2	81	Calm	0	0	.....	10cp	4k;sk	.....	.....	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.5	29.83	757.8	84.2	29.0	70	ENE	2.7	1.2	.....	.....	2s	.....	W	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.5	30.16	766.1	66.0	18.9	56	WNW	14.0	6.3	.....	0	1	.....	W	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	84.9	29.4	78	E	5.4	2.41	.....	6ck	5k	E	E	1.142	29.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.08	761.6	30.02	762.6	56.1	13.4	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.94	760.5	29.99	761.8	57.6	14.2	45	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.93	760.3	29.98	761.6	60.8	16.0	75	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.74	755.4	29.92	759.9	73.4	23.2	38	ESE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Wisby	29.87	758.6	29.93	760.1	57.9	14.4	65	W	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.81	757.2	29.89	759.1	76.6	24.8	34	NNE	7.4	3.3	.....	.....	2	N	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.43	722.1	30.01	762.2	71.5	22.1	52	W	.....	.....	2	.....	5	.....	.....	0.244	6.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.3	85.3	29.6	49	S	6	2.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	102.2	39.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.3	80.8	27.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.71	754.6	29.82	757.5	80.1	26.7	75	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.51	749.5	29.80	756.9	59	15.0	.....	SW	1	0.4	.....	0	5s	.....	SW	0.03	0.8	Fair	W. R. Bigg.
Chatham, N. B	29.91	759.7	29.97	761.2	55	12.8	72	Calm	0	0	.....	9c	0	.....	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	51	12.2	63	SE	3	1.3	.....	2c	0	NW	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.54	750.3	29.73	755.1	62.0	16.7	87	SW	.....	.....	1	.....	10s	.....	.....	0.018	0.33	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.95	760.7	53.2	11.8	77	E	.....	.....	2	0	1s	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.87	758.7	29.89	759.2	49	9.4	82	W	1	0.4	.....	2c	Haze	Calm	Calm	0	0	Clear.	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.01	762.2	48.8	9.3	77	W	1	0.4	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.74	730.0	29.53	750.0	57	13.9	90	NW	8	3.6	.....	5n	5ks	NW	NW	0.860	21.84	Cloudy	James Stewart.
Granton, Ontario	28.70	729.0	29.74	755.4	70	21.1	95	SW	.....	.....	1	1c	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.99	759.4	30.02	762.5	56	13.3	64	NW	4	1.8	.....	10cs	0	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.81	757.2	69.1	20.6	75	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.45	748.0	29.78	756.4	58	14.4	86	SW	11	4.9	.....	2c	0	Calm	.....	0.04	1.0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.96	761.0	29.99	761.7	50.3	10.2	77	W	4	1.8	.....	3k	0	N	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.59	751.6	29.78	756.4	59	15.0	91	S	12	5.4	.....	.....	10s	.....	NW	0.90	22.9	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.05	737.9	29.72	754.9	61	16.1	80	SE	5	2.2	.....	5k	5ks	W	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.76	755.9	65.7	18.7	78	Calm	.....	.....	0	0	0	.....	.....	1.37	34.8	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.14	740.1	29.81	757.2	61	16.1	88	SW	6	2.7	.....	5ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.97	761.2	30.02	762.5	48.6	9.2	.....	NW	3	1.3	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.80	756.9	64	17.8	92	SW	3	1.3	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec	29.63	752.6	29.95	760.7	51	10.6	100	NW	.....	.....	1	.....	10n	.....	NW	0.07	1.8	Heavy rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.26	743.2	29.70	754.4	57	13.9	87	Calm	0	0	.....	.....	Haze	.....	.....	0.22	5.6	Hazy	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.97	761.2	47	8.3	90	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.83	757.7	30.00	762.0	48	8.9	92	S	3	1.3	.....	.....	10ks	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.05	737.9	29.72	754.9	73	22.8	65	S	6	2.7	.....	2k	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	28.96	735.6	29.71	754.6	64	17.8	57	W	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.77	756.1	65.8	18.8	81	SW	8	3.6	.....	1c;cs	0	SW	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.96	761.0	30.00	762.0	55	12.8	56	NW	4	1.8	.....	2c	2ks	.....	.....	0.17	4.3	Clear	T. C. Hill.
*Toronto, Ontario	29.43	747.5	29.80	756.9	60	15.6	80	SE	6	2.7	.....	5ck	Haze	W	.....	0	0	Fair	Magnetic Observatory
Windsor, N. S	29.90	759.4	30.00	762.0	51.0	10.6	79	E	1	0.4	.....	1cs	0	.....	.....	0.01	0.3	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.83	757.7	30.08	764.0	52.0	11.1	66	E	.....	.....	.....	5k	5s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.68	753.9	29.90	759.4	67	19.4	64	S	7	3.1		4cs	0	W		Inap.	Inap.	Fair	
Alpena, Michigan	29.07	738.4	29.68	753.9	60	15.6	88	S	4	1.8			10s		S	0.27	6.9	Cloudy	
Atcha, Aleutian Islands					40	4.4	100	NW			2		10s		NW	0.28	7.1	Cloudy	
Atlanta, Georgia	28.88	733.5	29.99	761.7	71	21.7	85	E	8	3.6			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.97	761.2	29.99	761.7	64	17.8	89	SW	10	4.5		2ck	0	SW		0	0	Clear	
Augusta, Georgia	29.92	760.0	30.09	764.3	75	23.9	81	Calm	0	0		0	8s		SE	0.05	1.3	Fair	
Baltimore, Maryland	29.94	760.5	29.99	761.7	74	23.3	72	SW	6	2.7		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	70	21.1	80	S	13	5.8		Haze	0	Calm		0	0	Clear	
Bismarck, Dakota	27.88	708.1	29.73	755.1	57	13.9	81	E	3	1.3		5c	0	W		0.33	8.4	Fair	
Boerne, Texas	28.42	721.9	29.66	753.4	77	25.0	77	SW	7	3.1			10ks		S	0	0	Cloudy	
Boise City, Idaho	26.91	683.5	29.87	758.7	55	12.8	68	SE	3	1.3			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.82	757.4	29.97	761.2	58	14.4	88	S	4	1.8			10s		W	0	0	Cloudy	
Brackettville, Texas	28.72	729.5	29.69	754.1	79	26.1	78	E	11	4.9			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.67	728.2	29.63	752.6	55	12.8	87	S	11	4.9		0	0			0.33	8.4	Clear	
Brownsville, Texas	29.77	756.1	29.82	757.4	81	27.2	87	SE	2	0.9		8k	0	SE		0	0	Fair	
Buffalo, New York	29.13	739.9	29.79	756.7	67	19.4	69	SW	5	2.2		1k	Haze	SW	Calm	0	0	Clear	
Burkes, Arizona					64	17.8	39	SW			1	2cs	0	W		0	0	Clear	
Burlington, Vermont	29.56	750.8	29.84	757.9	60	15.6	77	S	8	3.6			10s		W	0.28	7.1	Cloudy	
Cairo, Illinois	29.55	750.6	29.92	760.0	81	27.2	74	S	8	3.6		5c	Haze	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.12	638.0	29.92	760.0	62	16.7	27	NE	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					56	13.3	35	W			1	0	0			0	0	Clear	
Campo, California	27.32	693.9	29.89	759.2	42	5.6	66	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	75	23.9	72	SW	12	5.4		5cs	Haze	W		0	0	Fair	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	74	23.3	72	SW	16	7.2		2k	Haze	Calm	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	77	25.0	77	SW	5	2.2		0	0			0	0	Clear	
Cape May, New Jersey	29.91	759.7	29.94	760.5	70	21.1	85	S	10	4.5		0	0			0	0	Clear	
Castroville, Texas	29.07	738.4	29.73	755.1	81	27.2	70	S	4	1.8			10ks		S	0	0	Cloudy	
Charleston, South Carolina	30.03	762.7	30.09	764.3	77	25.0	77	S	4	1.8		2k	5s	S	S	Inap.	Inap.	Cloudy	
Charlotte, North Carolina	29.34	745.2	30.02	762.5	73	22.8	81	SW	4	1.8			10s		S	0	0	Cloudy	
Chattanooga, Tennessee	29.22	742.2	30.00	762.0	71	21.7	90	Calm	0	0			10s		SE	0.36	9.1	Cloudy	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	47	8.3	55	SE	4	1.8		5cs	0	SE		0	0	Fair	
Chicago, Illinois	29.07	738.4	29.72	754.9	73	22.8	63	SW	8	3.6		5cs	0	SW		0	0	Fair	
Cincinnati, Ohio	29.29	744.0	29.91	759.7	73	22.8	72	SW	7	3.1			10ks		SW	0.21	5.3	Threatening	
Cleveland, Ohio	29.12	739.6	29.81	757.2	73	22.8	67	SE	12	5.4		8ck	0	SW		0	0	Fair	
Coleman City, Texas	28.02	711.7	29.59	751.6	75	23.9	77	S	14	6.3			10ks		S	0	0	Cloudy	
Columbus, Ohio	29.08	738.6	29.88	758.9	69	20.6	90	SW	8	3.6			10n		SW	0.42	10.7	Heavy rain	
Concho, Texas	27.92	709.2	29.49	749.0	78	25.6	65	S	9	4.0		0	0			0	0	Clear	
Corsicana, Texas	29.42	747.3	29.86	758.4	77	25.0	82	S	7	3.1			10ks		SW	0	0	Cloudy	
Davenport, Iowa	29.14	740.1	29.75	755.6	68	20.0	84	W	9	4.0		8cs	0	W		0.43	10.9	Fair	
Deadwood, Dakota	25.21	640.3			50	10.0	65	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.68	728.5	29.78	756.4	78	25.6	65	S	12	5.4		5ck	0	N		0	0	Fair	
Denison, Texas	29.09	738.9	29.83	757.7	80	26.7	74	SE	6	2.7		8k	0	SE		0	0	Fair	
Denver, Colorado	24.68	626.9	29.90	759.4	53	11.7	61	S	2	0.9		0	0			0	0	Clear.	
Des Moines, Iowa	28.95	735.3	29.80	756.9	65	18.3	78	Calm	0	0		0	0			0	0	Clear	
Detroit, Michigan	29.14	740.1	29.77	756.1	68	20.0	84	SW	12	5.4			10s;ks		Calm;SW	0	0	Threatening	
Dodge City, Kansas	27.26	692.4	29.42	747.3	70	21.1	48	S	12	5.4		2k	0	S		0	0	Fair	
Dubuque, Iowa	29.06	738.2	29.72	754.9	67	19.4	74	NW	5	2.2		8c	0	W		2.42	61.5	Fair	
Duluth, Minnesota	28.92	734.6	29.56	750.8	62	16.7	77	SW	8	3.6		0	2s		SW	1.10	27.9	Fair	
Eagle Pass, Texa	29.01	736.8	29.69	754.1	79	26.1	78	SE	7	3.1			10s		Calm	0	0	Cloudy	
Eastport, Maine	29.91	759.7	29.98	761.5	48	8.9	85	S	3	1.3			10s;hz		Calm	0	0	Cloudy	
Edinburg, Texas					82	27.8	87	E			1	5k	2s	S	Calm	0	0	Fair	
El Paso, Texas	26.10	662.9			65	18.3	4	NW	8	3.6		0	0			0	0	Clear.	
Erie, Pennsylvania	29.13	739.9	29.80	756.9	74	23.3	68	S	10	4.5		2c	0	Calm		0	0	Fair	
Escanaba, Michigan	28.98	736.1	29.60	751.8	60	15.6	82	S	8	3.6		2ck	2s	W	SW	0.83	21.1	Fair	
Florence, Arizona	28.31	719.1	29.91	759.7	75	23.9	37	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.63	701.8			52	11.1	86	SW	5	2.2		0	0			Inap.	Inap.	Clear	
Fort Craig, New Mexico	25.41	645.4	29.48	748.8	50	10.0	38	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.10	637.5	30.06	763.5	70	21.1	57	SE	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.31	744.5	29.82	757.4	75	23.9	68	E	7	3.1		0	0			0	0	Clear	
Fort Griffin, Texas	28.54	724.9	29.75	755.6	73	22.8	81	S	2	0.9		0	0			0.30	7.6	Clear	
Fort Keogh, Montana	27.25	692.1			60	15.6	70	NW	2	0.9		0	0			0	0	Clear	
Fort McKavett, Texas	27.60	701.0	29.41	747.0	75	23.9	72	SE	8	3.6		2c	5s	Calm	SE	0	0	Fair	
Fort St. Michael, Alaska	29.75	755.6	29.78	756.4	37	2.8	100	N	2	0.9			10k		N	0	0	Cloudy	
Fort Sill, Indian Territory	28.62	726.9	29.67	753.6	75	23.9	60	SE	6	2.7		0	0			0.13	3.3	Clear.	
Fort Stevenson, Dakota	27.82	706.6			55	12.8	79	S	1	0.4		1c	0	Calm		0.22	5.6	Fair	
Fredericksburg, Texas	28.12	714.2	29.60	751.8	76	24.4	78	S	13	5.8		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.86	758.4	29.90	759.4	80	26.7	82	Calm	0	0		2cs	2ks	N	S	0	0	Fair	
Graham, Texas	28.75	730.2	29.74	755.4	76	24.4	78	Calm	0	0		0	0			0.08	2.0	Clear	
Grand Haven, Michigan	29.10	739.1	29.71	754.6	70	21.1	70	SW	5	2.2		0	8s		S	0	0	Fair	
Henrietta, Texas	28.86	733.0	29.74	755.4	78	25.6	65	S	6	2.7		0	2s		Calm	0	0	Fair	
Indianapolis, Indiana	29.07	738.4	29.80	756.9	75	23.9	81	S	4	1.8		0	2s		S	0.10	2.5	Clear	
Indianola, Texas	29.86	758.4	29.89	759.2	83	28.3	79	S	4	1.8		0	1ks		S	0	0	Clear	
Jacksboro, Texas	28.68	728.5	29.74	755.4	79	26.1	66	SE	12	5.4		0	0			0	0	Clear	
Jacksonville, Florida	30.04	763.0	30.07	763.8	76	24.4	77	SE	3	1.3		1cs	5s	Calm	SE	0.41	10.4	Fair	
Keokuk, Iowa	29.18	741.1	29.75	755.6	70	21.1	61	W	6	2.7		2c	0	W		0.31	7.9	Fair	
Key West, Florida	29.99	761.7	30.03	762.7	80	26.7	78	SE	9	4.0			10s		SE	0	0	Cloudy	
Kittyhawk, North Carolina	30.10	764.5	30.12	765.0	73	22.8	76	SW	11	4.9		5k	0	SW		0	0	Fair	
Knoxville, Tennessee	29.05	737.9	30.02	762.5	69	20.6	87	NE	2	0.9			10ks		SW	0.04	1.0	Cloudy	
La Crosse, Wisconsin	29.02	737.1	29.72	754.9	66	18.9	79	W	2	0.9		0	0			0.89	22.6	Clear	
La Mesilla, New Mexico	25.96	659.4	30.11	764.8	50	10.0	32	Calm	0	0		0	0			0	0	Clear.	
Laredo, Texas	29.42	747.3	29.74	755.4	78	25.6	46	E	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	28.97	735.8	29.76	755.9	71	21.7	85	Calm	0	0		5cs	0	W		2.59	65.8	Fair	
Los Angeles, California	29.57	751.1	29.91	759.7	52.0	11.1	79	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.37	746.0	29.90	759.4	72	22.2	85	SE	6	2.7		5c	5ks	Calm	Calm	0.30	7.6	Cloudy	
Lynchburg, Virginia	29.37	746.0	30.02	762.5	77	25.0	69	SW	4	1.8		5ck	0	S		0	0	Fair	
Madison, Wisconsin	28.74	730.0	29.66	753.4	66	18.9	89	SW	6	2.7		5cs	0	SW		0.66	16.8	Fair	
Marquette, Michigan	28.85	732.8	29.50	749.3	68	20.0	74	W	18	8.0		5k	0	SW		0.19	4.8	Fair	
Mason, Texas	28.22	716.8	29.87	758.7	78	25.6	69	S	11	4.9			10s		S	0	0	Cloudy	
Memphis, Tennessee	29.61	752.1	29.93	760.2	79	26.1	78	SE	4	1.8		1c	Haze	Calm	Calm	0	0	Clear	
Milwaukee, Wisconsin	28.98	736.1	29.66	753.4	69	20.6	70	W	18	8.0		8c	1s	SW	Calm	0.01	0.3	Cloudy	
Mobile, Alabama	29.93	760.2	29.97	761.2	79	26.1	87	S	3	1.3			10s		Calm	0	0	Cloudy	
Montgomery, Alabama	29.78	756.4	30.01	762.2	75	23.9	85	SE	4	1.8			10ks		SE	0	0	Cloudy.	
Morgantown, West Virginia	28.98	736.1	29.91	759.7	76	24.4	60	SW	3	1.3		0	0			0	0	Clear	
Mt. Washington, N. H.	23.75	603.6	30.11	764.8	40	4.4	100	NW	37	16.5			Fog		NW	1.10	27.9	Foggy	
Nashville, Tennessee	29.44	747.8	29.95	760.7	81	27.2	67	SW	1	0.4		5k	0	SW		0	0	Fair	
New Haven, Connecticut	29.85	758.2	29.98	761.0	66	18.9	81	SW	4	1.8			10s;hz		Calm	0	0	Cloudy	
New London, Connecticut	29.94	760.5	29.99	761.7	65	18.3	82	S	7	3.1		6cs;k	Haze	Calm;SW	S.	0	0	Hazy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.89	759.2	29.95	760.7	80	26.7	78	N	4	1.8		0	5ks		NE	0	0	Fair	
Newport, Rhode Island	29.95	760.7	30.00	762.0	62	16.7	83	SW	4	1.8		2c	0	SW		0	0	Clear	
New York, New York	29.81	757.2	29.98	761.5	65	18.3	83	SW	5	2.2		2cs	Haze	Calm		0	0	Fair	
Norfolk, Virginia	30.03	762.7	30.09	764.3	80	26.7	66	SW	10	4.5		0	0			0	0	Clear	
North Platte, Nebraska	26.94	684.3	29.41	747.0	60	15.6	46	S	6	2.7		2c	0	SW		0	0	Clear	
Olympia, Washington Ter.	29.83	757.7	29.87	758.7	47.0	8.3	96	Calm	0	0		8ck	2s	W	W	0.05	1.3	Cloudy	
Omaha, Nebraska	28.68	728.5	29.72	754.9	71	21.7	62	E	1	0.4		0	Haze		Calm	0	0	Clear	
Oswego, New York	29.52	749.8	29.83	757.7	65	18.3	73	S	5	2.2		8c	0	Calm		0.04	1.0	Fair	
Pembina, Dakota	28.68	728.5	29.49	749.0	53	11.7	100	W	3	1.3			10s		NW	0.83	21.1	Threatening	
Philadelphia, Pa.	29.92	760.0	29.97	761.2	70	21.1	85	SW	8	3.6		2k	Haze	SW	Calm	0	0	Fair	
Phœnix, Arizona	28.56	725.4	30.30	769.6	67	19.4	29	SE	2	0.9		0	0			0	0	Clear	
Pike's Peak, Colorado	17.84	453.1	30.05	763.3	25	— 3.9	26	SW	6	2.7		0	0			0	0	Clear	
Ploche, Nevada					55	12.8	17	S	7	3.1		0	0			0	0	Clear.	
Pittsburg, Pennsylvania	29.13	739.9	29.90	759.4	72	22.2	62	SW	6	2.7		0	0			0	0	Clear	
Port Huron, Michigan	29.09	738.9	29.72	754.9	65	18.3	89	SW	7	3.1			10n		Calm	0.04	1.0	Light rain	
Portland, Maine	29.98	760.2	29.98	761.5	55	12.8	87	W	3	1.3			10s		Calm	0.12	3.0	Light rain	
Portland, Oregon	29.84	757.9	29.91	759.7	54.0	12.2	87	Calm	0	0			10s			0.01	0.3	Cloudy	
Prescott, Arizona	24.60	624.8	29.96	761.0	44	6.7	37	W	3	1.3		0	0			0	0	Clear	
Pilot Point, Texas	28.98	736.1	29.78	756.4	81	27.2	78	Calm	0	0		0	0			0	0	Clear	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	78	25.6	82	SE	10	4.5		5k	0	SE		0.50	12.7	Fair	
Red Bluff, California	29.51	749.5	29.80	758.4	57	13.9	87	SE	12	5.4			10n		S	0.28	7.1	Light rain	
Rio Grande City, Texas	29.62	752.3	29.82	757.4	81	27.2	74	SE	16	7.2		0	0			0	0	Clear	
Rochester, New York	29.22	742.2	29.81	757.2	69	20.6	61	W	5	2.2		1c	Haze	W		0	0	Clear	
Roseburg, Oregon	29.36	745.7	29.93	760.2	51	10.6	93	SE	2	0.9			10n		Calm	0.35	8.9	Light rain	
Sacramento, California	29.82	757.4	29.90	759.4	54	12.2	87	SW	6	2.7			10n		Calm	0.12	3.0	Light rain	
St. Louis, Missouri	29.29	744.0	29.84	757.9	71	21.7	80	SW	18	8.0		2ks	8s	Calm	SW	0.02	0.5	Cloudy	
St. Marks, Florida	30.01	762.2	30.02	762.5	71	21.7	100	SE	8	3.6			10n		Calm	5.16	131.1	Light rain	
St. Paul, Minnesota	28.88	733.5	29.67	753.6	61	16.1	77	SW	12	5.4		0	0			0.83	21.1	Clear	
Salt Lake City, Utah	25.41	645.4	29.74	755.4	55	12.8	39	SE	4	1.8		0	0			0	0	Clear.	
San Antonio, Texas	29.16	740.7	29.71	754.6	80	26.7	78	SE	4	1.8			10s		SE	0	0	Cloudy	
San Diego, California	29.87	758.7	29.94	760.5	59	15.0	82	SW	6	2.7			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.18	741.1	29.81	757.2	69	20.6	90	SW	18	8.0			10n		SW	0.04	1.0	Light rain	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	68	20.0	79	W	4	1.8		2c	Haze	W	Calm	0	0	Fair	
San Francisco, California	29.88	758.9	29.94	760.5	53	11.7	90	W	7	3.1			10n		W	0.04	1.0	Light rain	
Santa Fé, New Mexico	23.24	590.3	29.78	756.4	51	10.6	22	NE	2	0.9		0	0			0	0	Clear	
Savannah, Georgia	29.99	761.7	30.08	764.0	81	27.2	70	SE	5	2.2		2k	0	E		0.33	8.4	Fair	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	78	25.6	78	S	2	0.9		2ck	0	Calm		0	0	Fair	
Silver City, New Mexico	24.23	615.4	30.41	772.4	45	7.2	37	NW	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.11	764.8	30.15	765.8	76	24.4	86	S	8	3.6		2ck	1ks	W	S	0	0	Fair	
Springfield, Massachusetts	29.80	756.9	29.93	760.2	67	19.4	79	S	6	2.7		0	5s		S	0	0	Fair	
Stockton, Texas	26.82	681.2	29.82	757.4	75	23.9	56	SE	12	5.4		2ck	0	S		0	0	Fair	
Thatcher's Island, Mass.	29.90	759.4	29.95	760.7	59	15.0	94	S	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Toledo, Ohio	29.14	740.1	29.79	756.7	69	20.6	90	W	5	2.2		2ck	5s	W	Calm	0.06	1.5	Cloudy	
Tucson, Arizona	27.39	695.7	29.94	760.5	62	16.7	36	SE	1	0.4		0	0			0	0	Clear	
Umatilla, Oregon	29.46	748.3	29.94	760.5	58.0	14.4	64	SW	12	5.4		2cs	0	W		0	0	Fair	
Uvalde, Texas	28.94	735.1	29.73	755.1	78	25.6	78	E	4	1.8			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	80	26.7	74	Calm	0	0		5cs	0	SW		0	0	Fair	
Virginia City, Montana	24.08	611.6	29.56	750.8	44	6.7	68	Calm	0	0		0	0			Inap.	Inap.	Clear	
Visalia, California	29.51	749.5	29.87	758.7	59.5	15.3	57	N	3	1.3			10s		W	0	0	Cloudy	
Washington, D. C.	29.87	758.7	29.98	761.5	75	23.9	77	SW	7	3.1		0	0			0	0	Clear	
Wickenburg, Arizona					52	11.1	23	S			1	0	0			0	0	Clear.	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	76	24.4	73	S	5	2.2		5c	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.45	646.4	29.81	757.2	55.0	12.8	33	SW	10	4.5			10s		SW	0	0	Cloudy	
Wood's Holl, Mass.	29.95	760.7	29.99	761.7	64	17.8	89	SW	12	5.4			10ks		SW	0	0	Cloudy	
Yankton, Dakota	28.56	725.4	29.79	756.7	62	16.7	66	Calm	0	0		0	0			0	0	Clear.	
Yuma, Arizona	29.57	751.1	29.73	755.1	65	18.3	54	W	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	81	27.2	74	SE	2.4	1.1		10c	4n	Calm	Calm	0	0	Cloudy	Chas. Hasselbring
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.23	640.8			64.5	18.1	87	Calm			0	4c cs	3ks			0.79	20.1		Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	80	26.7		NE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	83	28.3	79	E			2	3c	5k			0.40	10.2	Fair	C. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.86 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cla.																					
Navy Yard, Pensacola, Fla.	29.81‡	757.2‡			79	26.1	95	ENE	12	5.4			8		E	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.83‡	757.7‡			66	18.9	92	Calm			0		0			0	0			Clear.	
Adams, Panama, U. S. C.	30.03‡	762.7‡			80	26.7	96	NE			1		8		NE					Fair	
Alaska, Sitka, Alaska	29.80‡	756.9‡			50	10.0	86	Calm			0		10			0	0			Overcast	
Alliance, N. 48° 23′, W. 5° 43′	30.00‡	762.0‡			56	13.3	87	E			3		8							Pleasant	
Colorado, New York, N. Y.	30.00‡	762.0‡			68	20.0	79	SSW	4	1.8			2		SW	0	0			Hazy	
Constitution, League Island, Penn	29.89‡	759.2‡			74	23.3	100	SW			1		2		Calm					Clear	
Despatch, N. 24° 55′, W. 44° 05′	30.26‡	768.6‡			78	25.6	73	SE			2		9		Calm	1.	25.	Light	SE	Cloudy	
Enterprise, Antwerp, Holland	30.07‡	763.8‡			68	20.0	74	SW			1		5?		SW					Clear?	
Franklin, Norfolk, Va.	30.06‡	763.5‡			74	23.3	81	SW	8.4	3.8			2		Calm	0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.89‡	759.2‡			53	11.7	80	WSW			2		5		W	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.99‡	761.7‡			59	15.0	59	NE			1		10							Misty	
Marion, N. 27° 15′, W. 93° 38′	29.90‡	759.4‡			81	27.2	96	E			1		2		Calm			Smooth		Fair	
Michigan, Erie, Pa.					75	23.9	68	SW			2		0							Clear.	
Monocacy, Shanghai, China	29.77‡	756.1‡			68	20.0	90	ESE			2		10		ESE					Cloudy	
Monongahela, Yokohama, Japan	29.82‡	757.4‡			69	20.6	80	WSW			0–1	c				0	0			D. clouds	
New Hampshire, Port Royal, S. C.	30.06‡	763.5‡			76	24.4	82	SE	8	3.6			8		S	0.35	8.9			Cloudy	
Onward, Callao, Peru.†	30.04‡	763.0‡			64	17.8	89	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.75‡	755.6‡			68	20.0	90	E			1		10							Overcast	
Passaic, Washington, D. C.					74	23.3	90	SW			3		2							Clear	
Pensacola, Callao, Peru	30.04‡	763.0‡			63	17.2	94	W	1	0.4			10			0	0			Misty	
Portsmouth, New York, N. Y.	29.95‡	760.7‡			67	19.4	64	WSW			2		2		W	0	0	Smooth		Foggy	
Powhatan, Hampton Roads, Va.	30.05‡	763.3‡			74	23.3	81	SW			3		2		Calm	0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.92‡	760.0‡			86	30.0	61	W			4		0							Clear	
Ranger, Amoy, China	29.82‡	757.4‡			83	28.3	91	SSE			1–2		5?		SE					Cloudy?	
Richmond, Taku Bar, China	29.60‡	751.8‡			70	21.1	70	SSE			2		10		SSE	0	0	Smooth	E	Cloudy	
Rio Bravo, Brownsville, Texas	29.81‡	757.2‡			79	26.1	100	S			1		5		S	0	0			Fair	
Santee, Annapolis, Md.	29.99‡	761.7‡			74	23.3	81	SW			1		0			0	0			Clear	
Saratoga, Santa Cruz, Canaries	30.18‡	766.6‡			74	23.3	72	ENE			3		8		WSW	0	0	Light		D. clouds	
St. Louis, League Island, Pa	29.97‡	761.2‡			71	21.7	85	WSW	5	2.2			2		SW	0	0			Clear	
Trenton, Tangier, Morocco	30.16‡	766.1‡			67	19.4	69	NNW			2–3		0			0	0	Smooth		Clear	
Tuscarora, N. 20° 45′, W. 106° 22′	29.83‡	757.7‡			81	27.2	83	WSW			2		10		E	0	0	Long	NE	Hazy	
Vandalia, N. 36° 39′, W. 76° 00′	30.08‡	764.0‡			68	20.0	90	NNW			3		2		SW	0	0	Mod'ate	ENE	Fair	
Wabash, Boston, Mass.	29.97‡	761.2‡			67	19.4	89	SE	7	3.1			10			0	0			Overcast	
Wyoming, N. 40° 32′, E. 18° 38′	30.07‡	763.8‡			72	22.2	85	NW			3–4		2		NW			Smooth	NW	Clear	
Wachusett, N. 31° 50′, W. 72° 35′	30.18‡	766.6‡			72	22.2	67	SSE			2		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 43° 12′, W. 154° 17′		30.03‡	762.7‡	50	10.0		W			2		10			0.25 in. or 6.3 mm.	Heavy	NW	Drizzling	L. B. Walls.
S. S. Colima N. 26° 30′, W. 114° 06′...†		29.92‡	760.0‡	61	16.1		NW			4		8		ESE	0	Mod'ate	NW	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†		29.90‡	759.4‡	59	15.0	88	Calm			0		4						Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 22° 38′, W. 153° 30′		30.13‡	765.3‡				ENE			3				ENE		Mod'ate	E	Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 34° 51′, E. 139° 48′		29.80‡	756.9‡	70	21.1	85	ENE			1	7c				0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 40° 45′, W. 59° 38′		30.10‡	764.5‡	58.0	14.4	64	N			3		5		N	0	Long	N	Fair	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nuremberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 17′, W. 19° 25′		29.74‡	755.4‡				E			5		8		E		5	ENE	Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. Character.	SEA-SWELL. Direction From—	WEATHER.	OBSERVER.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 44° 17′, W. 47° 06′		29.95‡	760.7‡	56	13.3	69	NNE			3		9		N	Mod'ate	Mod'ate	NE	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Ship Shoal, N. 28° 55′, W. 91° 05′		29.94‡	760.5‡	82	27.8	83	NNE	6	2.7			0			0	Smooth		Clear	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", N. 34° 21′, W. 69° 02′ †		30.22‡	767.6‡				SW			3		10		Var.	0	Smooth		Overcast	N. B. Foss.
Schooner Harry and Fred, N. 18° 07′, W. 67° 40′		29.78‡	756.4‡				ESE	2	0.9			8			1.5 in. or 38.1mm		SE	Cloudy	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 39° 08′, W. 44° 15′ †		29.86‡	758.4‡	69	20.6	92	SE			4		10		SW		Smooth	SW	Light rain	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		30.08‡	764.0‡	79	26.1		S			3		8		S	Blank			¾ covered	Capt. Wm. Shepherd.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 11, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.18	766.6	74.8	23.8	59	NNW			2		0			0	0	Clear	Kesxuche.
Algiers			30.13	765.4	74.1	23.4	73	NNE			2		0			0	0	Clear	Touriliere.
La Calle			30.17	766.2	69.8	21.0	91	ENE			5		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.17	766.2															Gau.
Saida			30.19	766.9	81.1	27.3	25	N			5		0			0	0	Clear	Herbin.
Tebessa			30.10	764.6	95.9	35.5	15	SW			5		2			0	0	Fair	Watrin.
Geriville			30.16	766.1	85.5	29.7	42	SW			4		5			0	0	Cloudy	Brugniaux.
Laghouat			30.05	763.2	99.0	37.2	25	SE			4		0			0	0	Clear	Bertrand.
Biskra			30.06	763.6	101.3	38.5	34	SE			4		5			0	0	Cloudy	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.54	750.4	30.06	763.6	82.6	28.1	40	SE			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.1	30.04	762.9	72.7	22.6	63	NNW			1		5			0	0		Dr. Wierzbiski.
Eperies	29.13	739.9	29.98	761.5	70.3	21.3	71	N			2		8ks			0.020	0.50		Julius Mikolik.
Gratz	28.86	733.0	30.06	763.4	76.6	24.8	45	S			3		3			0.008	0.2		Andreas Rospini.
Hermannstadt	28.54	725.0	29.94	760.4	68.9	20.5	83	NW			2		5			0.992	25.20		Prof. A. Gottschling.
Kremsmünster	28.79	731.2	30.06	763.5	81.0	27.2	54	NNW			3		1			0	0		Prof. C. Wagner.
Lemberg	28.98	736.1	29.93	760.3	68.9	20.5	60	NE			1		3			0	0		Dr. T. Stanecki.
Pola	30.01	762.3	30.12	765.1	75.6	24.2	76	WNW			1		0			0	0		I.R.HydrographicOffice.
Szathmar	29.57	751.1	30.03	762.7	65.5	18.6	80	SE			2		8			0.110	2.8		Julius Csics, S. J.
Szegedin																			Karl Stancel.
Trieste	30.04	762.9	30.14	765.5	78.8	26.0	69	W			1		1			0	0	Fair	P. Busin.
Vienna	29.41	746.9	30.10	764.6	73.2	22.9	57	WNW			2		2			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	30.01	762.2	30.11	764.8	47.8	8.8		E	7	3.1						0.020	0.51	Foggy	W. Boswell.
Ardrossan	29.96	761.0	29.98	761.5	65	18.3		NW			2		6					D. clouds	Wm.McNeil &G.Carrick
Armagh, Observatory			29.94	760.5	59.8	15.4		E	17	7.6			6					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.95	760.7	54.8	12.7		E	20	8.9			10					Overcast	John Hartnup.
Bolton (Sharples)			29.97	761.2	54.8	12.7		E	18	8.0			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.62	752.3	30.02	762.5	59.4	15.2		S			1		10			0.04	1.0	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	81	27.2		NE			1		9					Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.91	759.7	30.01	762.2	60.9	16.1		ESE			1		10					Raining	H. Todd.
Cardington			29.99	761.7	60.0	15.6		SE			1		10					Raining	John McLaren.
Chatham, School M. E.	29.90	759.4	30.03	762.7	60.0	15.6		SE			2		9					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.94	760.5	29.98	761.5	58	14.4		SE			2		5					D. clouds	J. Mac Gowan.
Dover	29.98	761.5	30.00	762.0	58	14.4		S			1		8					Raining	J. Costello.
Falmouth, Observatory	29.69	754.1	29.91	759.7	59.0	15.0		SSE			3		4					D. clouds	The Staff.
Fort Napier (Natal)	27.61	701.3	29.90	759.4	59.0	15.0		S			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.69	754.1	29.92	760.0	86	30.0		E			1		4					Drizzling	
Galway, Queen's College			29.81	757.2	55	12.8		E			3		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.04	763.0	30.09	764.3	69.6	20.9		W			5		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.78	756.4	29.99	761.7	64.2	17.9		ENE			4		9					Gloomy	D. G. Maclean.
Great Yarmouth	30.04	763.0	30.05	763.3	57	13.9		ESE			2		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.81	757.2	29.98	761.5	59.5	15.3		SE			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.73	755.1	29.95	760.7	64	17.8		ESE			1		3					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.92	760.0	30.04	763.0	61	16.1		SW			4		2ck			0.20	5.1	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.90	759.4	63	17.2		SSE			3		10					Misty	John Tilston.
Jersey	29.71	754.6	30.00	762.0	62.8	17.1		S			1		3					D. clouds	J. Fisher.
Kew, Observatory	29.94	760.5	29.98	761.5	59.1	15.1		SSE	12	5.4			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.73	755.1	29.98	761.5	58.6	14.8		NE			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	30.00	762.0	30.08	764.0	84	28.9		NW			2	2c						Blue sky	A. King.
Nairn	29.97	761.2	30.06	763.5	51	10.6		Calm			0							Foggy	W. D. Penny.
Nassau (Bahamas)			30.03	762.7	83.0	28.3		E			2		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.82	757.4	30.01	762.2	59.3	15.2		SSE			2		10d		SSE	0.130	3.30	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.45	748.0	29.96	761.0	57.9	14.4		E			2		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.95	760.7	59	15.0		SW			3		10					Showery	H. E. Bellamy.
Plymouth	29.85	758.2	29.92	760.0	60.4	15.8		SE			4		6					D. clouds	John Merrifield.
Prince Town	28.48	723.4	29.94	760.5	54.6	12.6		SSW			6		9					Gloomy	W. H. Tooker.
*Roche's Point	29.73	755.1	29.84	757.9	59	15.0		SE			5		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.70	754.4	29.86	758.4	58	14.4		ESE			3		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			30.12	765.0	53.5	11.9		SE	18	8.0			2			0	0	Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	86.8	30.4		SW			1		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.75	755.6	30.03	762.7	59.4	15.2		SSE			1		10			0.54	13.7	Overcast	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	66.7	19.3	54	SE			2		3			0.563	14.30	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.61	752.1	30.01	762.2	56.5	13.6		E			2		10					Drizzling	Rev. S. J. Perry.
Stratfield, Turgiss	29.76	755.9	29.98	761.5	58.2	14.6		SE			1		10					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.90	759.4	29.92	760.0	63	17.2		S			5		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.72	754.9	29.75	755.6	54.8	12.7		ENE	16	7.2			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.40	772.1	30.44	773.2	63.6	17.6	56	SE	19	8.5		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.66	753.4	47.0	8.3	87	N			3		8kn			0.01	0.3	Light rain	FrancisAbbott F.R.A.S.
Leith, Restalrig Park			30.07	763.8	54.2	12.3		E			2		8k			0.05	1.3	Fine	Andrew Gibb
Mauritius, Observatory	29.86	758.4	30.05	763.2	75.0	23.9	73	NE	11.0	4.9		0	4		NNE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.07	763.8	30.16	766.0	48.3	9.1	72	NW	11	4.9			0			0.20	5.1	Fine	R. L. J. Ellery.
Monach Lt-house(Hebrides)			30.04	763.0	57	13.9		N			3	Fog	Fog			0	0		J. Youngclause.
North Unst (Shetland Is.)			30.17	766.3	48	8.9		E			4	5	5						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 20'. E. 28° 55'			29.89‡	759.2‡	84.2	29.0		NW			2		2					Blue sky	Capt. W. J. L. Wharton.
§Brig Alliance, N. 53° 52', W. 16° 44'			29.89	759.2	57	13.9		ESE			3		1					Blue sky	Capt. W. Scott.
Barque Fedalma, N. 34° 20', W. 64° 05'			30.20	767.1	71	21.7		W			3		3			0		D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 49° 55', W. 38° 40'			29.87	758.7	55	12.8		ESE			6		8			3	SW	Misty	Capt. W. Randall.
S. S. Nizam, N. 21° 27', E. 38° 02'			29.72‡	754.9‡	85	29.4		Calm			0		0					Blue sky	Capt. Barlow.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria, N. 49° 35', W. 26° 15'			29.94	760.5	58	14.4		NW			1		7	NE	N	2	NE	D. clouds	Capt. Wm. Watson.
Astarte, N. 0° 50', W. 21° 00'.....*.			29.98‡	761.5‡	77	25.0		ESE			3		10					Showery	Capt. Parson.
British Peer, N. 8° 45', W. 28°, 25'			30.02‡	762.5‡	79.8	26.6		NE			4		5					Misty	Capt. Greig.
Theophane, S. 19° 55', E. 66° 25'			30.06‡	763.5‡	75.8	24.3		ESE			4		3					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	65.3	18.5	88	NE			1	2s;ck				1.0	25.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.07	763.7	30.11	764.9	65.7	18.7	46	N			2		0						
Fanöe	30.13	765.2	30.15	765.7	64.9	18.3	60	W			2		1						
Godthaab (Greenland)	30.09	764.2	30.13	765.3	36.9	2.7	96	WSW			2		10						
Stykkisholm (Iceland)	30.00	762.1	30.05	763.2	51.8	11.0	87	W			6		0						
Thorshavn (Faröe)	30.14	765.6	30.18	766.5	53.1	11.7	91	Calm			0		10					Foggy	
Vestervig	29.93	760.3	30.10	764.6	59.7	15.4	79	W			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.50	749.2	30.05	763.2	64.8	18.2	82	W			1		8	W	SW	0.504	12.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.85	758.2	29.95	760.8	75.2	24	53	NW			1		8		NE	0.67	17.	Very cloudy	Honvallet, Director.
Arras, Engin'r School	29.72	754.9	29.97	761.2	70.5	21.4	53	SSE			3				NW	0	0		Klein, Commandant.
Avignon, Normal School	30.06	763.4	30.13	765.4	79.3	26.3	47	S			2		0			0	0	Clear	Giraud, Director.
Bar-sur-Seine	29.46	748.3	29.98	761.6	81.9	27.7	35	S			1		5kn		SW	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.69	754.2	29.95	760.6	75.7	24.3	58	SSE			2		8	S	WSW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.22	742.1	30.07	763.8	79.5	26.4	46	S			2		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.24	742.7	30.17	766.4	80.6	27	38	S			1		kn	SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.45	748.0	29.98	761.4	75.9	24.4	65	SW			1		2	SW	SW	0.004	0.1	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.66	753.3	30.90	759.5	65.8	18.8	64	SW			4		6		SW	0.030	0.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.80	756.8	30.19	766.9	78.8	26	44	W			1		2		W	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.94	760.5	30.01	762.3	66.2	19	83	S			2		5		WSW	0.071	1.8	Cloudy	Lair, Director.
Chartres, Normal School	29.35	745.5	30.05	763.2	77.0	25	80	S			3		8		SE	0.24	6.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.04	763.1	78.8	26.0	4 6	SSE			2		5			0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.7	29.97	761.1	82.0	27.8	35	SE			2		10		SW	0	0		Alluard, Director.
Commercy, Normal School	29.24	742.8	30.07	763.8	75.7	24.3	61	E			1		2ck		E	0.047	1.2	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.07	738.4	30.21	767.4	76.6	24.8	37	SW			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.36	745.7	30.10	764.4	77.0	25	47	NW			3		2		SW	0	0	Partly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.89	759.2	30.10	764.5	65.1	18.4	66	WSW			1		8		SW	0.646	16.4	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.71	754.7	30.01	762.3	66.2	19	68	WSW			2		2		W	0.39	10.	Slightly cl'dy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.15	740.4	30.04	763.0	80.4	26.9	36	SW			6		0			0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.94	760.5	30.04	763.0	62.6	17.0	76	SSW			2				S	0.008	0.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.53	750.0	30.15	765.7	71.8	22.1	63	W			1		1			0	0	Partly cl'dy	E. Stephan, Director
Mirecourt, Normal School	29.08	738.5	30.08	764.1	72.3	22.4	59	S			1		2		S	0.055	1.4	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.94	760.4	30.13	765.4	79.5	26.4	53	SW			1		2		SW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.09	738.8	30.10	764.5	78.8	26	30	N			4	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.32	643.0			58.6	14.8	58	SW			2		8			0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.06	763.4	30.09	764.2	73.0	22.8	50	W			2		5	SW	SW	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.92	759.9	30.00	762.1	60.4	15.8	83	W			1		10	SE	SW	0.048	1.1	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.93	760.1	29.96	760.9	68.2	20.1	55	SW			3		1	SW	SW	0.295	7.49	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.79	756.6	29.95	760.8	68.7	20.4	90	SW			1				SSW	0.154	3.9		E. Renou, Director.
Tarbes, Normal School	28.62	726.9	30.06	763.4	71.6	22	66	N			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.41	746.9	30.13	765.4	75.2	24.0	69	SSE			2		4			0	0		M. Julier Mercadier.
Versailles, Observatory	29.48	748.7	29.97	761.2	78.1	25.6	49	SW			3					0.598	15.21		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.39	746.4	30.06	763.6	80.6	27	44	ESE			3		2		W	0.291	7.4	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.5	29.81	757.2	75.6	24.2										2.68	68.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.48	748.7	30.06	763.6	80.4	26.9	31	SSE			2		1		SW	0.031	0.80	Clear	Ch. André, Director.
Mont-Louis	25.02	635.5	30.34	770.5	64.4	18 0	43	S	18.6	8.3			5		SW	0	0		M. Cave.
Nice			30.17	766.4	73.8	23.2	74	S			1		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.69	754.0			69.8	21.0	91	S			2		9		SW	0.043	1.1	Thunder-storm	Marié Davy, Director.
Perpignan	30.02	762.5	30.13	765.2	70.0	21.1	68	SE	7.4	3.3			0		NE	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.69	576.3			46.2	7.9		SW			3		7			0	0	Fair	Gen'l de Nansouty.
Tours	29.82	757.5	30.02	762.5	72.3	22.4	58	SSW			3		7		SSW	0.228	5.8		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.52	749.8	29.55	750.5	63.9	17.7	99		12.1	5.4			10n			3.744	95.1	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.30	744.1	30.14	765.6	71.2	21.8	51	SW			2		2	SW		0.051	1.3		Prof. Dr. Hoh.
Berlin	29.99	761.7	30.16	766.0	68.0	20.0	73	E			1		10			0.071	1.8		Prof. Dr. Arndt.
Breslau	29.60	751.9	30.13	765.4	74.1	23.4	40	NNW			1		3			0	0		Royal University Obs'y.
Carlsruhe	29.67	753.6	30.09	764.2	74.5	23.6	50	S			1		1	NE		0	0		Albert Senz.
Cassel	29.53	750.0	30.14	765.5	73.8	23.2	52	SE			2		2	SW		0.019	0.48		Dr. H. Möhl.
Crefeld	29.92	760.0	30.08	764.1	77.7	25.4	42	S			3		3k			0.24	6.		Director Lose.
Emden			30.06	763.5	72.3	22.4	57	W			2		1			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.77	756.1	30.13	765.3	70.3	21.3		SW			1		2			0.268	6.8		Physical Society.
Freienwalde on the Oder	30.10	764.4	30.13	765.4	65.8	18.8	91	SSW			2		10ks	SSW		0.028	0.7		Dr. Assmann.
Friedrichshafen	28.71	729.2	30.10	764.6	69.4	20.8	68	SW			2		1	SW		0.020	0.5		M. Wilhelm.
Hamburg	30.06	763.4	30.12	765.1	70.9	21.6	57	SSE			3		5k	SSE		0.043	1.1	Fair	Captain F. Hegemann.
Kiel	30.11	764.8	30.13	765.2	67.8	19.9	57	N			1		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.96	760.9	30.04	763.0	67.8	19.9	49	NW			2		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.72	754.9	30.13	765.2	73.4	23.0	55	SSE			1		7			0	0	Hazy	Prof. Bruhns, Privy Counsellor.
Memel	29.98	761.6	30.03	762.8	58.6	14.8	69	WNW			3	4c							Skalweit.
Munich (München)	28.35	720.0	30.22	767.6	71.8	22.1	44	W			2		4	SW	NE	0.036	0.9		Dr. C. Larg.
Neufahrwasser	30.07	763.6	30.08	764.0	63.7	17.6	54	NE			2		4			0	0		A. Lothe.
Posen	29.83	757.7	30.11	764.7	74.3	23.5	49	N			4		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.59	751.5	30.12	765.0	73.6	23.1	62	Calm			0		7	SW		0.207	5.25		Imp. University Observatory.
Stuttgart	29.17	740.8	30.07	763.6	77.4	25.2	36	N					4	W		0.008	0.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.64	727.6	30.10	764.6	71.2	21.8	46	Calm	0	0			4ck		WNW	0.079	2.0		T. Hopfner.
Wustrow	30.07	763.8	30.10	764.4	65.3	18.5	73	N			1		2s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.9	29.93	760.2	96.3	35.7		SW			1.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.68	753.8	29.73	755.0	86.7	30.4	63	SW					5			0	0	D. clouds	
Deesa	29.22	742.3	29.68	753.8	96.6	37.6	26	W	12.8	5.8			1	SW		0	0	D. clouds	
Bombay	29.73	755.0	29.76	756.0	84.5	29.1	78	WNW	17.0	7.6			10		WNW	0	0	Overcast	
Poona	27.95	709.9	29.88	757.6	72.3	22.4	90						10	Calm		0.07	1.8	Overcast	
Lahore	28.77	730.7	29.47	748.4	106.3	41.3	16	W	2.2	1.0			0			0	0		
Belgaum	27.23	691.6	29.77	756.2	73.7	23.2	88	W	20.0	8.9			10	E	W	0.88	22.4	Showery	
Roorkee	28.59	726.1	29.43	747.6	102.9	39.4	11	W	5.9	2.6						0	0		
Agra	28.95	735.4	29.48	748.8	105.6	40.9	13	W								0	0		
Nagpur	28.54	724.9	29.54	750.2	99.7	37.6	35	N	5.8	2.6			2	SE		0	0	D. clouds	
Lucknow	29.12	739.6	29.48	748.7	100.0	37.8	24	NW	3.2	1.4						0	0	Gloomy	
Allahabad	29.17	740.9	29.46	748.4	105.6	40.9	17	NW	4.0	1.8			0			0	0	Blue sky	
Patna	29.26	743.3	29.43	747.5	104.6	40.3	27	NE	0.4	0.2			2	NE	E	0	0		
Hazaribagh	27.52	699.1	29.44	747.7	99.0	37.2	21	NW	7.3	3.3			6			0	0		
Cuttack	29.42	747.3	29.50	749.3	91.7	33.2	64	W	4.0	1.8			7			0	0	D. clouds	
Calcutta (Alipore)	29.53	750.0	29.55	750.5	88.5	31.4	69	SSE	9.0	4.0			4	S	S	0	0	D. clouds	
Goalpara	29.15	740.4	29.53	750.1	83.1	28.4	85	Calm	1.3	0.6			8			0	0	Gloomy	
Chittagong	29.52	749.7	29.61	752.1	79.9	26.6	95	Calm	2.7	1.2			10			0.94	23.9	Raining	
Sibsagar	29.24	742.7	29.57	751.0	87.3	30.7	76	Calm	1.0	0.4			7			0	0	D. clouds	
Jubbulpore	28.19	716.0	29.49	749.1	99.7	37.6	27	Calm	5.0	2.2			3		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the origina s, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.72	754.9	30.12	765.0	78.6	25.9	59	S	2.5	1.1			3			0	0		Prof. Giovanni Clodig
Milan	29.61	752.0	30.11	764.8	80.8	27.1	41	SSE			2		5	SW		0	0		Prof. Schiaparelli.
Padua	30.02	762.4	30.12	765.1	76.5	24.7	58	N	1.3	0.6			3	NW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.22	742.1	30.10	764.4	77.2	25.1	47	SW	1.8	0.8			4	W		0	0		Prof. P. F. Denza
Genoa	29.97	761.2	30.15	765.9	72.7	22.6	58	W	4.9	2.2			0?	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	28.25	717.6	30.10	764.6	74.5	23.6	44	NW			2		7	W		0	0		Prof. D. C. Bruno.
Pesaro	29.29	743.9	30.12	765.1	74.5	23.6	72	NE	9.8	4.4			0			0	0		Prof. Luigi Guidi.
Florence	29.87	758.7	30.12	765.1	80.6	27.0	29	WNW			2		0			0	0		Cav. F. Meucci.
Leghorn	30.06	763.5	30.14	765.5	73.2	22.9	53	NW			4		0			0	0		Prof. P. Monte.
Rome	29.95	760.6	30.11	764.9	82.9	28.3	46	W	8.1	3.6			0			0	0		Prof. P. S. Ferrari
Lecce	29.82	757.4	30.07	763.7	77.5	25.3	39	ENE	9.4	4.2			7	NE		0	0		Prof. C. De Giorgi.
Cosenza	29.20	741.7	30.05	763.2	91.0	32.8	65	NNW	0.7	0.3			5			0	0		Prof. D. Conti.
Cagliari	29.93	760.1	30.11	764.9	74.1	23.4	66	S			2		1	W		0	0		Prof. A. Pacinotti.
Palermo	29.87	758.8	30.12	765.1	81.0	27.7	30	E	5.6	2.5			3			0	0		Prof. G. Cacciatore.
Syracuse	30.00	762.0	30.07	763.8	80.6	27.0	60	Calm	0	0			7			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, N. R.	29.60	751.7	30.15	765.8	84.2	29.0	52	SW	4.9	2.2			2			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.66	753.3	29.68	753.9	69.2	20.7	81	S	1.9	0.9			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.40	746.7	29.60	751.8	65.2	18.4	82	NE	13.3	5.9			10s			0.540	13.72	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.72	754.9	29.78	756.4	68.8	20.4	85	S	7.3	3.3		0	7cs;s			0.045	1.15	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.00	635.1	29.98	761.5	59.9	15.5	79	SE			1		10		S	0.12	3.0	Overcast	Prof. L. Perez.
Leon	24.38	619.3	29.95	761.5	64.9	18.3	88	E			2	0	9n		SE	1.30	32.9	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.05	585.4	29.98	761.6	57.7	14.3	77	Calm	0	0		7cs	2k	SW		0.07	1.8	Very cloudy	The Staff.
Pabellon (Aguascalientes)					63.1	17.3	88	Calm			0	9k	0	S		0.26	6.7	Raining	M. V. de Leon, M. E
Tlacotalpam	29.83	757.6	29.84	757.9	79.3	26.3	81	S			2	5	4	Calm	S	0	0	Very cloudy	M. M. Chàzaro.
San Luis Potosi	24.18	614.1	30.02	762.4	66.9	19.4	60	E			2	6	1	W	E	0.17	4.3	Cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.0	30.04	763.1	59.9	15.5	83	SW			2	6k	3n	SW	SW	0	0	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.7	30.18	766.5	57.9	14.4	44	Calm	0	0		8	0	SW		0.16	4.1	Cloudy	Prof. P. Spina.
Colima	28.34	719.7	29.97	761.1	77.9	25.5	87	S			4	0	10			1.33	33.9	Rainy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.73	755.1	30.02	762.4	71.4	21.9	86	NE			1	4	5	NE	NE	Inap.	Inap.	Light rain	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,486 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.07	763.7	30.07	763.7	71.6	22.0		ESE								0	0		
Groningen	30.05	763.2	30.10	764.6	68.0	20.1		S								0.079	2.0		
Helder	30.09	764.2	30.09	764.2	62.6	17.0		N			1					0.028	0.7		
Hellevoetsluis	30.07	763.6	30.07	763.6	72.5	22.5	62	ESE			1					0	0		
Utrecht	30.05	763.2	30.10	764.4	72.1	22.3	49	SSE			2		5			0.079	2.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	30.02	762.4	30.07	763.8	55.8	13.2	75	WNW	7.4	3.3			0			0	0		
Brönö	30.00	761.9	30.04	762.9	46.8	8.2	87	SW	9	4			10			0	0		
Christiania	29.80	756.9	29.94	760.5	66.4	19.1	65	WSW	7	3			4			0	0		
Tromsö	29.69	754.0	29.73	755.1	47.8	8.8	63	SW	34	15			10			0.193	4.9		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.75	755.7	29.94	760.5	65.3	18.5	92	W	3.1	1.4			8			0.098	2.5		Dr. J. A. Sampaio.
Campo Major	29.19	741.3	30.19	766.8	71.6	22.0	44	WNW	4.9	2.2			7	SW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.15	765.9	30.21	768.2	68.0	20.0	68	SE	6.3	2.8			7			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.1	30.24	768.2	63.0	17.2	80	SW	13.7	6.1			7	SSW		0.169	4.3		The Staff.
Ponta Delgada (Azores)	29.95	760.6	30.02	762.4	65.8	18.8	94	SW	11.9	5.3			10			0.642	16.3		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 2° 56', W. 2° 39'			29.97	761.1	81.5	27.5		S			3		4		S	3	S	D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. S. 9° 32', E. 13° 02'			29.96	761.0	73.4	23.0		SSW			3		5		WNW	2	SSW	D. clouds	J.C. M. Cabrate, 1st L't. J.T.d'Oliveria, Com'd't
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			29.96	760.9	77.4	25.2		NE			4		2		NE	2	NE	D. clouds	P. de l'air. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro da Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.76	756.0	84.2	29.0		SSW			5		7		S	2	SW	D. clouds. 1 [hour rain-fall.	J.G. Felgo, 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.7	30.00	762.0	74.3	23.5	47	W	7	3			7ks						Astronomical Obs.
Wilna	29.56	750.7	29.96	760.9	72.1	22.3	43	W	2	1			4						Astronomical Obs.
Dorpat	29.64	752.9	29.87	758.8	69.8	21.0	52	SW	7	3			0						Prof. Dr. Weihrauch.
St. Petersburg	29.52	757.5	29.84	757.9	70.0	21.1	42	WNW	4	2			2ks						Central Physical Obs.
Kieff	29.24	742.7	29.85	758.2	70.5	21.4	46	N	7	3			9k;ks;	cn]					Physical Cabinet.
Nikolaiev	29.85	758.1	29.92	759.9	74.7	23.7	50	E	13	6			8kn						Kurdakof.
Kertch	29.90	759.4	29.92	759.9	73.0	22.8	51	N	2	1			3						Lagorio.
Moscow	29.33	745.0	29.87	758.8	56.1	13.4	48	N	13	6			5ks						Meteorological Obs.
Lugan	29.60	751.7	29.80	756.8	70.3	21.3	44	NNE	13	6			6						Meteorological Obs.
Archangel	29.87	758.7	29.89	759.2	48.0	8.9	67	N	2	1			7ks						Capt. Sseliwerstow.
Tiflis	28.47	723.2	29.84	758.0	70.5	21.4	45	NW	45	20			3ks						Physical Observatory.
Astrakhan	29.80	756.9	29.72	754.8	76.0	21.1	71	Calm	0	0			8n;s			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.06	738.2	29.53	750.1	48.0	8.9	80	NW	18	8			10			Blank	Blank		Cand. Fatjanow.
Kasan	29.04	737.5	29.30	744.3	45.0	7.2	83	W	9	4			10						Physical Cabinet.
Ekaterinburg	28.58	725.8	29.60	749.2	66.0	18.9	38	SSE	31	14			6n;c;k;	ks]					Meteorological Obs.
Nukuss	29.48	748.8	29.71	754.5	77.5	25.3	40	WNW	4	2			2ks						
Tashkend	28.16	715.3	29.61	752.2	88.2	31.2	57	Calm	0	0			3					Light clouds	Teich, A. M.
Barnaul	29.43	747.4	29.91	759.8	63.0	17.2	55	NW	4	2			3						Meteorological Obs.
Yeniseisk	29.58	751.4	29.87	758.6	59.5	15.3	59	W	4	2			10						Marks.
Irkutsk																			
Peking (China)	29.25	743.0	29.39	746.6	88.2	31.2	30	SW	4	2			3k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.44	747.8	29.54	750.3	58.3	14.6	61	N	13	6			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.02	762.5	30.12	765.1	74.5	23.6	53	SSW	4.3	1.90			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.01	762.3	30.07	763.7	78.3	25.7	48	W	1.8	0.81		2	6	SE		0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.6			65.3	18.5	52	SW	12.0	5.37			7			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.95	710.0	30.10	764.4	77.0	25.0	42	SW	17.2	7.67		2	3	W		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.96	761.0	30.10	764.6	83.7	28.7	38	N	3.2	1.42		0	0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.14	740.1	30.02	762.6	60.4	15.8	78	SW	25.5	11.4			8			0.433	11.0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.1	29.99	761.8	80.8	26.7	78	E	1.8	0.8		4ck	0	NNE		0.016	0.4	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	756.0	29.81	757.4	82.3	27.9	84	ENE	1.8	0.8			2k		E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.12	764.9	30.21	767.4	69.6	20.9	73	WNW	15.7	7.0		0	0			0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	79.5	26.4	77	S	6.7	3.00		8kn	6kn	SE	SE	0.236	6.00	Raining	Leonardo de Tejoda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.3	29.74	755.3	58.6	14.8	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.74	755.4	29.79	756.7	64.4	18.0	89	NNW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	72.7	22.6	76	W	.....	.....	6	.....	1	.....	.....	0	0	.....	
Stockholm	29.72	755.0	29.90	759.5	72.7	22.6	87	W	.....	.....	4	.....	3	.....	.....	0.031	0.8	.....	
Wisby	29.86	758.4	29.92	759.9	59.0	15.0	76	W	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.78	756.3	29.85	758.2	76.3	24.6	39	WSW	14.3	6.4	.....	.....	2	NW	NW	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.53	724.6	30.09	764.3	77.0	25.0	49	SE	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, — Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.7	85.6	29.8	42	S	3	1.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	104.0	40.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.21	767.2	82 0	27.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.79	756.7	83.5	28.6	68	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.84	757.9	66	18.9	.....	SW	3	1.3	.....	.....	8s	.....	W	0.12	3.0	Cloudy	W. R. Bigg
Chatham, N. B	29.99	761.7	30.05	763.3	56	13.3	82	N	1	0.4	.....	8cs	2ks	N	N	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.02	762.5	30.06	763.5	60	15.6	66	E	5	2.2	.....	5cs	0	.....	.....	0	0	Fair	H J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.78	756.4	62.3	16.8	96	E	.....	.....	1	.....	10s	.....	.....	0.208	5.28	Overcast	James Smith, M. A.
Dalhousie, N. B	29.88	758.9	30.04	763.0	49.7	9.8	84	E	.....	.....	2	0	5s	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.91	759.7	29.93	760.2	53	11.7	80	SE	12	5.4	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.04	763.0	53.1	11.7	89	SE	2	0.9	.....	.....	10s	.....	.....	0.140	3.56	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.02	737.1	29.83	757.7	57	13.9	94	E	4	1.8	.....	5k	5n	E	E	0	0	Cloudy	James Stewart.
Granton, Ontario	28.86	733.0	29.91	759.7	68	20.0	90	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	29.98	761.5	30.09	764.3	55	12.8	82	S	1	0.4	.....	.....	10ks	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.88	758.9	70.7	21.5	83	W	.....	.....	1	0	0	.....	.....	0.06	1.5	Clear.	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.51	749.5	29.84	757.9	57	13.9	97	SW	6	2.7	.....	.....	Fog	.....	SW	0.08	2.0	Foggy	S. Woods, M. A.
Little Glace Bay, N. S	30.07	763.8	30.11	764.8	51.1	10.6	71	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.62	752.3	29.82	757.4	58	14.4	98	W	5	2.2	.....	.....	Fog	.....	.....	0.12	3.0	Foggy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.10	741.4	29.85	758.2	65	18.3	78	S	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.12	739.6	29.83	757.7	73.7	23.2	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	J. F. Jeffers, B A.
Port Dover, Ontario	29.22	742.2	29.90	759.4	61	16.1	95	SW	4	1.8	.....	0	0	.....	.....	0.36	9.1	Clear.	H. Morgan.
Port Hastings, N. S	30.04	763.0	30.10	764.5	43.6	6.4	.....	NW	2	0.9	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.91	759.7	65	18.3	89	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.55	750.6	29.87	758.7	53	11.7	97	NE	.....	.....	3	.....	10n	.....	NE	0.37	9.4	Light rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.36	745.7	29.81	757.2	59	15.0	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.96	761.0	49	9.4	92	NE	.....	.....	1	.....	10n	.....	.....	0.03	0.8	Light rain	Dr. Gove.
St. John, N. B	29.84	757.9	30.00	762.0	52	11.1	86	E	7	3.1	.....	.....	10s	.....	.....	0.09	2.3	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.86	758.4	70	21.1	68	S	12	5.4	.....	2ck	0	0	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.14	740.1	29.90	759.4	60	15.6	44	NW	3	1.3	.....	2c	0	NW	.....	Inap.	Inap.	Fair	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.91	759.7	65.3	18.5	90	W	3	1.3	.....	0	0	.....	.....	0.038	0.96	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.09	764.3	30.12	765.0	53	11.7	68	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	T. C. Hill.
*Toronto, Ontario	29.52	749.8	29.89	759 2	68	20.0	79	W	4	1.8	.....	2cs	Haze	W	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.94	760.5	30.03	762.8	57.0	13.9	78	W	1	0.4	.....	.....	10k	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.81	757.2	30.07	763.7	47.0	8.3	77	N	.....	.....	.....	5k	5s	.....	.....	0	0	Stormy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.66	753.4	29.87	758.7	74	23.3	76	S	4	1.8			10s		W	0.36	9.1	Cloudy	
Alpena, Michigan	29.21	741.9	29.82	757.4	68	20.0	56	W	16	7.2			10s		W	0	0	Cloudy	
Atka, Aleutian Islands					38	3.3	90	NW			4		10s		N	0	0	Cloudy	
Atlanta, Georgia	28.92	734.6	30.03	762.7	70	21.1	90	E	6	2.7			Fog		Calm	Inap.	Inap.	Dense fog	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	68	20.0	90	SW	10	4.5		5ck	5s	W	W	0	0	Cloudy	
Augusta, Georgia	29.92	760.0	30.09	764.3	74	23.3	81	SE	4	1.8		2ck	2ks	Calm	SE	0.02	0.5	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	75	23.9	77	W	9	4.0		5ck	0	W		Inap.	Inap.	Fair	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	74	23.3	86	W	14	6.3		5ck	2s	NW	Calm	0.32	8.1	Fair	
Bismarck, Dakota	28.09	713.5	29.94	760.5	61	16.1	71	NW	3	1.3		0	0			0	0	Clear	
Boerne, Texas	28.44	722.4	29.68	753.9	79	26.1	78	SE	5	2.2		8k	0	SE		0	0	Cloudy	
Boise City, Idaho	26.97	685.0	29.93	760.2	56	13.3	69	W	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Boston, Massachusetts	29.78	756.4	29.93	760.2	54	12.2	93	N	6	2.7			10s		N	0.09	2.3	Cloudy	
Brackettville, Texas	28.75	730.2	29.74	755.4	75	23.9	77	E	6	2.7			10ks		SE	0	0	Cloudy	
Breckenridge, Minnesota	28.80	731.5	29.77	756.1	57	13.9	87	SE	4	1.8		0	0			0	0	Clear	
Brownsville, Texas	29.77	756.1	29.82	757.4	84	28.9	79	SE	8	3.6		0	0			0	0	Clear	
Buffalo, New York	29.18	741.1	29.86	758.4	62	16.7	88	SW	6	2.7		1c	Haze	Calm	Calm	Inap.	Inap.	Clear	
Burkes, Arizona					62	16.7	36	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.55	750.6	29.82	757.4	69	20.6	90	S	7	3.1		0	5ks		SW	0.23	5.8	Fair	
Cairo, Illinois	29.62	752.3	29.99	761.7	75	23.9	68	S	1	0.4			10s		W	0	0	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.07	636.8	29.87	758.7	63	17.2	19	NE	8	3.6		2k	0	Calm		0	0	Clear	
Camp Verde, Arizona					65	18.3	40	W			1	5k	0	SW		0	0	Fair	
Campo, California	27.26	692.4	29.83	757.7	47	8.3	100	SW	4	1.8			Fog		SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.13	765.3	30.14	765.5	76	24.4	73	SW	13	5.8		0	5s		SW	0	0	Fair	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	72	22.2	71	SW	12	5.4		8cs	1s	SW	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	77	25.0	69	SW	8	3.6		0	0			0	0	Clear	
Cape May, New Jersey	29.91	759.7	29.94	760.5	72	22.2	81	SW	16	7.2		0	8ks		SW	0	0	Cloudy	
Castroville, Texas	29.09	738.9	29.76	755.9	80	26.7	78	S	2	0.9			10n		S	Inap.	Inap.	Light rain	
Charleston, South Carolina	30.03	762.7	30.08	764.0	79	26.1	78	SW	2	0.9		8k	0	SE		0.23	5.8	Cloudy	
Charlotte, North Carolina	29.25	742.9	30.04	763.0	70	21.1	90	SW	5	2.2			10s		SW	0.64	16.3	Cloudy	
Chattanooga, Tennessee	29.26	743.2	30.02	762.5	76	24.4	77	S	4	1.8		5k	Sm'e	S	Calm	0	0	Fair	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	51	10.6	53	NW	10	4.5		8c	0	W		0	0	Cloudy	
Chicago, Illinois	29.19	741.4	29.85	758.2	69	20.6	70	S	6	2.7		10c	0	Calm		0	0	Cloudy	
Cincinnati, Ohio	29.37	746.0	30.00	762.0	71	21.7	75	SW	4	1.8		1cs	0	W		1.34	34.0	Clear	
Cleveland, Ohio	29.25	742.9	29.94	760.5	71	21.7	66	SW	8	3.6		0	0			0.20	5.1	Clear	
Coleman City, Texas	28.03	711.9	29.60	751.8	76	24.4	82	S	12	5.4		8cs	0	SW		0	0	Fair	
Columbus, Ohio	29.15	740.4	29.95	760.7	71	21.7	75	SW	1	0.4		2k	Sm'e	SW	Calm	0.13	3.3	Fair	
Concho, Texas	27.94	709.7	29.51	749.5	78	25.6	82	SW	12	5.4		0	8s		SW	Inap.	Inap.	Fair	
Corsicana, Texas	29.42	747.3	29.86	758.4	77	25.0	86	S	6	2.7		2cs	2s	W	SW	0	0	Fair	
Davenport, Iowa	29.22	742.2	29.83	757.7	70	21.1	90	SE	10	4.5			10n		SW	0.85	21.6	Light rain	
Deadwood, Dakota	25.37	644.4			51	10.6	72	Calm	0	0		8k	0	S		0	0	Fair	
Decatur, Texas	28.66	728.0	29.76	755.9	79	26.1	74	S	14	6.3		8cs	0	Calm		0	0	Fair	
Denison, Texas	29.07	738.4	29.81	757.2	79	26.1	78	SE	8	3.6		2ck	2s	SW	Calm	0	0	Fair	
Denver, Colorado	24.68	626.9	29.90	759.4	58	14.4	48	N	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	28.92	734.6	29.76	755.9	68	20.0	84	W	5	2.2			10n		W	0.08	2.0	Light rain	
Detroit, Michigan	29.29	744.0	29.92	760.0	68	20.0	84	W	3	1.3		2cs	0	Calm		0.06	1.5	Clear	
Dodge City, Kansas	27.25	692.1	29.39	746.5	76	24.4	56	SE	18	8.0		2ck	0	S		0	0	Fair	
Dubuque, Iowa	29.14	740.1	29.80	756.9	67	19.4	79	SW	11	4.9			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.10	739.1	29.74	755.1	67	19.4	64	NW	5	2.2		0	0			0.04	1.0	Clear	
Eagle Pass, Texa	29.08	738.6	29.76	755.9	80	26.7	74	SE	8	3.6			10s		SE	0	0	Cloudy	
Eastport, Maine	29.92	760.0	29.99	761.7	45	7.2	96	NE	7	3.1			10n		E	0.10	2.5	Light rain	
Edinburg, Texas					82	27.8	87	S			4	5k	4s	S	Calm	0	0	Fair	
El Paso, Texas	26.10	662.9			58	14.4	36	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.23	742.4	29.91	759.7	70	21.1	75	W	8	3.6		2c	0	Calm		0.23	5.8	Fair	
Escanaba, Michigan	29.17	740.9	29.79	756.7	65	18.3	78	SW	7	3.1			10ks		SW	0	0	Cloudy	
Florence, Arizona	28.27	718.0	29.87	758.7	77	25.0	22	S	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	27.89	708.4			53	11.7	86	SW	4	1.8		0	0			0	0	Clear	
Fort Craig, New Mexico	25.38	644.6	29.44	747.8	49	9.4	17	Calm	0	0		1k	0	Calm		0	0	Clear	
Fort Davis, Texas	25.15	638.8	30.11	764.8	70	21.1	55	S	2	0.9		5c	0			Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.33	745.0	29.83	757.7	81	27.2	67	S	9	4.0		0	0			0	0	Clear	
Fort Griffin, Texas	28.56	725.4	29.75	755.6	81	27.2	59	S	14	6.3		0	0			0	0	Cear	
Fort Keogh, Montana	27.31	693.7			57	13.9	75	Calm	0	0		5cs	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.60	701.0	29.42	747.3	74	23.3	72	S	16	7.2		5ck	2s	S	Calm	0	0	Fair	
Fort St. Michael, Alaska	29.65	753.1	29.68	753.9	35	1.7	100	N	2	0.9		0	0			0	0	Clear	
Fort Sill, Indian Territory	28.60	726.4	29.63	752.6	80	26.7	66	E	2	0.9		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.07	713.0			56	13.3	80	SW	1	0.4		0	0			0	0	Clear	
Fredericksburg, Texas	28.13	714.5	29.60	751.8	79	26.1	70	SW	8	3.6		8k	0	Calm		0	0	Fair	
Galveston, Texas	29.87	758.7	29.91	759.7	81	27.2	83	SE	5	2.2		2cs	5ks	NW	SE	0	0	Cloudy	
Graham, Texas	28.73	729.7	29.72	754.9	79	26.1	70	SE	6	2.7		5cs	0	S		0	0	Fair	
Grand Haven, Michigan	29.23	742.4	29.85	758.2	70	21.1	61	Calm	0	0		Haze	2s	Calm	Calm	0	0	Fair	
Henrietta, Texas	28.84	732.5	29.71	754.6	80	26.7	74	S	10	4.5		5c	0	Calm		0	0	Fair	
Indianapolis, Indiana	29.19	741.4	29.92	760.0	74	23.3	68	S	3	1.3			10s		Calm	0	0	Cloudy	
Indianola, Texas	29.87	758.7	29.89	759.2	82	27.8	83	S	8	3.6		5c	1ks	Calm	S	0	0	Fair	
Jacksboro, Texas	28.68	728.5	29.74	755.4	79	26.1	66	S	12	5.4		5ck	0	W		0	0	Fair	
Jacksonville, Florida	30.06	763.5	30.08	764.0	79	26.1	74	SE	3	1.3		2k	0	SE		Inap.	Inap.	Fair	
Keokuk, Iowa	29.17	740.9	29.75	755.6	71	21.7	75	S	28	12.5			10n		S	0.39	9.9	Light rain	
Key West, Florida	29.99	761.7	30.03	762.7	80	26.7	78	SE	4	1.8		10k	0	SE		2.41	61.2	Cloudy	
Kittyhawk, North Carolina	30.08	764.0	30.10	764.5	74	23.3	72	SW	14	6.3		0	0			0	0	Clear	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	74	23.3	81	NE	2	0.9		8k	2s	NW	Calm	Inap.	Inap	Cloudy	
La Crosse, Wisconsin	29.05	737.9	29.74	755.4	69	20.6	70	S	12	5.4			10s		S	0	0	Cloudy	
La Mesilla, New Mexico	25.94	658.9	30.09	764.3	54	12.2	26	E	1	0.4		5k	0	SW		0	0	Fair	
Laredo, Texas	29.41	747.0	29.73	755.1	83	28.3	50	SE	3	1.3			10s		Calm	0	0	Cloudy	
Leavenworth, Kansas	29.00	736.6	29.80	756.9	67	19.4	89	S	5	2.2		6ck;cs	0	W		0.67	17.0	Fair	
Los Angeles, California	29.49	749.0	29.82	757.4	59.0	15.0	82	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.45	748.0	29.98	761.5	73	22.8	67	S	7	3.1		8c;cs	0	Calm		0.36	9.1	Fair	
Lynchburg, Virginia	29.35	745.5	30.00	762.0	75	23.9	77	SW	4	1.8		0	8s		SW	0.03	0.8	Clearing	
Madison, Wisconsin	28.84	732.5	29.78	756.4	69	20.6	75	SW	7	3.1			10s		Calm	0	0	Cloudy	
Marquette, Michigan	29.03	737.3	29.69	754.1	67	19.4	64	SW	10	4.5		0	0			0	0	Clear	
Mason, Texas	28.23	717.0	29.88	758.9	80	26.7	62	SW	7	3.1		2ck	0	SW		0	0	Fair	
Memphis, Tennessee	29.64	752.8	29.96	761.0	83	28.3	71	SW	5	2.2		5cs	0	SW		0	0	Fair	
Milwaukee, Wisconsin	29.11	739.4	29.79	756.7	70	21.1	61	SW	8	3.6		1c	5s	Calm	Calm	0	0	Fair	
Mobile, Alabama	29.94	760.5	29.98	761.5	79	26.1	87	NE	8	3.6		0	2s		E	0.04	1.0	Fair	
Montgomery, Alabama	29.82	757.4	30.05	763.3	77	25.0	82	SE	4	1.8		0	9ks		S	0.15	3.8	Cloudy	
Morgantown, West Virginia	29.02	737.2	29.97	761.2	73	22.8	72	SW	5	2.2			10ks			0.61	15.5	Cloudy	
Mt. Washington, N. H.	23.50	604.5	30.16	766.1	50	10.0	100	W	30	13.4			Fog		W	0.29	7.4	Foggy	
Nashville, Tennessee	29.48	748.8	29.98	761.5	82	27.8	60	Calm	0	0		2cs	0	Calm		0.17	4.3	Fair	
New Haven, Connecticut	29.79	756.7	29.90	759.4	76	24.4	77	SW	1	0.4		5c	2s;hz	Calm	W;Calm	0.17	4.3	Fair	
New London, Connecticut	29.85	758.2	29.90	759.4	69	20.6	98	W	3	1.3			10s;fg		Calm	0.37	9.4	Cloudy	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.90	759.4	29.95	760.7	83	28.3	71	N	4	1.8		0	2ks		NE	0	0	Fair	
Newport, Rhode Island	29.86	758.4	29.91	759.7	60	15.6	94	N	3	1.3			Fog			0.29	7.4	Foggy	
New York, New York	29.76	755.9	29.94	760.5	71	21.7	85	W	7	3.1		5cs	Haze	Calm	Calm	Inap.	Inap.	Fair	
Norfolk, Virginia	30.02	762.5	30.07	763.8	75	23.9	72	SW	12	5.4			10s		Calm	0	0	Cloudy	
North Platte, Nebraska	26.93	684.0	29.40	746.7	61	16.1	82	SE	10	4.5		0	0			Inap.	Inap.	Clear	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	48.0	8.9	96	W	1	0.4			10s		Calm	0	0	Cloudy	
Omaha, Nebraska	28.69	728.7	29.73	755.1	68	20.0	79	Calm	0	0			10s		Calm	0.35	8.9	Cloudy	
Oswego, New York	29.56	750.8	29.86	758.4	72	22.2	85	S	3	1.3		5k	0	SW		0.12	3.0	Fair	
Pembina, Dakota	28.91	735.1	29.74	755.4	56	13.3	94	Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa	29.90	759.4	29.94	760.5	74	23.3	81	W	13	5.8		2k	0	W		0.81	20.6	Fair	
Phœnix, Arizona	28.47	723.1	30.29	769.4	71	21.7	33	NE	2	0.9			10s		S	0	0	Cloudy	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	33	0.6	42	S	9	4.0		8cs	0	Calm		0	0	Fair	
Pioche, Nevada					43	6.1	75	Calm	0	0		0	2s		Calm	0.04	1.0	Fair	
Pittsburg, Pennsylvania	29.18	741.1	29.94	760.5	71	21.7	80	SW	4	1.8			10s		SW	0.02	0.5	Cloudy	
Port Huron, Michigan	29.27	743.4	29.90	759.4	67	19.4	69	W	6	2.7		0	0			0.07	1.8	Clear	
Portland, Maine	29.89	759.2	29.94	760.5	53	11.7	86	N	4	1.8			10s		Calm	0.07	1.8	Cloudy	
Portland, Oregon	30.06	763.5	30.13	765.5	53.3	11.8	88	NW	1	0.4		0	8s		N	0.04	1.0	Cloudy	
Prescott, Arizona	24.51	622.5	29.87	758.7	53	11.7	31	W	2	0.9		5ck	0	SW		0	0	Fair	
Pilot Point, Texas	29.06	738.1	29.85	758.2	82	27.8	70	SE	12	5.4		0	0			0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	74	23.3	90	NE	4	1.8			10ks		SE	0.43	10.9	Cloudy	
Red Bluff, California	29.50	749.3	29.85	758.2	60	15.6	57	NW	6	2.7		0	0			0.02	0.5	Clear	
Rio Grande City, Texas	29.64	752.8	29.84	757.9	82	27.8	60	SE	12	5.4		0	5s		SE	0	0	Fair	
Rochester, New York	29.25	742.9	29.84	757.9	71	21.7	85	W	9	4.0		2k	0	W		0.13	3.3	Clear	
Roseburg, Oregon	29.54	750.3	30.11	764.8	53	11.7	86	N	2	0.9			10s		Calm	0.03	0.8	Cloudy	
Sacramento, California	29.73	755.1	29.81	757.2	56	13.3	87	Calm	0	0		0	0			0.01	0.3	Clear	
St. Louis, Missouri	29.44	747.8	30.00	762.0	69	20.6	75	NW	7	3.1			10s		W	0	0	Threatening	
St. Marks, Florida	30.04	763.0	30.05	763.3	76	24.4	86	SE	9	4.0		0	8s		S	0.22	5.6	Fair	
St. Paul, Minnesota	28.92	734.6	29.70	754.4	67	19.4	78	N	3	1.3		8c	0	SW		0.01	0.3	Fair	
Salt Lake City, Utah	25.40	645.2	29.73	755.1	64	17.8	30	SE	4	1.8			10s		Calm	0	0	Cloudy	
San Antonio, Texas	29.19	741.4	29.74	755.4	81	27.2	74	SE	12	5.4		5c	0	SE		0	0	Fair	
San Diego, California	29.79	756.7	29.86	758.4	57	13.9	94	SW	6	2.7			10s		SW	Inap.	Inap.	Cloudy	
Sandusky, Ohio	29.31	744.5	29.95	760.7	70	21.1	70	W	5	2.2		0	0			0.03	0.8	Clear	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	73	22.8	85	SW	12	5.4		5c	Haze	W	Calm	0.23	5.8	Fair	
San Francisco, California	29.80	756.9	29.86	758.4	53	11.7	86	W	2	0.9		0	0			0.01	0.3	Clear	
Santa Fé, New Mexico	23.20	589.3	29.74	755.4	54	12.2	Inap.	NE	4	1.8		0	0			0	0	Clear	
Savannah, Georgia	30.01	762.2	30.10	764.5	83	28.3	71	E	3	1.3		2k	0	S		0.12	3.0	Fair	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	78	25.6	82	S	4	1.8		2cs	0	Calm		0	0	Fair	
Silver City, New Mexico	24.20	614.7	30.37	771.4	45	7.2	31	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.11	764.8	30.15	765.8	76	24.4	77	S	7	3.1		1cs	0	Calm		0	0	Clear	
Springfield, Massachusetts	29.76	755.9	29.89	759.2	71	21.7	85	SW	3	1.3		0	8s		SW	2.50	63.5	Cloudy	
Stockton, Texas	26.88	682.7	29.88	758.9	70	21.1	26	S	16	7.2			10s		S	1.23	31.2	Cloudy	
Thatcher's Island, Mass	29.89	759.2	29.94	760.5	52	11.1	86	N	14	6.3			Fog			0	0	Foggy	
Toledo, Ohio	29.27	743.4	29.92	760.0	73	22.8	63	W	5	2.2		2c	Haze	Calm	Calm	0	0	Clear	
Tucson, Arizona	27.33	694.2	29.88	758.9	59	15.0	36	SW	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.65	753.1	30.14	765.5	53.0	11.7	73	Calm	0	0		0	0			0	0	Clear	
Uvalde, Texas	28.89	733.8	29.66	753.4	79	26.1	78	S	10	4.5			10s		S	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	80	26.7	78	Calm	0	0		5k	0	SE		0	0	Fair	
Virginia City, Montana	24.18	614.2	29.66	753.4	54	12.2	43	SE	2	0.9		0	5s		Calm	0	0	Fair	
Visalia, California	29.43	747.5	29.80	756.9	53.5	11.9	83	NW	3	1.3		2c	0	Calm		0.06	1.5	Fair	
Washington, D. C.	29.87	758.7	29.98	761.5	75	23.9	77	SW	8	3.6		2k	0	SW		0	0	Clear	
Wickenburg, Arizona					67	19.4	42	S			2	5c	0	SW		0	0	Fair	
Wilmington, N. Carolina	30.05	763.3	30.12	765.0	75	23.9	72	S	2	0.9		0	0			0	0	Clear	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	49.0	9.4	85	E	4	1.8			10n		Calm	0.19	4.8	Light rain	
Wood's Holl, Mass	29.88	758.9	29.91	759.7	61	16.1	88	SE	2	0.9			10s		SE	0.04	1.0	Cloudy	
Yankton, Dakota	28.66	725.4	29.78	756.4	66	18.9	79	SW	4	1.8		0	0			0.15	3.8	Clear	
Yuma, Arizona	29.59	751.6	29.75	755.6	63	17.2	62	W	8	3.6		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.94	760.5	29.99	761.7	81	27.2	78	Calm	0	0		8ck	0	Calm		0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.23	640.8			66.0	18.9	82	Calm			0	0	4ks			0.06	1.5		Thomas Herran.
Navassa, W. I	29.87	758.7	29.95	760.7	80	26.7		NE								0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.01	762.2	80	26.7	87	E			2		8ks	E		0.16	4.1	Cloudy	O. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 408 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,8[illegible] (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,396 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4,800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.86 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.5 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			80	26.7	96	E	10	4.5			8		SE					Showery	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.83‡	757.7‡			69	20.6	90	SSW			1		4ks		SW	0	0			Clearing	
Adams, Panama, U. S. C.	29.98‡	761.5‡			78	25.6	95	NE			1		5		NE					Fair	
Alaska, Sitka, Alaska	29.94‡	760.5‡			47	8.3	85	E			2		10			0.05	1.3			Overcast	
Alliance. N. 49° 50′, W. 2° 33′	29.99‡	761.7‡			56	13.3	87	ESE			2		3		S;E					Pleasant	
Colorado, New York, N. Y.	29.87‡	758.7‡			73	22.8	81	SW	0	0			10			0.3	8.			Hazy	
Constitution, League Island, Penn.	29.86‡	758.4‡			75	23.9	95	SW			4		5		SW					Fair	
Despatch. N. 25° 00′, W. 44° 27′	30.24‡	768.1‡			80	26.7	73	NNE			1		1		Calm	0	0	Light	SE	Clear.	
Enterprise, Antwerp, Holland	30.09‡	764.3‡			72	22.2	62	SSE			3		1		S					Clear	
Franklin. Norfolk, Va.	30.05‡	763.3‡			73	22.8	76	SW	1.8	0.8			8		wsw	0	0			Fair	
Hartford. Montevideo, Uruguay.*	30.10‡	764.5‡			48	8.9	85	N			1		2			0	0			Clear	
Kearsarge, Portsmouth, N. H.	29.94‡	760.5‡			55	12.8	93	NE			1		10							Misty	
Marion, N. 28° 18′, W. 89° 39′	29.96‡	761.0‡			82	27.8	91	ENE			1–2		2		ENE			Smooth		Clear	
Michigan, Erie, Pa.					68	20.0	84	W			4		0							Clear	
Monocacy, Shanghai, China	29.52‡	749.8‡			66	18.9	94	ENE			2–3		10		ENE					Raining	
Monongahela, Yokohama, Japan	29.77‡	756.1‡			73	22.8	68	SSE			1–2		ck			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.09‡	764.3‡			79	26.1	78	SSE	10	4.5			5		SW	0.02	0.5			Fair	
Onward, Callao, Peru.†	30.13‡	765.3‡			63	17.2	89	S			2		10					Long	W	Misty	
Palos, Shanghai, China	29.52‡	749.8‡			64	17.8	100	ENE			4		10		E					Raining	
Passaic, Washington, D. C.					74	23.3	100	SW			2		2							Clear	
Pensacola, Callao, Peru	30.02‡	762.5‡			62	16.7	88	SSE	2	0.9			10			0	0			Misty	
Portsmouth. New York, N. Y.	29.91‡	759.7‡			72	22.2	85	SW			3		5		wsw	0	0	Smooth		Fair	
Powhatan, Hampton Roads, Va.	30.06‡	763.5‡			72	22.2	76	SW			5		8		SW	0	0			Cloudy	
Quinnebaug, Smyrna, Turkey	29.89‡	759.2‡			86	30.0	51	WSW			3		0							Clear	
Ranger, Amoy, China	29.72‡	754.9‡			84	28.9	87	S			2		2		SE					Clear	
Richmond, Taku Bar, China	29.39‡	746.5‡			75	23.9	77	S			3		0			0	0	Smooth	SE	Clear	
Rio Bravo, Brownsville, Texas	29.81‡	757.2‡			80	26.7	96	SE			1		2		S	0	0			Fair	
Santee, Annapolis, Md.	29.99‡	761.7‡			74	23.3	81	W			3		5		W	0	0			Fair	
Saratoga, Off Santa Cruz, Canaries.	30.21‡	767.3‡			70	21.1	75	ENE			5		2		SW	0	0	Mod'ate	NE	Blue sky	
St. Louis, League Island, Pa.	29.95‡	760.7‡			74	23.3	86	SW	12	5.4			5		SW	0.84	21.3			Fair	
Trenton, Cadiz, Spain	30.23‡	767.8‡			72	22.2	71	NW			2–3		0			0	0	Smooth		Clear	
Tuscarora, N. 21° 22′, W. 107° 41′	29.84‡	757.9‡			72	22.2	??	NNW			4		8		S&E	0	0	Long	W	Hazy	
Vandalia, Hampton Roads, Va.	30.01‡	762.2‡			72	22.2	85	WSW			4		5		SW	2.	51.	Smooth		Fair	
Wabash, Boston, Mass.	29.87‡	758.7‡			50	10.0	93	N	6	2.7			8			0	0			Cloudy	
Wyoming. N. 41° 50′, E. 18° 25′	30.06‡	763.5‡			72	22.2	85	WNW			3		0					Smooth	NW	Clear	
Wachusett, N. 29° 10′, W. 74° 35′	30.13‡	765.3‡			75	23.9	86	SE			4		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

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S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 43° 16′, W. 148° 31′		30.20‡	767.1‡	52	11.1		NE			3		10			0.125in. or 3.18 mm.	Mod'ate	NW	Drizzling	L. B. Walls.
S. S. Colima, N. 29° 29′, W. 116° 21′...†		29.90‡	759.4‡	64	17.8		WNW			4		10		NW	0	Mod'ate	WNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, N. 45° 44′, W. 124° 48′...†		30.14‡	765.5‡	57	13.9	81	NW			4		1		NW		Mod'ate	NW	Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 25° 21′, W. 152° 15′		30.17‡	766.3‡				SE			3				SE		confused	SE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. N. 36° 07′, E. 144° 34′		29.90‡	759.4‡	70	21.1	95	SE			5		4cs			0	Smooth		Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 41° 31′, W. 54° 50′		30.01‡	762.2‡	56.0	13.3	69	N			5		2		NNE	0	Long	NNE	Fair	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 48° 59′, W. 14° 51′		29.74‡	755.4‡				NNE			4		10		NE		4	E	Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 42° 22′, W. 53° 51′		29.98‡	761.5‡	53	11.7	80	NW			8		6?		NW	Mod'ate	Mod'ate	NW	Clear?	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Timballer Light, N. 29° 01′, W. 90° 18′		29.96‡	761.0‡	82	27.8	79	SE	3	1.3			2k		S	0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 33° 23′, W. 68° 09′ †		30.23‡	767.8‡				Calm			0		0			0	Tranquil		Clear	N. B. Foss.
Schooner Harry and Fred, N. 19° 14′, W. 67° 38′		29.78‡	756.4‡				SE	7	3.1			8			1. in. or 25. mm	Rough		Cloudy	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 40° 02′, W. 41° 22′ †		29.68‡	753.9‡	62	16.7	83	W			6		10		NW		Long	WNW	Cloudy	Capt. P. Sandelin. L. Dunbar.
Sch'r A. A. Rowe, Capt. Beckwith																			
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		30.14‡	765.5‡	79	26.1		SSE			3		5		SSE	0			½ covered	Capt. Wm. Shepherd.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 120 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 12, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.21	767.4	76.6	24.8	56	Calm			0		8			0	0	Very cloudy	Kesxuche.
Algiers			30.19	766.9	74.5	23.6	59	NNE			3		0			0	0	Clear	Tourliliere.
La Calle			30.19	766.9	74.1	23.4	78	NW			3		8			0	0	Very cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.20	767.0															Gau.
Saida			30.25	768.4	87.3	30.7	15	N			4		0			0	0	Clear	Herbin.
Tebessa			30.11	764.9	94.6	34.8	20	SE			1		2			0	0	Fair	Watrin.
Geriville			30.21	767.2	86.4	30.2	47	NNW			1		0			0	0	Clear	Brugniaux.
Laghouat			30.07	763.7	99.7	37.6	28	E			3		0			0	0	Clear	Bertrand.
Biskra			30.11	764.7	100.0	37.8	39	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.44	747.8	29.98	761.6	83.7	28.7	42	SE			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.25	742.9	29.99	761.7	73.4	23.0	66	N			1		5			0.020	0.5		Dr. Wierzbiski.
Eperies	29.13	739.8	29.97	761.2	73.8	23.2	64	SE			1		6k			0	0		Julius Mikolik.
Gratz	28.72	729.6	29.92	760.0	74.3	23.5	57	NW			2		6			0	0		Andreas Rospini.
Hermannstadt	28.64	727.4	30.02	762.4	73.8	23.2	53	NW			1		3			0	0		Prof. A. Gottschling.
Kremsmünster	28.63	727.1	29.90	759.4	77.5	25.3	58	ENE			3		2			0	0		Prof. C. Wagner.
Lemberg	28.98	736.2	29.93	760.3	72.1	22.3	60	W			3		8			0	0		Dr. T. Stanecki.
Pola	29.91	759.8	30.02	762.6	77.5	25.3	67	WNW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.58	751.3	30.02	762.6	76.6	24.8	52	NW			2		2			0	0		Julius Csics, S. J.
Szegedin	29.70	754.3	29.97	761.1	77.7	25.4	49	Calm			0		3			0	0		Karl Stancel.
Trieste	29.93	760.1	30.03	762.7	79.9	26.6	66	W			1		1			0.835	21.2	Thunder-storm.	P. Busin.
Vienna	29.30	744.1	29.98	761.5	75.2	24.0	58	E			1		3			0.453	11.5		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	29.97	761.2	30.07	763.8	47.2	8.4		ENE	6	2.7			10			0.020	0.51	Raining	W. Boswell.
Ardrossan	29.95	760.7	29.97	761.2	57	13.9		ENE			8		9					Raining	Wm McNeil & G. Carrick
Armagh, Observatory			29.94	760.5	57.8	14.3		ENE	5	2.2			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.88	758.9	62.8	17.1		E	9	4.0			8					Blue sky	John Hartnup.
Bolton (Sharples)			29.88	758.9	63.8	17.7		S	12	5.4			4					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.92	760.0	56.0	13.3		E			1		7			0.87	22.1	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.95	760.7	29.98	761.5	82.5	28.1		NE			1		6					Gloomy	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.86	758.4	29.95	760.7	60.0	15.6		S			1		10					Thunder	H. Todd.
Cardington			29.95	760.7	59.4	15.2		S			1		9					Showery	John McLaren.
Chatham, School M. E.	29.87	758.7	30.00	762.0	59.2	15.1		SW			3		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.93	760.2	29.97	761.2	56	13.3		S			2		5					D. clouds	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	61	16.1		SW			4		4					½ clouded	J. Costello.
Falmouth, Observatory	29.72	754.9	29.94	760.5	56.0	13.3		E			5		7					Raining	The Staff.
Fort Napier (Natal)	27.83	706.9	30.12	765.0	62.0	16.7		E			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.65	753.1	29.88	758.9	84	28.9		SW			1		4					D. clouds	
Galway, Queen's College			29.91	759.7	63	17.2		W			1		5					D. clouds	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.08	764.0	30.14	765.5	71.8	22.1		E			3		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.78	756.4	29.99	761.7	54.2	12.3		ENE			3		10					Raining	D. G. Maclean.
Great Yarmouth	29.98	761.5	29.99	761.7	58	14.4		S			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.98	761.5	60.0	15.6		SW			3		9					Raining	The Staff, for G. B. Airy.
Guernsey	29.81	757.2	30.02	762.5	58	14.4		SW			3		5					Squally	Dr. S. E. Hoskins, F.R.S.
Helston	29.98	761.5	30.10	764.5	61	16.1		SW			6		4k			0.17	4.3	Showery	M. P. Moyle.
Holyhead	29.90	759.4	29.91	759.7	57	13.9		NW			2		2					Blue sky	John Tilston.
Jersey	29.79	756.7	30.09	764.3	55.3	12.9		WSW			4		9			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.94	760.5	29.98	761.5	61.1	16.2		S	24	10.7			9					Threatening	The Met'g'l Office.
Leicester, Museum.	29.67	753.6	29.92	760.0	63.0	17.2		SW			2		5					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	82	27.8		N			2	2c						Blue sky	A. King.
Nairn	29.96	761.0	30.05	763.3	50	10.0		Calm			0							Foggy	W. D. Penny.
Nassau (Bahamas)			29.97	761.2	82.5	28.1		E			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.92	760.0	67.0	19.4		S			4	c;k	3ck;	ks;d]	S	0.248	6.30	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.38	746.2	29.90	759.4	58.0	14.4		SE			1		9					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.93	760.2	58	14.4		S			4		10					Showery	H. E. Bellamy.
Plymouth	29.86	758.4	29.94	760.5	60.0	15.6		WSW			5		10					Gloomy	John Merrifield.
Prince Town	28.49	723.6	29.98	761.5	45.8	7.7		W			4		9					Raining	W. H. Tooker.
*Roche's Point	29.88	758.9	29.99	761.7	58	14.4		SW			3		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.72	754.9	29.88	758.9	51	10.6		WNW			2		10					Raining	John C. Walker.
Sandwick Manse (Orkneys)			30.09	764.3	51.6	10.9		SE	5	2.2			10			0	0	Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.90	759.4	29.97	761.2	77.2	25.1		NE			2		6					D. clouds	Serg't W. H. Lyne.
Sheffield	29.66	753.4	29.94	760.5	58.3	14.6		S			2		5			0.08	2.0	D. clouds	W. F. Cooper.
Silloth Rectory	29.91	759.7	29.94	760.5	56.7	13.7	83	E			3		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.52	749.8	29.92	760.0	53.9	12.2		N			1		6			Blank	Blank	D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.77	756.1	29.99	761.7	56.6	13.7		SW			3		8					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.00	762.0	30.02	762.5	61	16.1		W			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.95	760.7	29.98	761.5	58.1	14.5		NW	15	6.7			4			Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.24	768.1	30.28	769.1	63	17.2	46	SE	11	4.9		1	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.94	760.5	44.0	6.7	93	SW			3		10kn			0.04	1.0	Drizzling	Francis Abbott F.R.A.S.
Leith, Restalrig Park			30.03	762.7	49.1	9.5		E			2		10n			0.12	3.0	Overcast	Andrew Gibb
Mauritius, Observatory	29.79	756.7	29.98	761.4	76.5	24.7	73	W	12.5	5.6		0	2		WNW	0.21	5.8	Fine	C. Meldrum.
Melbourne, Observatory	30.23	767.8	30.33	770.4	49.1	9.5	83	W	3	1.3			10			0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.05	763.3	57	13.9		SE			3	5	3	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.08	764.0	47	8.3		E			4	5	5						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer corrected. Inches.	Millimeters.	Reduced. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Humidity.	Wind from—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper from—	Lower from—	Sea or swell. Height scale 0—9	Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.95‡	760.7‡	77	25.0		NNE			3-6		4					D. clouds	Capt. W. J. L. Wharton.
§Brig Alliance, N. 54° 07′, W. 15° 50′			29.99‡	761.7‡	55.9	13.3		NNE			8		9					Misty	Capt. W. Scott.
Barque Fedalma, N. 35° 55′, W. 61° 45′			30.03	762.7	72	22.2		WNW			6		9			4	NW	Overcast	Capt. H. L. Fox.
S. S. Iron Cross, N. 49° 20′, W. 38° 35′			29.44	747.8	56	13.3		ENE			8		10			7	ESE	Raining	Capt. W. Randall.
S. S. Nizam, N. 25° 18′, E. 35° 44′			29.65‡	753.1‡	82.5	28.1		NNW			2		0					Blue sky	Capt. Barlow.
S. S. Alger a, N. 50° 00,′ W. 18° 25′			30.07	763.8	57	13.9		S			1		5	S	ESE	2	NE	D. clouds	Capt. Wm. Watson.
Astarte, N. 2° 35′, W. 21° 55′ *			29.99‡	761.7‡	75.6	24.2		WSW			2		10					Raining	Capt. Parson.
British Peer, N. 10° 05′, W. 29°, 25′			30.01‡	762.2‡	79.4	26.3		ENE			5		3					Misty.	Capt. Greig.
Theophane, N. 20° 30′, E. 67° 40′			29.99‡	761.7‡	78	25.6		N			4		2					Blue sky	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
San José	26.22	666.0	29.94	760.5	65.3	18.5	95	SE			2	3cs				0.34	8.6		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.90	759.4	29.95	760.6	68.4	20.2	53	SE			2		0						
Fanöe	29.95	760.8	29.97	761.3	59.5	15.3	89	W			4		10					Foggy	
Godthaab (Greenland)	30.08	764.0	30.12	765.1	36.5	2.5	75	N			4		10						
Stykkisholm (Iceland)	29.95	760.7	29.99	761.8	51.4	10.8	89	W			2		8						
Thorshavn (Faröe)	30.07	763.5	30.10	764.4	50.4	10.2	89	Calm			0		5						
Vestervig	29.77	756.1	29.94	760.4	65.4	20.2	64	SE			2		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.61	752.1	30.16	766.1	63.0	17.2	72	SSW			3		8		W	0.169	4.3	Very cloudy	Collignon, Director.
Amiens, Normal School	29.96	761.0	30.07	763.8	71.2	21.8	51	W			1		5		NNE	0.181	4.6	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.83	757.7	30.08	764.1	64.6	18.1	57	SW			4				NW	0	0		Klein, Commandant.
Avignon, Normal School	30.06	763.4	30.13	765.4	82.4	28	45	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.61	752.1	30.15	765.9	69.8	21.0	42	W			1		5kn		WSW	0.047	1.2	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.84	757.8	30.10	764.4	66.4	19.1	62	SW			3		5		SW	0.43	11.	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.30	744.2	30.17	766.4	68.7	20.4	72	S			2		2		SW	0.618	15.7	Slightly cld'y	A. Carré, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.25	768.3	71.2	21.8	61	N			1		n	N	N	0.59	15.		Marlot, Director.
Bourges, Normal School	29.64	752.8	30.18	766.5	68.9	20.5	62	WSW			1		8	WSW	WSW	0	0	Very cloudy	M. Gence, Director
Brest, Naval Observatory	29.82	757.4	30.06	763.6	63.3	17.4	70	WSW			3		6		SW	0.148	3.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.56	758.4	30.26	768.6	74.3	23.5	40	W			2		1		W	0.04	1.	V. slightly Cloudy	September, Dir.
Caen, Normal School	29.98	761.6	30.06	763.4	66.2	19	73	SSW			1		2		W	0.283	7.2	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.56	750.7	30.11	764.8	66.9	19.4	67	W			3		8		W	0.16	4.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.55	758.1	30.16	766.0	71.2	21.8	42	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.86	733.1	30.20	767.1	65.7	18.7	70	E			1		10		SW	0.732	18.6		Alluard, Director.
Commercy, Normal School	29.30	744.3	30.15	765.7	70.0	21.1	43	W			1		2kn		W	0.071	1.8	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.05	737.8	30.19	766.8	79.2	26.2	31	W			2		1		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.40	746.8	30.15	765.7	72.9	22.7	52	W			1		ck		NE	0	0		Ablard, Directo
La Roche-sur-Yon, N. School	30.04	762.9	30.25	768.3	64.4	18.0	62	SW			4		8		SW	0	0	Very cloudy.	Mouillot, Director.
Le Mans, Normal School	29.85	758.2	30.15	765.9	65.3	18.5	67	W			4		8	W	WSW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.30	744.1	30.15	765.9	66.7	19.3	64	NW			2		10n	W	W	1.016	25.80	Covered	A. Baudry, Director.
Lorient, Naval Observatory	30.07	763.7	30.17	766.2	60.8	16.0	77	SW			4				SW	0.031	0.8		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.84	757.9	30.11	764.7	77.4	25.2	51	WSW			1		3			0	0	Slightly cl'dy	E. Stephan, Director
Mirecourt, Normal School	29.13	739.9	30.15	765.9	67.1	19.5	68	E			3		5		E	0.12	3.	Cloudy	Barbier, Director
Nismes, Normal School	29.92	760.0	30.11	764.9	86.0	30	40	NW			3		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.10	739.1	30.12	765.0	78.8	26	48	N			1		kn	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.37	644.4			46.4	8.0	76	SW			1		8		W	0.945	24.0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.26	768.5	30.29	769.3	68.4	20.2	57	SW			4		5			0	0	½ covered	Lt. E. Decante, Directo.
Rouen, Normal School	30.02	762.5	30.11	764.7	62.8	17.1	69	S			2		10	W	SW	0.106	2.7	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.04	762.9	30.07	763.7	61.9	16.6	67	SW			4		5	SW	SW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.97	761.3	30.14	765.5	65.7	18.7	53	SW			3			SW	SW	0	0		E. Renou, Director.
Tarbes, Normal School	29.22	742.1	30.26	768.7	75.2	24	64	SSW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.56	750.9	30.29	769.4	71.1	21.7	61	NW			3		6			0	0		M. Julier Mercadier.
Versailles, Observatory	29.64	752.9	30.13	765.4	66.9	19.4	45	W			4					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.44	747.8	30.14	765.6	66.2	19	82	NNW			1		10		W	0.87	22.	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.78	756.4	29.81	757.1	77.0	25										0.79	20.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.55	750.6	30.15	765.9	70.2	21.2	50	NNE			1		8		W	0.307	7.8	Hailing	Ch. André, Director.
Mont-Louis	24.86	631.5	30.18	766.5	66.2	19.0	85	SW	15.0	6.7			0			0	0		M. Cave.
Nice			30.10	764.6	73.8	23.2	77	SE			2		0			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.85	758.2			70.0	21.1	49	SW			6		7		SW	0.028	0.7		Marié Davy, Director.
Perpignan	30.08	763.9	30.18	766.6	77.5	25.3	41	NE	7.4	3.3			2		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.76	578.1			46.9	8.3		S			2		4			0	0	Clear	Gen'l de Nansouty.
Tours	29.97	761.3	30.17	766.3	68.0	20.0	45	W			4		6		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.68	753.8	29.70	754.4	67.8	19.9	92	N	1.8	0.8			10			0.177	4.5	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.28	743.7	30.13	765.2	64.2	17.9	87	SW			2		10	SW		0.236	6.0	Raining	Prof. Dr. Hoh.
Berlin	29.87	758.6	30.04	762.9	65.5	18.6	80	SE			1		10			0.331	8.4		Prof. Dr. Arndt.
Breslau	29.49	749.1	30.04	762.9	76.1	24.5	48	SE			2		2			0	0		Royal University Obs'y.
Carlsruhe	29.71	754.5	30.13	765.2	66.9	19.4	71	SW			2		8	SW		0.296	7.5		Albert Sena.
Cassel	29.48	748.9	30.10	764.4	69.8	21.0	54	NW			2		10	WNW		0	0		Dr. H. Möhl.
Crefeld	29.92	760.0	30.08	764.1	66.7	19.3	72	NW			3		8			0.24	6.		Director Lose.
Emden			30.00	762.0	70.2	21.2	60	W			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.76	755.9	30.13	765.2	69.4	20.8		W			1		9			0.138	3.5		Physical Society.
Freienwalde on the Oder	29.98	761.6	30.02	762.6	64.4	18.0	80	W			4		10ks	SW		0.055	1.4		Dr. Assmann.
Friedrichshafen	28.76	730.6	30.18	766.5	64.4	18.0	75	W			4		5	W		0.650	16.5	Raining	M. Wilhelm.
Hamburg	29.96	761.0	30.03	762.7	66.9	19.4	67	WSW			4		8ks			0	0	Fair	Captain F. Hegemann.
Kiel	29.96	761.0	29.98	761.5	68.4	20.2	70	W			4		9			0.036	0.91		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.89	759.3	29.98	761.4	67.6	19.8	48	NW			6		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.61	752.1	30.02	762.4	72.7	22.6	58	W			3		10			0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.90	759.5	29.95	760.7	57.7	14.3	73	WNW			5		1s						Skalweit.
Munich (München)	28.33	719.5	30.20	767.1	59.7	15.4	76	W			4		10	W		0.622	15.8		Dr. C. Larg.
Neufahrwasser	29.99	761.7	30.06	762.1	67.6	19.8	52	NNE			2		1	W		0	0		A. Lothes.
Posen	29.76	755.8	30.03	762.8	74.5	23.6	46	NE			1		8			Inap.	Inap.		Dr. Magener.
Strassburg (in Alsace)	29.63	752.7	30.17	766.4	67.3	19.6	72	SSE			3		5	W		0.151	3.84		Imp. University Observatory.
Stuttgart	29.20	741.7	30.13	765.2	64.4	18.0	71	W					10			0.244	6.2		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.60	726.5	30.10	764.5	59.7	15.4	88	WNW	1.1	0.5			10		WNW	0.150	3.8	Raining	T. Hopfner.
Wustrow	29.88	759.0	29.91	759.6	74.5	23.6	56	E			1		8cs			0	0		E. Schmitz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the p. m. instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.0	29.94	760.4	88.9	31.6		NE			3.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.2	29.70	754.5	86.3	30.2	61	SW				4				0	0	D. clouds	
Deesa	29.21	742.0	29.67	753.6	99.6	37.6	25	W	15.3	6.8		1		SW		0	0	D. clouds	
Bombay	29.71	754.7	29.75	755.6	85.1	29.5	73	NW	18.0	8.0		7		NW		0.09	2.3	D. clouds	
Poona	27.88	708.1	29.71	754.7	83.3	28.5	57					8			Calm	0.17	4.3	D. clouds	
Lahore	28.76	730.5	29.46	748.2	107.3	41.8	18	Calm	2.1	0.9		0				0	0	Blue sky	
Belgaum	27.25	692.2	29.79	756.6	75.1	23.9	85	W	12.0	5.4		10		W	W	0.53	13.5	Gloomy	
Roorkee	28.57	725.8	29.42	747.2	104.9	40.5	13	W	7.3	3.3						0	0		
Agra	28.96	735.5	29.49	749.0	105.1	40.6	18	W								0	0		
Nagpur	28.52	724.4	29.52	749.7	99.7	37.6	30	Calm	6.5	2.9		5			E	0	0	D. clouds	
Lucknow	29.06	738.2	29.42	747.2	104.0	40.0	23		5.0	2.2						0	0	Gloomy	
Allahabad	29.16	740.6	29.45	748.0	107.1	41.7	15	NNW	3.9	1.7		0				0	0	Misty	
Patna	29.26	743.1	29.43	747.4	103.1	39.5	32	ENE	0.8	0.4		4		ENE	ENE	0	0	D. clouds	
Hazaribagh	27.50	695.6	29.41	747.1	99.8	37.7	18	NW	5.0	2.2		9				0	0		
Cuttack	29.44	747.7	29.52	749.7	82.6	28.1	69	SSW	3.0	1.3		7						Thunder-storm	
Calcutta (Alipore)	29.51	749.5	29.53	750.0	87.8	31.0	76	SSE	9.0	4.0		3		S		0	0	D. clouds	
Goalpara	29.17	740.9	29.55	750.6	83.9	28.5	79	Calm	2.5	1.1		2		W		0	0	D. clouds	
Chittagong	29.57	751.0	29.66	753.4	81.7	27.6	85	SSE	4.9	2.2		5				0	0	Misty	
Sibsagar	29.24	742.7	29.57	751.0	86.3	30.2	80	ENE	1.3	0.6		8		W	W	0	0	D. clouds	
Jubbulpore	28.18	715.5	29.47	748.4	102.2	39.0	21	N	3.7	1.6		0				0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.2	30.01	762.3	79.9	26.6	54	SW	2.5	1.1			4			0	0		Prof. Giovanni Clodig.
Milan	29.49	749.1	30.00	761.9	82.9	28.3	36	S			2		2	SW		0.083	2.1		Prof. Schiaparelli.
Padua	29.90	759.5	30.01	762.2	79.9	26.6	48	SSW	2.5	1.1			4	SSW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.12	739.6	29.99	761.8	77.7	26.5	47	SSE	2.5	1.1			4	NE		0	0		Prof. P. F. Denza.
Genoa	29.89	759.1	30.07	763.8	72.7	22.6	60	SW	6.3	2.8			0			0	0		Prof. G. M. Garibaldi
Mondovi	28.16	715.3	30.01	762.3	76.5	24.7	45	NE			2		1	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.99	761.7	30.04	762.9	76.3	24.6	60	NE	9.8	4.4			0			0	0		Prof. Luigi Guidi.
Florence	29.82	757.3	30.06	763.6	80.2	26.8	36	W			2		0			0	0		Cav. F. Meucci.
Leghorn	30.02	762.5	30.10	764.6	74.3	23.5	59	W			4		0			0	0		Prof. P. Monte.
Rome	29.89	759.3	30.06	763.6	84.9	29.4	36	W	12.5	5.6			0			0	0		Prof. P. S. Ferrari.
Lecce	29.76	755.8	30.00	762.1	82.0	27.8	40	NNW	7.4	3.3			0			0	0		Prof. C. De Giorgi.
Cosenza	29.16	740.7	30.01	762.2	89.6	32.0	69	NW	0	0			0			0	0		Prof. D. Conti.
Cagliari	29.91	759.6	30.10	764.4	79.3	26.3	56	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.84	757.9	30.09	764.2	73.8	23.2	71	NE	4.3	1.9			6			0	0		Prof. G. Cacciatore.
Syracuse	29.99	761.8	30.08	763.6	82.4	28.0	55	SSE	2.5	1.1			9	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.10	764.5	82.2	27.9	63	NW	2.5	1.1			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.63	752.6	29.65	753.1	68.5	20.3	85	SW	4.0	1.8			7s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.46	748.3	29.65	753.1	68.1	20.1	92	SE	0.7	0.3			10s			0.020	0.51	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.52	749.8	29.59	751.6	66.7	19.3	89	SSW	5.8	2.6			10s			0.030	0.76	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.5	30.09	764.2	56.3	13.5	73	Calm			0	4	0	E		0.05	1.2	Fair	Prof. L. Perez.
Leon	24.43	620.4	30.04	762.9	64.8	18.2	89	W			1	0	9n		SW	0.10	2.4	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.07	585.9	29.96	761.0	60.8	16.0	74	Calm	0	0		2c	5k	N		0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					63.7	17.6	87	Calm			0		10n		S	Inap.	Inap	Covered	M. V. de Leon, M. E
Tlacotalpam	29.82	757.3	29.83	757.6	79.5	26.4	81	S			3	1	0	S		0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.20	614.6	30.07	763.7	64.9	18.3	69	E			3		10		SE	1.42	36.1	Covered	G. Barroeta, M. D
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.1	30.06	763.4	59.4	15.2	81	SW			1		10n		SW	0	0	Light fog	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.2	30.20	767.0	61.7	16.5	45	Calm	0	0		9	0	SW		0.39	9.8	Very cloudy	Prof. P. Spina.
Colima	28.38	720.9	30.02	762.6	75.9	24.4	76	NE			1	0	5		S	0	0	½ clouded	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.69	754.0	29.97	761.3	75.0	23.9	86	SE			3	3	6		SE	0	0	Threatening	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.09	764.2	30.09	764.2	61.5	16.4		WNW								0.322	8.2		
Groningen					66.6	19.2		WSW			3					0	0		
Helder	30.04	763.0	30.04	763.0	60.1	15.6		SW			4					0	0		
Hellevoetsluis	30.07	763.7	30.07	763.7	66.6	19.2	70	WNW			2					0.316	8.0		
Utrecht	30.02	762.6	30.07	763.8	68.0	20.0	63	W			3		5			0.051	1.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.87	758.6	29.92	760.0	60.4	15.8	68	NW	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	
Brönø	29.85	758.2	29.89	759.2	46.8	8.2	83	SW	7	3	.....	.....	9	.....	.....	0.126	3.2	.....	
Christiania	29.72	755.0	29.87	758.6	71.6	22.1	44	WSW	9	4	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.73	755.2	29.78	756.3	42.1	5.6	55	W	11	5	.....	.....	10	.....	.....	0.094	2.4	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.75	755.7	29.94	760.5	66.6	19.2	87	SSW	3.1	1.4	.....	.....	7	.....	.....	1.201	30.5	.....	Dr. J. A. Sampaio.
Campo Major	29.25	742.9	30.23	767.7	82.4	28.0	33	NNE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.18	766.6	30.27	768.8	68.4	20.2	72	SE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.94	760.5	30.30	769.5	72.7	22.6	51	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	29.94	760.5	30.01	762.3	67.6	19.8	92	SW	14.3	6.4	.....	.....	10	.....	.....	0.787	20.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 1° 50′, W. 1° 58′	.....	.....	29.98	761.6	83.7	28.7	.....	S	.....	.....	2	.....	4	.....	.....	S	3	S	D. Clouds...	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. S. 11° 11′, E. 13° 14′	.....	.....	29.97	761.2	71.6	22.0	.....	SW	.....	.....	3	.....	10	.....	.....	WNW	2	SW	Overcast	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	30.01	762.3	79.9	26.6	.....	NE	.....	.....	4	.....	5	.....	.....	NE	2	.....	D. clouds	P. de Fair[illegible]. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.77	756.1	86.2	30.1	.....	SSW	.....	.....	4	.....	6	.....	.....	SSW	2	S	D. clouds. 2 [hours rain-fall.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.57	751.1	29.98	761.4	72.5	22.5	34	WNW	7	3	.....	.....	2c	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.44	747.7	29.84	757.9	71.8	22.1	45	W	2	1	.....	.....	9n	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.45	747.9	29.68	753.8	66.7	19.3	67	WNW	9	4	.....	.....	2k	.....	.....	.....	.....	Thunder-storm.	Prof. Dr. Weihrauch.
St. Petersburg	29.56	750.9	29.58	751.3	65.1	18.4	56	WNW	16	7	.....	.....	8ks;k;c	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.19	741.3	29.79	756.7	72.0	22.2	51	W	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.8	29.91	759.6	67.1	19.5	69	WNW	13	6	.....	.....	3	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.4	29.84	757.9	72.0	22.2	71	N	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.11	739.3	29.63	752.6	71.1	21.7	47	S	9	4	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.58	751.2	29.78	756.3	72.3	22.4	37	ESE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.43	747.6	29.45	748.1	54.9	12.7	58	S	13	6	.....	.....	6ks	.....	.....	.....	.....	.....	Capt. Sseilwerstow.
Tiflis	28.36	720.4	29.69	754.2	82.8	28.2	32	SE	9	4	.....	.....	2s;cs	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.90	759.5	29.82	757.4	70.5	21.4	38	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.15	740.3	29.61	752.2	48.7	9.3	69	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.25	742.9	29.52	749.8	44.2	6.8	84	WNW	9	4	.....	.....	7n;ck;	ks]	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.41	721.6	29.34	745.2	56.8	13.8	65	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.54	750.4	29.77	756.1	80.6	27.0	49	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.28	718.3	29.74	755.5	86.0	30.0	48	NW	0	0	.....	.....	3	.....	.....	.....	.....	Light clouds	Teich, A. M.
Barnaul	29.13	739.9	29.60	751.8	76.5	24.7	47	NE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.69	754.2	29.97	761.3	72.0	22.2	35	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6ks	.....	.....	.....	.....	.....	
Peking (China)	29.51	749.5	29.65	753.1	73.6	23.1	34	SE	16	7	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6k	.....	.....	.....	.....	.....	
Vladivostock	29.52	749.7	29.61	752.2	56.5	13.6	69	N	4	2	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.10	764.5	30.20	767.1	74.3	23.5	54	SSE	2.8	1.25	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.23	767.9	30.29	769.3	73.8	28.2	57	NW	3.3	1.48	.....	2	3	E	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.34	694.3	.....	.....	69.4	20.8	44	W	8.9	3.99	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.02	711.7	30.13	765.4	85.3	29.6	31	SW	11.2	5.00	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	30.02	762.6	30.17	766.2	94.3	34.6	35	SE	3.1	1.39	.....	0	1	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.37	746.0	30.26	768.5	60.3	15.7	84	SW	2.9	1.4	.....	.....	10	.....	.....	0.004	0.1	Light rain	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	758.9	29.94	760.5	82.2	27.9	76	E	1.1	0.5	.....	1c	0	NNW	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands.	29.78	756.4	29.82	757.7	86.4	30.2	75	ESE	5.1	2.3	.....	4c	4n	W	E	0.016	0.4	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.13	765.3	30.23	767.7	76.8	24.9	55	WSW	7.0	3.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.6	29.96	760.9	76.3	24.6	95	SE	5.9	2.65	.....	10kn	2kn	SE	SE	2.481	63.00	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29 67	753.7	29.71	754.7	59.4	15.2	.....	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	29.70	754.4	29.82	757.5	67.3	19.6	39	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.72	754.8	29.77	756.1	68.7	20.4	76	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.68	753.9	29.86	758.4	67.8	19.9	41	W	.....	.....	4	.....	6	.....	.....	0	0	.....	
Wisby	29.79	756.6	29.85	758.1	59.4	15.2	45	N	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.74	755.5	29.82	757.4	65.1	18.4	54	N.	5.8	2.6	.....	.....	5	NNE	W	0	0	.....	Nils Ekhorn.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.57	725.6	30.17	766 3	64.9	18.3	70	SW	.....	.....	2	.....	3	.....	.....	0.217	5.5	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.0	72.5	22.5	56	N	13	6.0	.....	.....	7	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	100.2	39.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.3	79.2	26.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.6	89.1	31.7	61	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.51	749.5	29.80	756.9	64	17.8	.....	SW	5	2.2	.....	.....	8s	.....	W	0	0	Cloudy	W. R. Bigg
Chatham, N. B	29.87	758.7	29.93	760 2	52	11.1	96	SE	5	2.2	.....	.....	10n	.....	SE	0.28	7.1	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	57	13.9	80	SE	4	1.8	.....	.....	10n	.....	.....	0.005	0.13	Cloudy	H J. Cundall, C. E.
Cornwall, Ontario	29.56	750.8	29.74	755.4	71.0	21.7	73	SW	.....	.....	2	.....	8s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.72	754.9	29.89	759.2	47.7	8.7	100	E	.....	.....	6	.....	10n	.....	.....	0.13	3.3	Light rain	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.75	755.6	29.77	756.1	53	11.7	100	Calm	0	0	.....	.....	10n	.....	S	0.22	5.6	Light rain	J. McWilliams.
Fredericton, N. B	29.88	758.9	29.94	760.5	52.3	11.3	92	SE	8	3.6	.....	.....	Mist	.....	.....	0.115	2.92	Foggy	Prof. Harrison.
*Fort Garry, Manitoba	29.27	743.4	30.08	764.0	61	16.1	91	E	5	2 2	.....	2ck	2ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.78	730.7	29.85	758.2	62	16.7	100	Calm	.....	....	0	1cs	0	.....	.....	0.45	11.4	Clear	James Grant.
*Halifax, N. S	29.92	760.0	30.03	762.7	54	12.2	77	SE	1	0.4	.....	.....	10ks	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.49	749.0	29.84	757.9	71.5	21.9	78	SW	.....	.....	5	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.83	757.7	56	13.3	88	W	3	1.3	.....	5k	5ks	W	W	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.96	761.0	30.00	762.0	49.1	9.5	89	Calm	0	0	.....	8k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.55	760.6	29.74	755.4	68	20.0	73	SW	12	5.4	.....	5ck	2ks	W	W	0.17	4.3	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.17	740.9	29.85	758.2	57	13.9	94	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.69	738.9	29.79	756.7	70.7	21.5	66	W	.....	.....	1	4k	0	.....	.....	0	0	Fair	J. F. Jeffers, B A.
Port Dover, Ontario	29.17	740.9	29.85	758.2	61	16.1	94	SW	4	1.8	.....	8k	0	W	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.95	760.7	30.00	762.0	46.6	8.1	.....	SW	3	1.3	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.83	757.7	68	20.0	95	W	6	2.7	.....	.....	8ks	.....	W	0.19	4.8	Cloudy	M. Payne.
*Quebec, Quebec	29.44	747.8	29.75	755.6	60	15.6	94	Calm	.....	.....	0	0	2ks	.....	Calm	0.77	19.6	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.36	745.7	29.80	756.9	67	19.4	66	NW	10	4.5	.....	2k	0	NW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.85	758.2	29.90	759.4	49	9.4	92	SE	.....	.....	1	.....	Fog	.....	.....	0.36	9.1	Dense fog	Dr. Gove.
St. John, N. B	29.78	756.4	29.94	760.5	53	11.7	83	E	3	1.3	.....	.....	10s	.....	.....	0.03	0.8	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.89	759.2	52	11.1	92	N	5	2.2	.....	.....	Fog	.....	.....	0.19	4.8	Foggy	K. Stewart.
Stayner, Ontario	29.08	738.6	29.84	757.9	60	15.6	76	N	5	2.2	.....	2ck	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.60	726.4	29.83	757.7	61.9	16.6	98	NW	12	5.4	.....	.....	10n	.....	.....	0.248	6.30	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.99	761.7	30.03	762.7	52	11.1	63	SW	1	0.4	.....	10cs?	5s?	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.47	748.5	29.83	757.7	69	20.6	71	NW	8	3.6	.....	5ck	5ks	W	W	0	0	Cloudy	Magnetic Observatory
Windsor, N. S	29.88	758.9	29.97	761.2	54.0	12.2	80	S	9	4.0	.....	.....	10n;k	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	30.00	762.0	47.0	8.3	92	N	.....	.....	.....	.....	10	.....	.....	Blank	Blank	Overcast	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.63	752.6	29.85	758.2	70	21.1	85	SW	2	0.9			10s		SW	0	0	Cloudy	
Alpena, Michigan	29.29	744.0	29.91	759.7	61	16.1	82	NW	15	6.7		0	0			0.25	6.3	Clear	
Atcha, Aleutian Islands					38	3.3	90	Calm			0		10s		Calm	0	0	Cloudy	
Atlanta, Georgia	28.83	732.3	29.92	760.0	74	23.3	81	SW	8	3.6		8k	0	Calm		Inap.	Inap.	Cloudy	
Atlantic City, New Jersey	29.86	758.4	29.87	758.7	63	17.2	94	S	8	3.6		2c	5ks	W	W	0.11	2.8	Cloudy	
Augusta, Georgia	29.82	757.4	29.98	761.5	76	24.4	77	S	4	1.8		5cs	Haze	Calm	Calm	0.02	0.5	Fair	
Baltimore, Maryland	29.81	757.2	29.86	758.4	71	21.7	85	W	5	2.2		5ck	0	W		1.36	34.5	Fair	
Barnegat, New Jersey	29.82	757.4	29.84	757.9	64	17.8	100	S	5	2.2		8ck	2s;fog	SW	SW;Calm	0.10	2.5	Cloudy	
Bismarck, Dakota	28.22	716.8	30.08	764.0	62	16.7	83	NE	6	2.7			10n		Calm	0.02	0.5	Light rain	
Boerne, Texas	28.46	722.9	29.71	754.6	78	25.6	82	E	6	2.7			10ks		SE	0	0	Cloudy	
Boise City, Idaho	27.07	687.6	30.03	762.7	55	12.8	81	SE	2	0.9			10s		N	Inap.	Inap.	Cloudy	
Boston, Massachusetts	29.75	755.6	29.90	759.4	53	11.7	100	E	7	3.1			Fog		Calm	0.02	0.5	Foggy	
Brackettville, Texas	28.75	730.2	29.73	755.1	78	25.6	100	E	9	4.0			10s		E	0	0	Cloudy	
Breckenridge, Minnesota	28.99	736.3	29.96	761.0	61	16.1	88	E	4	1.8		10cs	0	Calm		0	0	Cloudy	
Brownsville, Texas	29.79	756.7	29.84	757.9	84	28.9	79	SE	4	1.8		5cs	0	Calm		0	0	Fair	
Buffalo, New York	29.15	740.4	29.82	757.4	65	18.3	78	SW	2	0.9			10s		SW	Inap.	Inap.	Cloudy	
Burkes, Arizona					60	15.6	44	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.51	749.5	29.79	756.7	68	20.0	79	S	5	2.2			10s		W	0	0	Cloudy	
Cairo, Illinois	29.63	752.6	30.00	762.0	78	25.6	78	Calm	0	0		2k	0	N		0.60	15.2	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.16	639.0	29.96	761.0	55	12.8	39	NW	1	0.4		0	0			0	0	Clear	
Camp Verde, Arizona					55	12.8	39	NW			1	0	0			0	0	Clear	
Campo, California	27.34	694.4	29.91	759.7	50	10.0	86	SW	4	1.8			10s		Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	76	24.4	82	SW	16	7.2		5cs	2ks	SW	SW	0	0	Fair	
Cape Henry, Virginia	29.88	758.9	29.89	759.2	74	23.3	81	SW	16	7.2			10s		SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.00	762.0	30.01	762.2	77	25.0	77	SW	17	7.6		5c	0	Calm		0	0	Fair	
Cape May, New Jersey	29.79	756.7	29.82	757.4	72	22.2	81	S	5	2.2		0	8ks		W	0	0	Cloudy	
Castroville, Texas	29.11	739.4	29.78	756.4	81	27.2	74	SE	4	1.8		0	5s		SE	0.01	0.3	Fair	
Charleston, South Carolina	29.95	760.7	30.01	762.2	80	26.7	78	SW	8	3.6		5k	2ks	SW	SW	0	0	Cloudy	
Charlotte, North Carolina	29.12	739.6	29.90	759.4	71	21.7	95	S	4	1.8			10s		SW	0.51	13.0	Cloudy	
Chattanooga, Tennessee	29.19	741.4	29.96	761.0	72	22.2	76	S	14	6.3		5cs	0	W		0.19	4.8	Fair	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	52	11.1	93	N	16	7.2			Fog			0	0	Foggy	
Chicago, Illinois	29.27	743.4	29.94	760.5	61	16.1	77	N	9	4.0		0	0			0.23	5.8	Clear	
Cincinnati, Ohio	29.26	743.2	29.88	758.9	72	22.2	76	NW	8	3.6		5k	4ks	NW	NW	0.25	6.3	Cloudy	
Cleveland, Ohio	29.15	740.4	29.84	757.9	67	19.4	74	NE	6	2.7		5k	5ks	W	W	0.49	12.4	Cloudy	
Coleman City, Texas	28.14	714.7	29.71	754.6	77	25.0	82	SE	8	3.6		0	8ks		S	0	0	Fair	
Columbus, Ohio	29.00	736.6	29.80	756.9	71	21.7	90	N	6	2.7			10ks		NW	0.44	11.2	Cloudy	
Concho, Texas	28.01	711.4	29.59	751.6	78	25.6	65	S	6	2.7			10ks		S	0	0	Cloudy	
Corsicana, Texas	29.49	749.0	29.94	760.5	75	23.9	86	S	2	0.9		8c;hz	1s	W	S	0	0	Fair	
Davenport, Iowa	29.34	745.2	29.95	760.7	70	21.1	80	NE	7	3.1		1c	0	Calm		0.12	3.0	Clear	
Deadwood, Dakota	25.35	643.9			57	13.9	81	SW	4	1.8			10s		SW	0.93	23.6	Cloudy	
Decatur, Texas	28.76	730.5	29.87	758.7	76	24.4	56	S	9	4.0		5cs	0	S		0	0	Fair	
Denison, Texas	29.16	740.7	29.90	759.4	79	26.1	78	SW	6	2.7		5cs	0	SW		0	0	Fair	
Denver, Colorado	24.68	626.9	29.90	759.4	59	15.0	59	S	2	0.9		0	Sm'e			0	0	Clear	
Des Moines, Iowa	29.11	739.4	29.96	761.0	70	21.1	85	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.20	741.7	29.84	757.9	69	20.6	85	NW	6	2.7		0	0			0.20	5.1	Clear	
Dodge City, Kansas	27.29	693.2	29.44	747.8	73	22.8	59	S	8	3.6			10s		W	0.33	8.4	Cloudy	
Dubuque, Iowa	29.32	744.7	29.99	761.7	68	20.0	74	N	5	2.2			10s		N	0.08	2.0	Cloudy	
Duluth, Minnesota	29.40	746.7	30.07	763.8	61	16.1	77	NE	2	0.9		5c	0	N		0	0	Fair	
Eagle Pass, Texa	29.04	737.6	29.72	754.9	79	26.1	78	SE	12	5.4			10s		SE	0	0	Cloudy	
Eastport, Maine	29.85	758.2	29.92	760.0	46	7.8	100	E	4	1.8			10n;fg			0.46	11.7	Light rain	
Edinburg, Texas					83	28.3	87	S			2	5k	2s	S	S	0	0	Fair	
El Paso, Texas	26.12	663.4			73	22.8	13	NW	10	4.5		8k	0	NW		0	0	Fair	
Erie, Pennsylvania	29.14	740.1	29.82	757.4	70	21.1	75	S	4	1.8		5k	2ks	W	W	0.01	0.3	Cloudy	
Escanaba, Michigan	29.39	746.5	30.03	762.7	60	15.6	82	NE	12	5.4		0	0			0	0	Clear	
Florence, Arizona	28.41	721.6	30.01	762.2	75	23.9	30	W	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota	28.01	711.4			61	16.1	82	SE	3	1.3		10cs	0	Calm		0	0	Cloudy	
Fort Craig, New Mexico	25.42	645.7	29.48	748.8	63	17.2	14	S	5	2.2		1k	0	Calm		0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	65	18.3	84	NE	2	0.9			10s		Calm	0	0	Cloudy	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	81	27.2	63	E	5	2.2		0	0			0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.86	758.4	79	26.1	70	SE	5	2.2		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.37	695.2			59	15.0	76	N	5	2.2			10s		Calm	0.17	4.3	Cloudy	
Fort McKavett, Texas	27.68	703.1	29.50	749.3	75	23.9	90	SE	12	5.4			10s		Calm	0	0	Cloudy	
Fort St. Michael, Alaska	29.70	754.4	29.73	755.1	32	0.0	100	W	1	0.4		0	5k		SW	0	0	Fair	
Fort Sill, Indian Territory	28.70	729.0	29.74	755.4	80	26.7	62	SE	8	3.6		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.20	716.3			63	17.2	72	E	4	1.8			10n		Calm	Inap.	Inap.	Light rain	
Fredericksburg, Texas	28.18	715.8	29.66	753.4	77	25.0	57	S	9	4.0			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.90	759.4	29.94	760.5	81	27.2	83	SE	5	2.2		2k	0	S		0	0	Clear	
Graham, Texas	28.84	732.5	29.83	757.7	79	26.1	74	SE	4	1.8		7cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.92	760.0	68	20.0	79	N	2	0.9		0	5s		N	0.01	0.3	Fair	
Henrietta, Texas	28.95	735.3	29.83	757.7	78	25.6	82	SE	7	3.1		2c	0	Calm		0	0	Fair	
Indianapolis, Indiana	29.14	740.1	29.89	759.2	69	20.6	85	N	7	3.1			10s		N	0.40	10.2	Cloudy	
Indianola, Texas	29.90	759.4	29.93	760.2	81	27.2	83	SE	8	3.6		5c	5ks	NW	SE	0	0	Cloudy	
Jacksboro, Texas	28.79	731.3	29.85	758.2	81	27.2	74	SE	12	5.4		2c	0			0	0	Clear	
Jacksonville, Florida	30.02	762.5	30.04	763.0	79	26.1	78	SE	1	0.4		0	2ks		S	0		Clear	
Keokuk, Iowa	29.32	744.7	29.96	759.4	75	23.9	77	W	5	2.2		4c	0	NW		0	0	Fair	
Key West, Florida	29.93	760.2	29.97	761.2	80	26.7	82	E	6	2.7		2k	0	Calm		0.31	7.9	Fair	
Kittyhawk, North Carolina	29.92	760.0	29.94	760.5	76	24.4	77	W	19	8.5		5ck	2s	W	W	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	29.93	760.2	77	25.0	61	SW	12	5.4		2cs	0	SW		0.26	6.3	Fair	
La Crosse, Wisconsin	29.28	743.7	29.98	761.5	66	18.9	74	Calm	0	0		5ck	0	Calm		0	0	Fair	
La Mesilla, New Mexico	25.98	659.9	30.13	765.3	61	16.1	31	Calm	0	0		5k	0	Calm		0	0	Fair	
Laredo, Texas	29.40	746.7	29.72	754.9	79	26.1	54	SE	8	3.6		2k	0	Calm		0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.89	759.2	76	24.4	69	SE	2	0.9		6cs;k	0	SW		Inap.	Inap.	Fair	
Los Angeles, California	29.58	751.3	29.92	760.0	60.0	15.6	77	SE	3	1.3			10s		E	0	0	Cloudy	
Louisville, Kentucky	29.39	746.5	29.92	760.0	70	21.1	80	NW	7	3.1			10s		Calm	0.65	16.5	Cloudy	
Lynchburg, Virginia	29.23	742.4	29.88	758.9	70	21.1	85	SW	4	1.8			10s		SW	0.06	1.5	Cloudy	
Madison, Wisconsin	29.03	737.3	29.98	761.5	64	17.8	83	NE	6	2.7		1c	0	N		0.11	2.8	Clear	
Marquette, Michigan	29.36	745.7	30.06	763.5	55	12.8	68	NW	8	3.6		10k	0	NW		0	0	Cloudy	
Mason, Texas	28.30	718.8	29.96	761.0	80	26.7	66	SE	10	4.5		10cs	0	Calm		0	0	Cloudy	
Memphis, Tennessee	29.65	753.1	29.97	761.2	84	28.9	67	SE	3	1.3		2c	Haze	Calm	Calm	0	0	Hazy	
Milwaukee, Wisconsin	29.26	743.2	29.96	761.0	65	18.3	68	N	12	5.4		1c	0	Calm		Inap.	Inap.	Clear	
Mobile, Alabama	29.96	761.0	30.01	762.2	79	26.1	89	E	6	2.7		0	8s		SE	0.22	5.6	Fair	
Montgomery, Alabama	29.78	756.4	30.00	762.0	81	27.2	59	S	6	2.7		0	0			0	0	Clear	
Morgantown, West Virginia	28.85	732.8	29.78	756.4	75	23.9	72	Calm	0	0		8k	0	Calm		0	0	Cloudy	
Mt. Washington, N. H.	23.8[illegible]	604.5	30.16	766.1	47	8.3	85	W	14	6.3			10s		W	0.05	1.3	Cloudy	
Nashville, Tennessee	29.46	748.3	29.96	761.0	80	26.7	62	W	3	1.3		5k	0	W		0.03	0.8	Fair	
New Haven, Connecticut	29.74	755.4	29.86	758.4	64	17.8	94	E	3	1.3			Fog;hz		Calm	Inap.	Inap.	Foggy	
New London, Connecticut	29.82	757.4	29.87	758.7	64	17.8	94	E	4	1.8			Fog		Calm	Inap.	Inap.	Dense fog	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
New Orleans, Louisiana	29.92	760.0	29.98	761.5	82	27.8	79	NE	5	2.2	.....	0	2ks	.....	NE	Inap.	Inap.	Fair	
Newport, Rhode Island	29.82	757.4	29.86	758.4	64	17.8	94	NE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
New York, New York	29.69	754.1	29.86	758.4	72	22.2	75	W	2	0.9	.....	2cs	5ks	Calm	E	0	0	Fair	
Norfolk, Virginia	29.86	758.4	29.92	760.0	78	25.6	78	SW	12	5.4	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
North Platte, Nebraska	27.00	685.8	29.44	747.8	67	19.4	69	SE	12	5.4	.....	2ck	2ks	SW	Calm	Inap.	Inap.	Fair	
Olympia, Washington Ter.	30.14	765.5	30.18	766.6	46.0	7.8	92	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.82	732.0	29.86	758.4	72	22.2	80	E	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Oswego, New York	29.51	749.5	29.82	757.4	64	17.8	78	S	3	1.3	.....	10c	0	NW	.....	Inap.	Inap.	Cloudy	
Pembina, Dakota	29.14	740.1	29.94	760.5	60	15.6	94	E	3	1.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Philadelphia, Pa	29.79	756.7	29.84	757.9	71	21.7	85	SW	11	4.9	.....	0c;k	2ks	Calm;SW	SW	0.48	12.2	Cloudy	
Phœnix, Arizona	28.66	728.0	30.42	772.7	63	17.2	38	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.82	452.0	30.03	762.7	30	— 1.1	78	SW	20	8.9	.....	8cs	0	SW	.....	0	0	Cloudy	
Ploche, Nevada	.....	.....	.....	.....	46	7.8	69	Calm	0	0	.....	2k	2ks	N	W	0.05	1.3	Fair	
Pittsburg, Pennsylvania	29.04	737.6	29.81	757.2	70	21.1	85	NW	3	1.3	.....	.....	10s	.....	W	0	0	Threatening	
Port Huron, Michigan	29.22	742.2	29.86	758.4	61	16.1	88	N	8	3.6	.....	.....	10ks	.....	N	0.26	6.6	Cloudy	
Portland, Maine	29.87	758.7	29.92	760.0	55	12.8	86	SE	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Portland, Oregon	30.13	765.3	30.20	767.1	49.5	9.7	93	NW	1	0.4	.....	2k	0	N	.....	0	0	Clear	
Prescott, Arizona	24.65	626.1	30.01	762.2	44	6.7	37	W	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Pilot Point, Texas	29.11	739.4	29.90	759.4	83	28.3	62	SE	16	7.2	.....	8cs	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	29.97	761.2	29.99	761.7	77	25.0	86	NE	6	2.7	.....	0	0	.....	.....	0.62	15.7	Clear	
Red Bluff, California	29.53	750.0	29.88	758.9	69	20.6	39	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.63	752.6	29.84	757.9	80	26.7	82	SE	12	5.4	.....	0	8s	.....	SE	0	0	Fair	
Rochester, New York	29.23	742.4	29.81	757.2	69	20.6	70	W	2	0.9	.....	.....	10s	.....	W	0.04	1.0	Cloudy	
Roseburg, Oregon	29.61	752.1	30.18	766.6	49	9.4	93	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Sacramento, California	29.76	755.9	29.84	757.9	63	17.2	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.43	747.5	29.97	761.2	75	23.9	77	Calm	0	0	.....	0	Sm'e	.....	.....	0.53	13.5	Clear	
St. Marks, Florida	30.03	762.7	30.06	763.3	74	23.3	95	SE	5	2.2	.....	0	9s	.....	SE	Inap	Inap.	Cloudy	
St. Paul, Minnesota	29.17	740.9	29.96	761.0	67	19.4	68	N	4	1.8	.....	8cs	0	W	.....	0	0	Fair	
Salt Lake City, Utah	25.50	647.7	29.83	757.7	54	12.2	67	Calm	0	0	.....	7k	0	W	.....	0.12	3.0	Fair	
San Antonio, Texas	29.22	742.2	29.78	756.4	79	26.1	82	SE	4	1.8	.....	5c	0	SE	.....	0.01	0.3	Fair	
San Diego, California	29.88	758.9	29.95	760.7	59	15.0	88	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.21	741.9	29.85	758.2	67	19.4	84	E	5	2.2	.....	0	0	.....	.....	1.15	29.2	Clear	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	71	21.7	80	SW	4	1.8	.....	2c	8ks	W	W	0	0	Cloudy	
San Francisco, California	29.81	757.2	29.88	758.9	54	12.2	87	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.24	590.3	29.78	756.4	62	16.7	32	E	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Savannah, Georgia	29.95	760.7	30.04	763.0	83	28.3	71	SW	10	4.5	.....	2cs	Sm'e	SW	Calm	0	0	Fair	
Shreveport, Louisiana	29.76	755.9	29.96	761.0	80	26.7	74	S	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	24.25	616.9	30.44	773.2	45	7.2	38	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.00	762.0	30.04	763.0	78	25.6	86	SW	8	3.6	.....	5cs	0	SW	.....	0	0	Fair	
Springfield, Massachusetts	29.73	755.1	29.86	758.4	68	20.0	90	NE	2	0.9	.....	.....	10s	.....	E	0	0	Threatening	
Stockton, Texas	26.86	682.2	29.86	758.4	76	24.4	84	SE	4	1.8	.....	.....	10n	.....	SE	0.10	2.5	Light rain	
Thatcher's Island, Mass	29.87	758.7	29.92	760.0	54	12.2	93	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Toledo, Ohio	29.19	741.4	29.84	757.9	71	21.7	80	NW	9	4.0	.....	0	0	.....	.....	0.35	8.9	Clear	
Tucson, Arizona	27.44	697.0	29.99	761.7	58	14.4	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.72	754.9	30.21	767.3	54.0	12.2	74	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.96	735.6	29.74	755.4	78	25.6	78	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	79	26.1	78	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.24	615.7	29.72	754.9	49	9.4	85	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Visalia, California	29.47	748.5	29.83	757.7	64	17.8	78	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair	
Washington, D. C.	29.74	755.4	29.85	758.2	72	22.2	85	SW	7	3.1	.....	8k	0	SW	.....	1.02	25.9	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	52	11.1	23	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.92	760.0	29.99	761.7	77	25.0	82	SW	8	3.6	.....	8k	0	SW	.....	0	0	Fair	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	50.0	10.0	86	E	5	2.2	.....	.....	8s	.....	E	0.30	7.6	Cloudy	
Wood's Holl, Mass	29.82	757.4	29.86	758.4	64	17.8	94	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Yankton, Dakota	28.64	727.4	29.88	758.9	66	18.9	84	E	2	0.9	.....	.....	10n	.....	E	0.27	6.9	Heavy rain	
Yuma, Arizona	29.67	753.6	29.83	757.7	61	16.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. 1	29.90	759.4	29.95	760.7	82	27.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink
Kingston, Jamaica, W. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.26	641.6	.....	.....	65.0	18.3	85	Calm	.....	.....	0	.....	10s;ks	.....	.....	0.31	7.9	.....	Thomas Herran.
Navassa, W. 1	29.82	757.4	29.90	759.4	79	26.1	.....	N	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	83	28.3	79	E	.....	.....	3	5k	7ks	E	.....	0.15	3.8	Cloudy	C. J. Hering.
Santiago de Cuba, W. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,339 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Fort Craig, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,336.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.91‡	759.7‡			80	26.7	96	NE	5	2.2			8		SE					Showery	
Navy Yard, Portsmouth, N.H																					
Naval Hospital. Yokohama, Japan	29.66‡	753.4‡			67	19.4	87	S			3		10ks		SW	0.22	5.6			Cloudy	
Adams, Panama, U. S. C.	30.04‡	763.0‡			78	25.6	95	NNE			2		10		NE					Cloudy	
Alaska, Sitka, Alaska	29.80‡	756.9‡			49	9.4	78	SE			3		10		NE	0.338	8.58			Raining	
Alliance. Off Havre, France	30.10‡	764.5‡			60	15.6	82	WSW			4		10							Rain-squalls	
Colorado, New York, N. Y.	29.84‡	757.9‡			71	21.7	80	Calm	0	0			8		N	0	0			Cloudy	
Constitution, League Island, Penn.	29.75‡	755.6‡			73	22.8	??	WSW			2		8		SW					Cloudy	
Despatch, N. 25° 23′, W. 46° 22′	30.19‡	766.8‡			78	25.6	82	WNW			2		7		Calm	0	0	Light	SE	Fair	
Enterprise, Antwerp, Holland	30.08‡	764.0‡			64	17.8	78	WSW			4–5		3		W					Clear	
Franklin. Norfolk, Va.	29.90‡	759.4‡			76	24.4	82	WSW	9.6	4.3			10		WSW	0	0			Cloudy	
Hartford, Montevideo, Uruguay.*	30.09‡	764.3‡			48	8.9	85	NNW			6		2		N	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.91‡	759.7‡			55	12.8	93	Calm			0		10							Drizzling	
Marion, N. 29° 57′, W. 87° 29′	30.01‡	762.2‡			82	27.8	96	E			2		5		E			Smooth		Fair	
Michigan, Erie, Pa					70	21.1	74	S			2		8		W					Cloudy	
Monocacy. Shanghai, China	29.67‡	753.6‡			68	20.0	90	ENE			0–1		10		ENE					Cloudy	
Monongahela, Yokohama, Japan	29.64‡	752.8‡			69	20.6	85	SSW			1–2		n			Mod'ate	Mod'ate			Overcast	
New Hampshire. Port Royal, S. C.	30.02‡	762.5‡			77	25.0	91	SSE	15	6.7			5		SE	0	0			Fair	
Onward, Callao, Peru †	30.00‡	762.0‡			62.5	16.9	88	NNW			3		10					Long	W	Misty	
Palos, Shanghai, China	29.65‡	753.1‡			68	20.0	84	ENE			1		10							Overcast	
Passaic, Washington, D. C.					72	22.2	95	SW			2		5		S					Fair	
Pensacola, Callao, Peru	29.99‡	761.7‡			62	16.7	88	WSW	1	0.4			10			0	0			Misty	
Portsmouth. New York, N. Y.	29.83‡	757.7‡			64	17.8	89	Calm			0		8		Calm	0	0	Smooth		Misty	
Powhatan, Hampton Roads, Va.	29.94‡	760.5‡			74	23.3	86	SW			4		10		W	0.15	3.8			Cloudy	
Quinnebaug, Smyrna, Turkey	29.82‡	757.4‡			88	31.1	46	NNE			4		0							Clear	
Ranger, Amoy, China	29.66‡	753.4‡			83	28.3	91	SSW			3–4		5?		NE					Clear?	
Richmond, Taku Bar, China	29.62‡	752.3‡			71	21.7	57	ESE			4		0			0	0	Mod'ate	ESE	Clear	
Rio Bravo, Brownsville, Texas	29.84‡	757.9‡			83	28.3	91	SE			2		5		Calm	0	0			Fair	
Santee. Annapolis, Md.	29.86‡	758.4‡			72	22.2	90	SW			1		5		W	1.56	39.6			Fair	
Saratoga, N. 26° 48′, W. 19° 15′	30.19‡	766.8‡			74	23.3	81	ENE			5		0			0	0	Mod'ate	ENE	Blue sky	
St. Louis, League Island, Pa	29.84‡	757.9‡			72	22.2	85	SW	7	3.1			5		SW	0.09	2.3			Fair	
Trenton, Cadiz, Spain	30.22‡	767.6‡			75	23.9	64	WSW			1		0			0	0	Smooth		Clear	
Tuscarora, N. 22° 13′, W. 108° 45′	29.91‡	759.7‡			70	21.1	95	WSW			4		8		S;W	0	0	Long	WSW	Hazy	
Vandalia, Hampton Roads, Va.	29.84‡	757.9‡			75	23.9	86	WSW			4		10		NNW	0	0	Mod'ate	NW	Cloudy	
Wabash, Boston, Mass.	29.72‡	754.9‡			56	13.3	94	E	10	4.5			10			0	0			Overcast	
Wyoming, N. 42° 21′, E. 17° 25′	30.03‡	762.7‡			76	24.4	73	WNW			2		0					Smooth	NW	Clear	
Wachusett, N. 26° 12′, W. 76° 47′	30.02‡	762.5‡			78	25.6	86	ESE			3		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 42° 13′, W. 141° 51′		30.42‡	772.7‡	52	11.1		NNE			4		10			0	Mod'ate	NNW	Drizzling	L. B. Walls.
S. S. Colima, N. 32° 38′, W. 118° 20′...†		29.94‡	760.5‡	61	16.1		WNW			3		10		ESE	0	Mod'ate	W	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitelaw.
S. S. Dakota, Capt. H. G. Morse, N. 41° 45′, W. 124° 25′....†		30.09‡	764.3‡	58	14.4	76	NW			5		1		NW		Heavy	NW	Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 27° 52′, W. 148° 00′		30.26‡	768.6‡				NE			5				NE		Mod'ate	ENE	Dark	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 37° 52′, E. 149° 28′		29.40‡	749.0‡	60	15.6	89	E			6		n				Mod'ate	E	Raining	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 42° 50′, W. 49° 18′		29.71‡	754.6‡	48.0	8.9	75	N			5		10			0	Rough	NNE	Misty	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer.																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 49° 38′, W. 9° 15′		29.99‡	761.7‡				WNW			4		5		WNW		3	WNW	Cloudy	Capt. G. Meyer.

Note.—†Aneroid. *The error of the barometer is not known.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 26′, W. 61° 18′		30.00‡	762.0‡	68	14.4	88	SE			2		8		SW	0	Smooth		Fair	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			
S. S. Pennsylvania																			Capt. Harris.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			*Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Timbalier Light, N. 29° 01′, W. 90° 18′		29.95‡	761.5‡	81	27.2	78	ESE	2	0.9			2k			0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 32° 18′ W. 67° 35′ †		30.19‡	766.8‡				SW			3		0			0	Mod'ate	SE	Clear	N. B. Foss.
Schooner Harry and Fred, N. 29° 26′, W. 67° 35′		29.76‡	755.9‡				SE	14	6.3			4			0.5 in. or 13. mm	Rough	SE	Stormy	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 41° 10′ W. 37° 26′ †		29.44‡	747.8‡	63.5	17.5	78	WSW			6		5		W		Long	W	Fair	Capt P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith																			L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		30.06‡	763.5‡	79	26.1		S			4		5		S	0			½ covered	Capt. Wm. Shepherd.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series, the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co 128 Pearl St Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 13, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.19	766.9	73.5	23.2	73	NE			3		2			0	0	Fair	Kesxuche.
Algiers			30.17	766.2	72.3	22.4	77	ENE			3		0			0	0	Clear	Tourliiere.
La Calle			30.22	767.5	75.9	24.4	82	NNW			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.20	767.0															Gau.
Saida			30.23	767.9	87.8	31.0	15	N			4		0			0	0	Clear	Herbin.
Tebessa			30.18	766.6	83.3	28.5	29	W			3		2			0	0	Fair	Watrin.
Geriville			30.21	767.4	85.1	29.5	43	NNE			2		2			0	0	Fair	Brugniaux.
Laghouat			30.08	764.1	95.4	35.2	32	E			3		2			0	0	Fair	Bertrand.
Biskra			30.15	765.7	97.5	36.4	25	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.42	747.2	29.94	760.5	77.5	25.3	43	SE			3		6			0.512	13.0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.3	29.84	758.0	74.1	23.4	56	ENE			2		5			0.004	0.1		Dr. Wierzbiski.
Eperies	28.97	735.9	29.82	757.4	69.1	20.6	82	NE			1		7c;cs			0.027	0.68		Julius Mikolik.
Gratz	28.75	730.3	29.96	761.0	69.4	20.8	54	WNW			4		2			0.102	2.6		Andreas Rospini.
Hermannstadt	28.47	723.0	29.81	757.2	79.5	26.4	47	NW			1		6			0	0		Prof. A. Gottschling.
Kremsmünster	28.74	730.0	30.07	763.8	57.4	14.1	85	WSW			3		10			0.724	18.4		Prof. C. Wagner.
Lemberg	28.89	733.9	29.84	758.0	70.5	21.4	56	NE			1		0			0	0		Dr. T. Stanecki.
Pola	29.33	757.6	29.94	760.4	77.9	25.5	43	ESE			1		0			0.157	4.0		I.R.Hydrographic Office.
Szathmar	29.45	748.1	29.90	759.4	73.8	23.2	59	W			2		8			0	0		Julius Csics, S. J.
Szegedin																			Karl Stancel.
Trieste	29.84	758.0	29.95	760.6	78.8	26.0	80	E			1		1			Inap.	Inap.	Almost clear	P. Busin.
Vienna	29.31	744.5	30.03	762.7	55.5	13.2	89	WNW			4		10			0.748	19.0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	30.08	764.0	30.18	766.6	47.9	8.8		SE	6	2.7			9			0	0	Overcast	W. Boswell.
Ardrossan	30.08	764.0	30.10	764.5	61	16.1		NNW			1		7					D. clouds	Wm. McNeil &G. Carrick
Armagh, Observatory			30.13	765.3	59.0	15.0		ESE	5	2.2			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.12	765.0	60.3	15.7		WNW	10	4.5			5					D. clouds	John Hartnup.
Bolton (Sharples)			30.12	765.0	53.9	12.2		SSE	18	8.0			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.75	755.6	30.15	765.8	55.1	12.8		E			3		10			0.44	11.2	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	83	28.3		SE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	30.03	762.7	30.13	765.3	67.0	19.4		N			1		7					D. clouds	H. Todd.
Cardington			30.10	764.5	66.0	18.9		N			1		5					D. clouds	John McLaren.
Chatham, School M. E.	29.99	761.7	30.12	765.0	64.5	18.1		NW			1		4					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	30.11	764.8	30.15	765.8	57	13.9		SW			2		5					D. clouds	J. Mac Gowan.
Dover	30.11	764.8	30.14	765.5	59	15.0		WSW			3		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.99	761.7	30.22	767.6	62.2	16.8		SW			3		3					D. clouds	The Staff.
Fort Napier (Natal)	27.74	704.6	30.03	762.7	60.0	15.6		SE			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.65	753.1	29.88	758.9	87	30.6		W			0		3					D. clouds	
Galway, Queen's College			30.04	763.0	56	13.3		SW			1		8					Gloomy	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.09	764.3	30.14	765.5	72.4	22.4		E			2		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.91	759.7	30.12	765.0	60.0	15.6		ENE			3		2					Blue sky	D. G. Maclean.
Great Yarmouth	30.11	764.8	30.12	765.0	59	15.0		SE			2		1					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.95	760.7	30.12	765.0	63.8	17.7		NNW			1		6					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.99	761.7	30.21	767.3	58.5	14.7		WSW			2		5					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.21	767.3	30.33	770.4	68	20.0		SW			2		2ck			0.5	13.	Fine	M. P. Moyle.
Holyhead	30.13	765.3	30.14	765.5	55	12.8		NW			2		1					Blue sky	John Tilston.
Jersey	29.98	761.5	30.27	768.8	58.8	14.9		W			3	3c						D. clouds	J. Fisher.
Kew, Observatory	30.09	764.3	30.13	765.3	59.0	15.0		NW	5	2.2			9					Threatening	The Met'g'l Office.
Leicester, Museum	29.88	758.9	30.14	765.5	57.8	14.3		NW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	76.4	24.7		NW			2							Blue sky	A. King.
Nairn	30.04	763.0	30.14	765.5	52	11.1		E			1		0					Clear	W. D. Penny.
Nassau (Bahamas)			29.92	760.0	83.5	28.6		S			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.96	761.0	30.16	766.1	57.3	14.1		NW			2		10k		NE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.59	751.6	30.11	764.8	63.2	17.3		ENE			2		7					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.13	765.3	62	16.7		W			1		4					D. clouds	H. E. Bellamy.
Plymouth	30.11	764.8	30.19	766.8	62.0	16.7		SW			4		4					D. clouds	John Merrifield.
Prince Town	28.73	729.7	30.20	767.1	55.8	13.2		S			3		8					Fine	W. H. Tooker.
*Roche's Point	30.08	764.0	30.20	767.1	59	15.0		SW			3		5					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.99	761.7	30.16	766.1	55	12.8		WNW			1		2					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			30.17	766.3	50.2	10.1		NW	7	3.1			10			0	0	Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.86	758.4	85.0	29.4		ENE			2		1					Blue sky	Serg't W. H. Lyne.
Sheffield	29.88	758.9	30.16	766.1	54.9	12.7		NE			1		10			0	0	Gloomy	W. F. Cooper.
Silloth Rectory	30.09	764.3	30.12	765.0	62.5	16.9	70	E			1		8			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.74	755.4	30.15	765.8	59.0	15.0		ESE			1		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.92	760.0	30.13	765.3	64.7	18.2		SW			1		9					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.18	766.6	30.19	766.8	67	19.4		NW			4		4					D. clouds	W. Newcombe.
Valencia, Observatory	30.10	764.5	30.13	765.3	57.9	14.4		NNW	11	4.9			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.96	761.0	30.00	762.0	61.8	16.6	60	W	11	4.9		1	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.64	752.8	42.0	5.6	86	SW			5		10n			0.07	1.8	Raining	Francis Abbott F.R.A.S.
Leith, Restalrig Park			30.18	766.6	53.0	11.7		E			2		10s			0	0	Overcast	Andrew Gibb
Mauritius, Observatory	29.83	757.7	30.02	762.5	73.9	23.3	59	SSE	12.5	5.6		0	4		SW	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.16	766.0	30.25	768.3	48.8	9.3	81	W	9	4.0			6			0.03	0.76	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			30.13	765.3	56	13.3		N			3	5	3		N	0	0		J. Youngclause.
North Unst (Shetland Is.)			30.10	764.5	46	7.8		NW			2	5	5					Foggy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Relative Humidity.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force.	Clouds. Amount. Up'er	Low'r	Direction. Upper.	Lower.	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.88‡	758.9‡	80	26.7		ESE			2		4					D. clouds	Capt. W. J. L. Wharton.
§Brig Alliance, N. 54° 26′, W. 14° 58′			30.09‡	764.3‡	55	12.8		ESE			3		8					Misty	Capt. W. Scott.
Barque Fedalma, N. 37° 20′, W. 59° 38′			29.85	758.2	73	22.8		WSW			6		5			3	W	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 48° 45′, W. 36° 50′			29.48	748.8	57	13.9		N			4		6			6	ENE	Showery	Capt. W. Randall.
S. S. Algeria, N. 51° 30′, W. 10° 00′			30.12	765.0	57	13.9		E			1		8	SW		2		D. clouds	Capt. Wm. Watson.
Astarte, N. 3° 35′, W. 22° 30′ *			29.95‡	760.7‡	82	27.8		SSE			2		9					Overcast	Capt. Parson.
British Peer, N. 12° 10′, W. 31°, 30′			30.01‡	762.2‡	78.5	25.8		NE			5		2					Misty	Capt. Greig.
Theophane, S. 20° 55′, E. 65° 30′			29.99‡	761.7‡	73.5	23.1		SW			3		8					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Nizam																			Capt. Barlow.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER
San José	26.20	665.5	29.92	760.0	65.8	18.8	95	E			1	3k;ck				0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.7	29.96	760.9	63.2	17.2	71	NW			1		10						
Fanöe	30.06	763.4	30.08	763.9	54.7	12.6	81	W			4		10						
Godthaab (Greenland)	29.85	758.2	29.89	759.3	43.0	6.1	87	S			4		8					Foggy	
Stykkisholm (Iceland)	30.06	763.4	30.10	764.5	48.2	9.0	89	W			2		10						
Thorshavn (Faröe)	30.09	764.3	30.13	765.2	53.4	11.9	83	Calm			0		7						
Vestervig	29.85	758.2	30.02	762.5	53.2	11.8	84	W			7		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.73	755.1	30.29	769.1	62.6	17	72	W			1		5	W	W	0.004	0.1	Cloudy	Collignon, Director.
Amiens, Normal School	30.08	763.9	30.18	766.6	64.4	18	62	WNW			4		8		SE	0.331	8.4	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.91	759.6	30.16	766.1	56.7	13.7	79	W			3		1		NW	0.264	6.7	Clear	Klein, Commandant.
Avignon, Normal School	30.12	765.1	30.20	767.1	74.7	23.7	58	N			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.69	754.2	30.24	768.2	63.9	17.7	55	SW			1		5kn		W	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.95	760.6	30.21	767.3	63.5	17.5	67	W			3		8		WNW	0.148	3.75	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.39	746.6	30.28	769.1	63.5	17.5	67	SW			2		8		SW	0.134	3.4	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.44	747.7	30.37	771.5	64.4	18	62	W			2		kn	N	N	0	0		Marlot, Director.
Bourges, Normal School	29.72	754.8	30.26	768.6	64.2	17.9	67	NW			1		10	W	W	0	0	Covered	M. Gence, Director.
Brest, Naval Observatory	29.95	760.6	30.19	766.8	69.1	20.6	65	SW			1		6		SW	0	0		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.73	755.1	30.12	765.1	84.0	28.9	39	WNW			1		1		WNW	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	30.15	765.8	30.22	767.6	66.2	19	64	E			2		5		W	0.358	9.1	Cloudy	Lair, Director.
Chartres, Normal School	29.65	753.2	30.21	767.2	70.3	21.8	86	W			3		7		W	0.08	2.	Cloudy	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.91	759.7	30.23	767.7	63.0	17.2	52	SW			3		5	WSW	WSW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.94	735.0	30.27	768.8	67.6	19.8	53	W			1		8		W	0.051	1.3		Alluard, Director.
Commercy, Normal School	29.37	746.0	30.23	767.8	59.9	15.5	64	W			3		8kn		W	0.102	2.6	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	29.07	738.4	30.21	767.4	70.2	21.2	26	NW			4		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.48	748.8	30.24	768.0	66.2	19	47	NW			4		2k		NE	0	0	Partly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	30.11	764.7	30.32	770.0	62.6	17.0	73	SW			1		8		SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.97	761.1	30.27	768.8	65.8	18.8	57	NW			1		5		WNW	0	0	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.39	746.4	30.29	769.4	63.1	17.3	57	W			2		10n	W	W	0.08	2.	Covered	A. Baudry, Director.
Lorient, Naval Observatory	30.21	767.1	30.30	769.6	61.5	16.4	75	S			2				S	0.016	0.4		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.87	758.7	30.13	765.4	74.5	23.6	20	NW			4		1			0	0	Partly cl'dy	E. Stephan, Director
Mirecourt, Normal School	29.19	741.4	30.22	767.6	63.0	17.2	56	NE			1		10		NE	0	0	Covered	Barbier, Director
Nismes, Normal School	29.99	761.8	30.19	766.8	76.6	24.8	46	NE			3		0			0	0	Clear	M. Boyer, Director.
Privas, Normal School	29.20	741.6	30.24	768.2	68.0	20	47	N			1		n	N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.41	645.3			41.7	5.4	78	WNW			2		8			0.059	1.5	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.29	769.4	30.32	770.2	68.9	20.5	58	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	30.13	765.4	30.22	767.6	61.3	16.3	64	W			2		10		W	0.346	8.8	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.21	767.2	30.24	768.0	61.2	16.2	77	N			2		1	NNW	NNW	0.060	1.53	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.06	763.5	30.23	767.7	64.6	18.1	61	W			2				W	0.004	0.1		E. Renou, Director.
Tarbes, Normal School	29.24	742.6	30.29	769.3	76.3	24.6	66	SW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.63	752.5	30.35	771.0	68.7	20.4	42	N			2		4			0	0		M. Julier Mercadier.
Versailles, Observatory	29.74	755.3	30.23	767.8	61.5	16.4	56	WNW			2					0.031	0.80		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.56	750.7	30.26	768.6	64.9	18.3	55	NNW			1		8		N	0.016	0.4	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.83	757.6	29.85	758.3	81.0	27.2										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.67	753.6	30.28	769.2	65.1	18.4	44	NE			1		7		N	0.004	0.1	Cloudy	Ch. André, Director.
Mont-Louis	24.90	632.5	30.22	767.5	63.5	17.5	54	ESE	18.6	8.3			10			0	0		M. Cave.
Nice			30.04	763.0	76.3	24.6	57	SE			2		0			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.94	760.5			62.6	17.0	55	W			4		7		WNW	0.004	0.1		Marié Davy, Director.
Perpignan	30.13	765.4	30.24	768.1	76.1	24.5	32	NE	15.0	6.7			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.80	579.0			49.8	9.9		W			1		5			0	0	Fair	Gen'l de Nansouty.
Tours	30.06	763.5	30.26	768.5	69.4	20.8	48	W			1		7		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.70	754.4	29.72	755.0	68.9	20.5	91	ESE	10.7	4.8			10			0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,536.40 m., or 5,204.5 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.29	743.9	30.13	765.4	61.2	16.2	65	SW			6		7	SW		0.142	3.6	Raining	Prof. Dr. Hoh.
Berlin	29.91	759.6	30.08	763.9	68.2	20.1	56	W			1		9			0.063	1.6		Prof. Dr. Arndt.
Breslau	29.48	748.7	30.01	762.2	57.2	14.0	69	NW			6		10			0.028	0.72		Royal University Obs'y.
Carlsruhe	29.74	755.3	30.16	766.0	66.7	19.3	54	SW			3		2	SW		0.322	8.2		Albert Senz.
Cassel	29.57	751.0	30.18	766.5	56.8	13.8	83	WNW			1		8	W		0.544	13.82		Dr. H. Möhl.
Crefeld	29.97	761.1	30.13	765.2	68.5	20.3	52	W			2		8k;ks			0	0		Director Lose.
Emden			30.08	763.9	64.2	17.4	69	NNW			1		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.76	756.0	30.13	765.2	68.5	20.3		W			2		4			0.146	3.7		Physical Society.
Freienwalde on the Oder	29.99	761.7	30.03	762.7	69.4	20.8	62	N			3		9ks	N		0.067	1.7		Dr. Assmann.
Friedrichshafen	28.77	730.7	30.19	766.9	60.8	16.0	78	SW			3		8	W		0.134	3.4	Raining	M. Wilhelm.
Hamburg	30.02	762.6	30.10	764.4	65.1	18.4	57	NW			4		3c	E		0	0	Fair	Captain F. Hegemann.
Kiel	30.04	763.1	30.06	763.5	65.1	18.4	56	W			3		2			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.81	757.2	29.89	759.3	68.0	20.0	46	W			5		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.68	753.8	30.09	764.3	64.9	18.3	64	NNW			1		10			0.327	8.3		Prof. Bruhns, Privy Counselor.
Memel	29.82	757.3	29.86	758.5	60.1	15.6	76	W			4		0						Skalweit.
Munich (München)	28.33	719.6	30.21	767.2	61.9	16.6	53	W			5		9	W		0.209	5.3		Dr. C. Larg.
Neufahrwasser	29.91	759.6	29.92	760.0	69.8	21.0	65	NNW			3		1			0	0		A. Lothes.
Posen	29.73	755.1	30.01	762.2	69.4	20.8	72	NW			5		9			0.035	0.9		Dr. Magener.
Strassburg (in Alsace)	29.67	753.7	30.22	767.5	65.6	18.8	47	W			4		8	W		0.683	17.36		Imp. University Observatory.
Stuttgart	29.22	742.7	30.16	766.1	59.9	15.5	65	S					9	W		0.091	2.3		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.64	727.5	30.13	765.2	63.0	17.2	58	W	31	14			10		W	0.087	2.2		T. Hopfner.
Wustrow	29.98	761.8	30.02	762.4	58.8	14.9	75	W			5		2s			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at three, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.2	29.91	759.6	87.1	30.6		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.65	753.0	29.70	754.3	85.7	29.8	64	SW					1			0	0	D. clouds	
Deesa	29.19	741.4	29.64	752.9	100.1	37.8	23	SW					1	Calm		0	0	D. clouds	
Bombay	29.72	755.0	29.76	755.9	82.1	27.8	88	WNW	19.0	8.5			8	W	WNW	1.60	40.6	D. clouds	
Poona	27.90	708.6	29.76	755.9	76.3	24.6	84						10	Calm		0.08	2.0	Thunder-storm	
Lahore	28.72	729.6	29.42	747.2	109.3	42.9	13	W	3.2	1.4			0			0	0	Blue sky	
Belgaum	27.24	691.9	29.78	756.3	74.7	23.7	87	W	16.0	7.2			10	E	W	0.16	4.1	D. clouds	
Roorkee	28.57	725.7	29.42	747.2	105.9	41.1	15	NW	6.4	2.9						0	0		
Agra	28.93	734.9	29.46	748.4	105.6	40.9	19	SW								0	0		
Nagpur	28.51	724.2	29.50	749.4	101.7	38.7	25	Calm	7.7	3.4			2	SE		0	0	D. clouds	
Lucknow	29.09	738.9	29.46	748.2	100.0	37.8	30	NNW	5.2	2.3						0	0	Gloomy	
Allahabad	29.16	740.6	29.45	748.0	106.6	41.4	19	Calm	4.5	2.0			0			0	0	Misty	
Patna	29.29	743.9	29.46	748.3	98.4	36.9	55	ENE	2.2	1.0			4	ENE	NE	0	0	D. clouds	
Hazaribagh	27.52	699.0	29.45	748.1	93.8	34.3	44	ENE	8.9	4.0			9			0	0		
Cuttack	29.48	748.8	29.56	750.9	88.7	31.5	68	WSW	5.0	2.2			6			0.06	1.5	D. clouds	
Calcutta (Alipore)	29.54	750.4	29.56	750.9	88.8	31.6	68	S	8.0	3.6			10	W		0	0	Gloomy	
Goalpara	29.20	741.8	29.59	751.5	83.3	28.5	78	Calm	1.3	0.6			8	SW		0	0	D. clouds	
Chittagong	29.61	752.1	29.70	754.4	82.1	27.8	86	S	5.5	2.5			8			0	0	Misty	
Sibsagar	29.30	744.1	29.63	752.5	82.7	28.2	88	Calm	2.5	1.1			10	W	W	0.41	10.4	D. clouds	
Jubbulpore	28.17	715.4	29.46	748.4	102.7	39.3	23	Calm	4.9	2.2			8		W	0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,355 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.8	29.96	760.9	78.4	25.8	31	S	2.5	1.1			8			0.020	0.5		Prof. Giovanni Clodig.
Milan	29.47	748.4	29.97	761.1	79.7	26.5	33	W			2		2	WSW		0	0		Prof. Schiaparelli.
Padua	29.85	758.2	29.96	760.9	77.5	25.3	38	SE	6.9	3.1			3			0.028	0.7		Prof. Dott. Lorenzoni.
Moncalieri	29.08	738.7	29.96	760.9	79.0	26.1	22	N	3.1	1.4			0			0	0		Prof. P. F. Denza.
Genoa	29.82	757.5	30.01	762.3	72.3	22.4	68	SW	5.6	2.5			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.6	29.98	761.6	73.8	23.2	26	NW			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.90	759.4	29.95	760.6	73.9	23.3	68	NW	12.5	5.6			6			0	0		Prof. Luigi Guidi.
Florence	29.73	755.2	29.98	761.5	80.6	27.0	49	SW			2		6			0	0		Cav. F. Meucci.
Leghorn	29.85	758.2	29.93	760.3	76.8	24.9	54	SW			6		1			0	0		Prof. P. Monte.
Rome	29.82	757.4	29.99	761.7	82.0	27.8	34	W	5.6	2.5			0			0	0		Prof. P. S. Ferrari.
Lecce	29.73	755.1	29.98	761.4	83.5	28.6	23	NE	4.9	2.2			6			0	0		Prof. C. De Giorgi.
Cosenza	29.12	739.6	29.97	761.1	85.6	29.8	66	SW	1.8	0.8			0			0	0		Prof. D. Conti.
Cagliari	29.91	759.8	30.10	764.6	79.3	26.3	24	NW			6		0			0	0		Prof. A. Pacinotti.
Palermo	29.83	757.7	30.08	764.0	80.1	26.7	25	NE	1.8	0.8			0			0	0		Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.7	75.9	24.4	55	NNE	8.7	3.9			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.2	30.05	763.3	77.5	25.3	62	WSW	6.9	3.1			3			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.75	755.6	29.76	755.9	70.7	21.5	83	Calm	0	0			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.59	751.6	29.78	756.4	69.6	20.9	90	SSW	0.3	0.1			10s			0.005	0.13	Cloudy	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.70	754.4	29.77	756.1	67.7	19.8	90	S	5.4	2.4		2cs	0			0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.1	30.06	763.4	57.2	14.0	67	SW			1	9	0	SE		0	0	Cloudy	Prof. L. Perez.
Leon	24.41	619.9	30.02	762.4	64.4	18.0	80	SW			1		10n		SE	0.22	5.5	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.6	30.00	762.0	57.6	14.2	88	Calm	0	0		9k	0	E		0.17	4.2		The Staff.
Pabellon (Aguascalientes)					66.2	19.0	73	S			1	3cs	6kn	Calm	SW	0	0	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.87	758.6	29.88	758.9	79.3	26.3	82	SW			2	1	0	SW		0.012	0.3	Clear	M. M. Chazaro.
San Luis Potosi	24.18	614.1	30.07	763.7	63.0	17.2	64	SE			1		10		SE	0.18	4.6	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.1	30.04	762.9	60.8	16.0	81	Calm			0		10n		Calm	0	0	Light fog	J. C. Castrillon.
Puebla (Catholic Institute)	23.40	594.4	30.17	766.2	55.2	12.9	50	Calm	0	0		2ck	0	SE		0.38	9.6	Clear	Prof. P. Spina.
Colima	28.36	720.4	30.00	762.0	76.5	24.7	76	NE			1	0	7		NE	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.68	753.9	29.97	761.2	77.0	25.0	80	Calm			0	6	1	NW		0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.15	765.8	30.15	765.8	63.7	17.6		W								0.236	6.0		
Groningen	30.06	763.5	30.11	764.9	62.8	17.1		WNW								0.130	3.3		
Helder	30.12	765.0	30.12	765.0	59.0	15.0		SW			1					0	0		
Hellevoetsluis	30.10	764.6	30.10	764.6	70.2	21.2	66	W			1					0.055	1.4		
Utrecht	30.08	764.1	30.13	765.3	67.6	19.8	55	SW			2		8			0.114	2.9	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.93	760.1	29.98	761.5	56.5	13.6	78	W	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	
Brōno	29.94	760.4	29.98	761.4	47.5	8.6	50	N	11	5	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.63	752.5	29.76	756.0	77.7	25.4	32	SSW	4	2	.....	.....	0	.....	.....	0	0	.....	
Tromsō	29.81	757.2	29.85	758.3	36.9	2.7	77	N	34	15	.....	.....	10	.....	.....	0.228	5.8	Rain & snow	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.81	757.1	30.00	761.9	66.2	19.0	81	SSW	4.3	1.9	.....	.....	9	.....	.....	0.472	12.0	.....	Dr. J. A. Sampaio.
Campo Major	29.21	741.9	30.17	766.2	87.4	30.8	28	ESE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.16	766.0	30.24	768.2	70.3	21.3	69	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.3	30.24	768.2	77.4	25.2	41	SSW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.2	30.08	764.0	72.0	22.2	81	SSW	7.4	3.3	.....	.....	3	.....	.....	0.031	0.8	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 00′, W. 1° 39′	.....	.....	29.96	760.9	81.3	27.4	.....	S	.....	.....	2	.....	3	.....	S	2	S	D. clouds	H. C. e Athayde.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. S. 13° 00′, E. 12° 46′	.....	.....	29.97	761.2	68.4	20.2	.....	W	.....	.....	5	.....	0	.....	.....	2	W	Blue sky	J.C. M. Cabrate, 1st Lt.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com 'd't
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	29.97	761.1	79.5	26.4	.....	SW	.....	.....	3	.....	0	.....	.....	2	.....	Blue sky	P. de l air', F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.76	756.0	84.4	29.1	.....	SW	.....	.....	5	.....	10	.....	SW	3	SW	Raining, 10 hr's rain-fall.]	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.47	748.6	29.88	758.9	74.8	23.8	35	NNW	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.35	745.6	29.76	755.8	71.1	21.7	46	WNW	7	3	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.37	745.9	29.60	751.8	65.3	18.5	58	W	11	5	.....	.....	10k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.50	749.4	29.52	749.8	57.9	14.4	50	NW	16	7	.....	.....	10kn	.....	.....	.....	.....	Light rain	Central Physical Obs.
Kieff	29.10	739.1	29.71	754.5	72.0	22.2	36	NW	11	5	.....	.....	2ck	.....	.....	.....	.....	Solar corona	Physical Cabinet.
Nikolaiev	29.77	756.1	29.84	757.9	80.1	26.7	45	W	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758.6	29.89	759.1	69.8	21.0	85	SSE	7	3	.....	.....	3	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.98	736.0	29.50	749.3	63.3	17.4	67	SSW	9	4	.....	.....	7n	.....	.....	.....	.....	Thunder-storm	Meteorological Obs.
Lugan	29.52	749.8	29.72	754.9	68.9	20.5	53	SW	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.46	748.3	29.48	748.8	48.0	8.9	65	NW	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.45	722.6	29.84	757.8	65.1	18.4	64	NW	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.93	760.1	29.84	758.0	69.4	20.8	44	SE	2	1	.....	.....	10n;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.16	740.7	29.62	752.4	61.9	16.6	69	S	22	10	.....	.....	10	.....	.....	.....	.....	Thunder-storm	Cand. Fatjanow.
Kasan	29.23	742.5	29.49	749.1	57.2	14.0	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Physical Cabinet.
Ekaterinburg	28.59	726.1	29.53	750.0	49.6	9.8	74	W	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.52	749.9	29.74	755.5	86.0	30.0	30	NNE	13	6	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.26	717.7	29.71	754.6	90.1	32.3	54	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.18	740.5	29.62	752.4	74.7	23.7	55	SW	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.57	751.0	29.85	758.1	70.2	21.2	56	SE	9	4	.....	.....	8	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.47	748.6	29.61	752.2	78.1	25.6	37	SE	4	2	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.60	751.7	29.69	754.2	55.0	12.8	75	E	4	2	.....	.....	3c	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.16	766.0	30.26	768.7	71.6	22	58	S	3.5	1.56	.....	.....	1k	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.3	30.26	768 7	81.1	27.3	44	N	1.9	0.83	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.33	694.1	.....	.....	73.9	23.3	43	S	3.9	1.74	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	28.01	711.4	30.11	764.7	88.7	31.5	28	S	3.7	1.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.06	763.5	30.20	767.1	86.8	29.9	41	SW	5.0	2.25	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.34	745.3	30.21	767.2	73.2	22.9	75	WSW	0	0	.....	.....	3	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.83	757.8	29.90	759.4	82.9	28.3	78	Calm	0	0	.....	1c	1k	SE	.....	Inap.	Inap.	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.77	756.3	29.83	757.8	86.6	30.3	67	WSW	10.5	4.7	.....	.....	7kn?	.....	E	0.189	4.8	Covered?	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764.3	30.19	766.7	81.3	27.4	41	WSW	4.5	2.0	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.87	758.6	29.96	760.9	78.1	25.6	86	SE	9.0	4.00	.....	6k	4k	SE	SE	0.118	3.00	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.70	754.3	29.74	755.3	48.9	9.4	....	N	.....	.....	4	.....	7	.....	.....	0	0	.....	
Umea	29.75	755.7	29.80	757.0	49.6	9.8	66	NE	.....	.....	4	.....	8	.....	.....	0.012	0.3	.....	
Hernosand	29.68	753.9	29.73	755.2	64.8	18.2	60	NW	.....	.....	7	.....	5	.....	.....	0	0	.....	
Stockholm	29.59	751.5	29.76	756.0	68.0	20.0	37	NE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.69	754.2	29.75	755.7	68.7	20.4	53	WNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.67	753.7	29.75	755.6	65.8	18.8	46	NNE	9.0	4.0	.....	.....	1	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.59	726.3	30.23	767.7	56.8	13.8	83	SE	.....	.....	2	.....	8	.....	.....	0.138	3.5	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.1	78.8	26.0	34	NE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	95.0	35.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.5	79.7	26.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.5	29.71	754.6	87.3	30.7	50	WNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.64	752.8	29.94	760.5	57	13.9	.....	NW	6	2.7	.....	0	0	.....	.....	0.20	5.1	Clear	W. R. Bigg.
Chatham, N. B	29.56	750.8	29.62	752.3	54	12.2	94	NW	1	0.4	.....	.....	10n	.....	NW	0.33	8.4	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.58	751.3	29.63	752.6	53	11.7	100	S	4	1.8	.....	.....	10n	.....	.....	0.380	9.65	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.98	761.5	56.8	13.8	67	NW	.....	.....	2	0	0	.....	.....	Inap.	Inap.	Clear	James Smith, M. A.
Dalhousie, N. B	29.50	749.3	29.66	753.4	55.0	12.8	79	W	.....	.....	2	0	5ks	.....	.....	1.08	27.4	Clearing	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.71	754.6	29.74	755.4	46	7.8	85	W	20	8.9	.....	8k	2s	N	N	0.31	7.9	Cloudy	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.67	753.6	58.0	14.4	78	NW	9	4.0	.....	.....	10s	.....	.....	0.010	0.25	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.17	740.9	29.97	761.2	64	17.8	78	E	9	4.0	.....	5k	5ks	E	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.94	735.1	30.01	762.2	63	17.2	94	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.56	750.8	29.67	753.6	50	10.0	99	Calm	0	0	.....	.....	Fog	.....	.....	0.078	1.98	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.73	755.1	30.09	764.3	64.7	18.2	68	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.61	752.1	29.94	760.5	59	15.0	63	NW	6	2.7	.....	0	0	.....	.....	0.09	2.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.69	754.1	29.73	755.1	54.3	12.4	68	S	10	4.5	.....	0	8ks	.....	.....	0	0	Threatening	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.68	753.9	29.87	758.7	56	13.3	63	N	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.36	745.7	30.05	763.3	58	14.4	56	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.25	742.9	29.98	761.5	66.2	19.0	34	NW	.....	.....	4	4k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.54	745.2	30.02	762.5	61	16.1	77	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.68	753.9	29.74	755.4	48.1	8.9	.....	S	5	2.2	.....	0	0	.....	.....	0.40	10.2	Fine	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.02	762.5	61	16.1	83	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.51	749.5	29.82	757.4	56	13.3	69	N	.....	.....	1	0	2ks	.....	N	0.01	0.3	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.57	751.1	30.03	762.7	53	11.7	64	N	6	2.7	.....	0	5ks	.....	N	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.59	751.6	29.65	753.1	57	13.9	89	N	.....	.....	2	.....	10n	.....	.....	0.12	3.0	Cloudy	Dr. Gove.
St. John, N. B	29.48	748.8	29.64	752.8	53	11.7	93	W	5	2.2	.....	.....	10s	.....	.....	0	0	Misty	G. Murdock, C. E.
*Saugeen, Ontario	29.35	745.5	30.05	763.3	62	16.7	65	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.28	743.7	30.05	763.3	54	12.2	50	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.79	731.3	30.04	763.0	58.9	14.9	74	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.70	754.4	29.74	755.4	53	11.7	60	S	12	5.4	.....	10cs?	2n?	.....	S	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.02	762.5	61	16.1	59	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.53	750.0	29.62	752.3	53.0	11.7	97	S	1	0.4	.....	.....	10n	.....	.....	0.07	1.8	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.78	756.4	30.04	763.0	46.0	7.8	92	E	.....	.....	.....	Fog	Fog	.....	.....	0	0	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.62	752.3	29.84	757.9	64	17.8	53	N	12	5.4		0	0			Inap.	Inap.	Clear	
Alpena, Michigan	29.46	748.3	30.10	764.5	60	15.6	49	NE	4	1.8		0	0			0	0	Clear	
Atka, Aleutian Islands					39	3.9	100	E			2		10s		E	0	0	Cloudy	
Atlanta, Georgia	28.78	731.0	29.86	758.4	74	23.3	63	NW	9	4.0		10c	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	29.76	755.9	29.77	756.1	70	21.1	80	N	13	5.8		0	0			1.06	26.9	Clear	
Augusta, Georgia	29.72	754.9	29.88	758.9	78	25.6	65	NW	4	1.8		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	29.82	757.4	29.87	758.7	74	23.3	59	NW	14	6.3		2c	0	NW		Inap.	Inap.	Clear	
Barnegat, New Jersey	29.76	755.9	29.78	756.4	69	20.6	80	N	13	5.8		2c	0	Calm		0.23	5.8	Clear	
Bismarck, Dakota	27.91	708.9	29.77	756.1	63	17.2	100	E	20	8.9			10n		E	3.01	76.5	Light rain	
Boerne, Texas	28.44	722.4	29.68	753.9	78	25.6	78	SE	6	2.7		8k	0	SE		0	0	Cloudy	
Boise City, Idaho	27.16	689.8	30.12	765.0	58	14.4	64	N	7	3.1		0	0			0	0	Clear	
Boston, Massachusetts	29.59	751.6	29.73	755.1	67	19.4	74	N	11	4.9		5ck	0	NW		0.04	1.0	Fair	
Brackettville, Texas	28.72	729.5	29.71	754.6	74	23.3	95	E	2	0.9			10ks		SE	0.28	7.1	Cloudy	
Breckenridge, Minnesota	28.88	733.5	29.83	757.7	66	18.9	84	E	14	6.3			10ks		SW	0	0	Cloudy	
Brownsville, Texas	29.78	756.4	29.82	757.4	85	29.4	76	SE	4	1.8		8k	0	SE		0	0	Fair	
Buffalo, New York	29.30	744.2	29.98	761.5	63	17.2	47	NE	7	3.1		0	0			Inap.	Inap.	Clear	
Burkes, Arizona					61	16.1	40	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.57	751.1	29.85	758.2	57	13.9	52	N	15	6.7		0	0			0.91	23.1	Clear	
Cairo, Illinois	29.62	752.3	29.99	761.7	77	25.0	77	N	3	1.3		5c	0	W		0	0	Fair	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.22	640.6	30.02	762.5	60	15.6	49	E	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					56	13.3	35	W			1	0	0			0	0	Clear	
Campo, California	27.39	695.7	29.96	761.0	42	5.6	66	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.79	756.7	29.79	756.7	75	23.9	56	W	8	3.6			10s		NW	0	0	Threatening	
Cape Henry, Virginia	29.78	756.4	29.80	756.9	73	22.8	81	N	5	2.2			10n		N	0.02	0.5	Light rain	
Cape Lookout, N. Carolina	29.82	757.4	29.83	757.7	75	23.9	90	W	17	7.6		8k	0	W		0	0	Cloudy	
Cape May, New Jersey	29.73	755.1	29.76	755.9	69	20.6	79	N	22	9.8		5c	0	W		0.72	18.3	Fair	
Castroville, Texas	29.08	738.6	29.75	755.6	80	26.7	78	SE	4	1.8			10s		SE	0	0	Cloudy	
Charleston, South Carolina	29.80	756.9	29.85	758.2	77	25.0	77	W	4	1.8		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	29.06	738.1	29.83	757.7	75	23.9	67	N	9	4.0		10cs	0	NW		0.05	1.3	Cloudy	
Chattanooga, Tennessee	29.16	740.7	29.93	760.2	72	22.2	76	Calm	0	0		1cs	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	54	12.2	61	W	7	3.1			10s		Calm	Inap.	Inap.	Threatening	
Chicago, Illinois	29.35	745.5	30.03	762.7	57	13.9	81	N	6	2.7		10cs	0	W		0	0	Cloudy	
Cincinnati, Ohio	29.39	746.5	30.02	762.5	70	21.1	66	NE	4	1.8		4c	0	NW		0	0	Fair	
Cleveland, Ohio	29.31	744.5	30.01	762.2	64	17.8	73	N	7	3.1		1cs	0	Calm		0	0	Clear	
Coleman City, Texas	28.07	713.0	29.64	752.8	76	24.4	69	SE	4	1.8		2ck	5ks	Calm	SW	0	0	Fair	
Columbus, Ohio	29.19	741.4	29.99	761.7	72	22.2	58	N	8	3.6		5cs	0	Calm		0	0	Fair	
Concho, Texas	27.96	710.2	29.54	750.3	74	23.3	81	S	6	2.7		0	8s		S	0.08	2.0	Fair	
Corsicana, Texas	29.43	747.5	29.88	758.9	77	25.0	82	S	6	2.7			10c		Calm	0	0	Cloudy	
Davenport, Iowa	29.37	746.0	29.99	761.7	65	18.3	68	E	6	2.7			10s		Calm	0	0	Cloudy	
Deadwood, Dakota	25.24	641.1			56	13.3	81	Calm	0	0		5k: hz	0	S		0.75	19.1	Fair	
Decatur, Texas	28.68	728.5	29.78	756.4	77	25.0	77	S	10	4.5		8cs	0	Calm		0	0	Fair	
Denison, Texas	29.07	738.4	29.82	757.4	79	26.1	78	S	6	2.7		10cs	0	S		0	0	Cloudy	
Denver, Colorado	24.73	628.1	29.95	760.7	59	15.0	59	N	2	0.9		2k	8s	Calm	Calm	0	0	Cloudy	
Des Moines, Iowa	29.06	738.1	29.90	759.4	67	19.4	95	S	3	1.3			10n		Calm	0.32	8.1	Heavy rain	
Detroit, Michigan	29.38	746.2	30.03	762.7	62	16.7	72	N	6	2.7		8cs	0	Calm		0	0	Fair	
Dodge City, Kansas	27.27	692.6	29.42	747.3	72	22.2	80	S	20	8.9			8s		S	0	0	Cloudy	
Dubuque, Iowa	29.34	745.2	30.01	762.2	66	18.9	64	E	4	1.8			10s		E	0	0	Cloudy	
Duluth, Minnesota	29.37	746.0	30.04	763.0	59	15.0	82	NE	8	3.6		5cs	0	NE		0	0	Fair	
Eagle Pass, Texa	29.06	738.1	29.75	755.6	76	24.4	91	SW	3	1.3			10s		S	1.92	48.8	Cloudy	
Eastport, Maine	29.59	751.6	29.66	753.4	53	11.7	93	NW	6	2.7			10s		NW	0.16	4.1	Cloudy	
Edinburg, Texas					80	26.7	91	SE			1	5c	5s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.18	665.0			63	17.2	14	W	5	2.2		5k	0	W		0	0	Fair	
Erie, Pennsylvania	29.31	744.5	30.00	762.0	64	17.8	68	NE	8	3.6		0	0			0	0	Clear	
Escanaba, Michigan	29.46	748.3	30.10	764.5	58	14.4	70	N	12	5.4		0	0			0	0	Clear	
Florence, Arizona	28.43	722.1	30.03	762.7	75	23.9	19	W	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.81	706.4			60	15.6	94	NE	12	5.4			10n		NE	0.10	2.5	Light rain	
Fort Craig, New Mexico	25.49	647.4	29.55	750.6	54	12.2	31	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.17	639.3	30.13	765.3	65	18.3	73	SW	6	2.7		8c	0	W		0.24	6.1	Fair	
Fort Gibson, Indian Ter.	29.33	745.0	29.83	757.7	81	27.2	67	SE	4	1.8		10cs	0	E		0	0	Cloudy	
Fort Griffin, Texas	28.59	726.2	29.78	756.4	81	27.2	70	S	10	4.5		0	0			0	0	Clear	
Fort Keogh, Montana	27.21	691.1			60	15.6	100	N	1	0.4			10n		Calm	0.24	6.1	Light rain	
Fort McKavett, Texas	27.64	702.0	29.45	748.0	74	23.3	76	S	8	3.6		2c	8s	Calm	S	0	0	Cloudy	
Fort St. Michael, Alaska	29.82	757.4	29.85	758.2	32	0.0	100	SW	18	8.0			10s		SW	0	0	Cloudy	
Fort Sill, Indian Territory	28.64	727.4	29.68	753.9	78	25.6	61	SE	6	2.7			10s		SE	0	0	Cloudy	
Fort Stevenson, Dakota	27.92	709.2			60	15.6	100	NE	24	10.7			10n		Calm	1.63	41.4	Heavy rain	
Fredericksburg, Texas	28.14	714.7	29.63	752.6	75	23.9	77	SW	5	2.2			10ks		Calm	0	0	Cloudy	
Galveston, Texas	29.86	758.4	29.90	759.4	81	27.2	83	SE	4	1.8		2cs	5ks	N	SE	0	0	Cloudy	
Graham, Texas	28.77	730.7	29.76	755.9	80	26.7	70	S	5	2.2		8cs	0	SW		0	0	Fair	
Grand Haven, Michigan	29.43	747.5	30.05	763.3	69	20.6	61	E	2	0.9		0	0			0	0	Clear	
Henrietta, Texas	28.90	734.0	29.78	756.4	78	25.6	82	S	6	2.7		2c	2s	W	S	0	0	Fair	
Indianapolis, Indiana	29.21	741.9	29.96	761.0	71	21.7	69	E	2	0.9		0	0			0	0	Clear	
Indianola, Texas	29.86	758.4	29.88	758.9	81	27.2	87	SE	5	2.2		8c	2ks	Calm	SE	0	0	Cloudy	
Jacksboro, Texas	28.72	729.5	29.78	756.4	79	26.1	82	SE	5	2.2		0	8ks		W	0	0	Fair	
Jacksonville, Florida	29.88	758.9	29.90	759.4	82	27.8	71	SW	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.34	745.2	29.93	760.2	66	18.9	79	E	7	3.1			10s		W	0.03	0.8	Threatening	
Key West, Florida	29.88	758.9	29.92	760.0	80	26.7	78	E	2	0.9		5k	0	E		0.11	2.8	Fair	
Kittyhawk, North Carolina	29.77	756.1	29.79	756.7	74	23.3	86	NW	14	6.3			10ks		NW	Inap.	Inap.	Cloudy	
Knoxville, Tennessee	28.98	736.1	29.95	760.7	69	20.6	80	E	4	1.8		8cs	2s	NW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.28	743.7	29.98	761.5	70	21.1	61	SE	6	2.7		5k	0	E		0	0	Fair	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	62	16.7	53	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.40	746.7	29.73	755.1	80	26.7	62	SE	4	1.8			10s		Calm	0	0	Cloudy	
Leavenworth, Kansas	29.02	737.1	29.82	757.4	72	22.2	80	SE	7	3.1		8ck	0	SW		Inap.	Inap.	Fair	
Los Angeles, California	29.62	752.3	29.96	761.0	54.0	12.2	83	N	1	0.4		0	0			0	0	Clear	
Louisville, Kentucky	29.42	747.3	29.96	761.0	71	21.7	75	N	4	1.8		2c	Sm'e	Calm	Calm	0	0	Clear	
Lynchburg, Virginia	29.22	742.2	29.86	758.4	79	26.1	58	NW	4	1.8		10c	0	N		0	0	Fair	
Madison, Wisconsin	29.05	737.9	30.01	762.2	63	17.2	67	E	10	4.5		5c	0	W		0	0	Fair	
Marquette, Michigan	29.41	747.0	30.10	764.5	59	15.0	70	Calm	0	0		0	0			0	0	Clear	
Mason, Texas	28.25	717.5	29.92	760.0	76	24.4	77	SE	5	2.2		10cs	0	Calm		0	0	Cloudy	
Memphis, Tennessee	29.63	752.6	29.95	760.7	79	26.1	74	NE	6	2.7		5ck	0	NW		0	0	Fair	
Milwaukee, Wisconsin	29.34	745.2	30.06	763.5	57	13.9	69	N	10	4.5		8cs	1ks	NE	Calm	0	0	Cloudy	
Mobile, Alabama	29.90	759.4	29.94	760.5	79	26.1	87	W	4	1.8		5c	0	Calm		0	0	Fair	
Montgomery, Alabama	29.71	754.6	29.94	760.5	76	24.4	81	E	2	0.9		8c	0	Calm		0.17	4.3	Fair	
Morgantown, West Virginia	28.98	736.1	29.93	760.2	69	20.6	70	NE	5	2.2		5k	0	NW		0.52	13.2	Fair	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	36	2.2	90	NW	25	11.2		0	5ks		NW	0.43	10.9	Clear	
Nashville, Tennessee	29.46	748.5	29.96	761.0	78	25.6	65	Calm	0	0		1cs	Sm'e	Calm		0	0	Clear	
New Haven, Connecticut	29.65	753.1	29.76	755.9	72	22.2	62	N	12	5.4		0	0			1.21	30.7	Clear	
New London, Connecticut	29.69	754.1	29.74	755.4	69	20.6	70	N	6	2.7		1ck	0	NW		0.23	5.8	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.86	758.4	29.92	760.0	80	26.7	82	Calm	0	0		8cs	0	Calm		0	0	Fair	
Newport, Rhode Island	29.67	753.6	29.72	754.9	67	19.4	79	NW	10	4.5		2c	2ks	Calm	E	0.12	3.0	Fair	
New York, New York	29.64	752.8	29.80	756.9	70	21.1	75	N	9	4.0		2ck	Haze	SW	Calm	0.07	1.8	Fair	
Norfolk, Virginia	29.77	756.1	29.82	757.4	74	23.3	81	N	10	4.5			10s		N	0	0	Cloudy	
North Platte, Nebraska	26.88	682.7	29.31	744.5	66	18.9	84	SE	12	5.4		0	0			0.06	1.5	Clear.	
Olympia, Washington Ter.	30.16	766.1	30.20	767.1	48.5	9.2	93	NW	1	0.4		10k	0	Calm		0	0	Cloudy	
Omaha, Nebraska	28.73	729.7	29.77	756.1	70	21.1	85	SE	4	1.8			10s		SE	1.34	34.0	Cloudy	
Oswego, New York	29.64	752.8	29.96	761.0	54	12.2	74	N	10	4.5		0	0			Inap.	Inap.	Clear	
Pembina, Dakota	29.06	738.1	29.85	758.2	63	17.2	94	SE	2	0.9			10s		Calm	0	0	Threatening	
Philadelphia, Pa	29.77	756.1	29.82	757.4	70	21.1	70	N	16	7.2		1cs	0	N		0.07	1.8	Clear	
Phœnix, Arizona	28.66	728.0	30.40	772.1	68	20.0	26	SE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	27	— 2.8	53	SW	4	1.8		0	0			0	0	Clear	
Pioche, Nevada					47	8.3	85	NW	4	1.8		0	2s		NW	0.22	5.6	Fair	
Pittsburg, Pennsylvania	29.18	741.1	29.96	761.0	63	17.2	78	NW	5	2.2		5ck	0	NW		0.02	0.5	Fair	
Port Huron, Michigan	29.38	746.2	30.04	763.0	55	12.8	81	NE	10	4.5		0	0			0	0	Clear	
Portland, Maine	29.68	753.9	29.73	755.1	60	15.6	82	Calm	0	0		5k	0	Calm		Inap.	Inap.	Fair	
Portland, Oregon	30.17	766.3	30.24	768.1	51.5	10.8	86	SE	1	0.4		0	0			0	0	Clear	
Prescott, Arizona	24.73	628.1	30.09	764.3	49	9.4	44	W	1	0.4		0	0			0	0	Clear	
Pilot Point, Texas	29.11	739.4	29.90	759.4	84	28.9	68	SE	20	8.9		8cs	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	29.91	759.7	29.93	760.2	79	26.1	82	SE	4	1.8		0	0			0.54	13.7	Clear	
Red Bluff, California	29.58	751.3	29.93	760.2	73	22.8	35	N	13	5.8		1c	0	N		0	0	Clear	
Rio Grande City, Texas	29.63	752.6	29.83	757.7	80	26.7	82	E	10	4.5			10s		SE	0	0	Cloudy	
Rochester, New York	29.38	746.2	29.98	761.5	62	16.7	51	NE	8	3.6		0	0			0	0	Clear	
Roseburg, Oregon	29.66	753.4	30.24	768.1	49	9.4	93	Calm	0	0		1c	0	Calm		0	0	Clear.	
Sacramento, California	29.82	757.4	29.90	759.4	66.5	19.2	82	NW	2	0.9		0	0			0	0	Clear	
St. Louis, Missouri	29.42	747.3	29.97	761.2	70	21.1	66	E	6	2.7		5ck	0	Calm		0	0	Fair	
St. Marks, Florida	29.94	760.5	29.96	761.0	77	25.0	82	NW	4	1.8		5ck	0	NW		0	0	Fair	
St. Paul, Minnesota	29.11	739.4	29.90	759.4	68	20.0	79	E	7	3.1		8cs	0	W		0	0	Fair	
Salt Lake City, Utah	25.62	650.7	29.96	761.0	51	10.6	59	E	4	1.8		4k	0	W		0.66	16.5	Fair	
San Antonio, Texas	29.19	741.4	29.74	755.4	77	25.0	86	E	4	1.8		5k	0	E		0	0	Fair	
San Diego, California	29.90	759.4	29.97	761.2	59	15.0	88	NE	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.39	746.5	30.04	763.0	65	18.3	73	NE	8	3.6		5c	0	NW		0	0	Fair	
Sandy Hook, New Jersey	29.76	755.9	29.79	756.7	66	18.9	84	N	17	7.6		0	0			0.06	1.5	Clear	
San Francisco, California	29.88	758.9	29.94	760.5	52	11.1	93	W	1	0.4			Fog		W	0	0	Foggy	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	49	9.4	24	NE	2	0.9		0	0			0	0	Clear	
Savannah, Georgia	29.79	756.7	29.88	758.9	79	26.1	74	W	5	2.2		2c	0	E		0.29	7.4	Fair	
Shreveport, Louisiana	29.72	754.9	29.92	760.0	82	27.8	71	SW	3	1.3		5cs	0	Calm		0	0	Fair	
Silver City, New Mexico	24.30	617.2	30.46	773.7	48	8.9	42	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.84	757.9	29.87	758.7	77	25.0	86	W	6	2.7		5cs	1ks	NW	W	0.05	1.3	Fair	
Springfield, Massachusetts	29.64	752.8	29.77	756.1	70	21.1	61	N	10	4.5		0	0			0.04	1.0	Clear	
Stockton, Texas	26.84	681.7	29.84	757.9	70	21.1	53	SW	4	1.8		8ck	0	S		0.25	6.3	Cloudy	
Thatcher's Island, Mass	29.70	754.4	29.75	755.6	60	15.6	65	N	6	2.7		2k	0	Calm		0	0	Clear	
Toledo, Ohio	29.36	745.7	30.02	762.5	65	18.3	73	NE	3	1.3		2c	0	Calm		0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	61	16.1	40	SW	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.73	755.1	30.21	767.5	62.0	16.7	67	NE	4	1.8		0	0			0	0	Clear	
Uvalde, Texas	28.94	735.1	29.73	755.1	76	24.4	91	E	5	2.2			10s		Calm	0.35	8.9	Cloudy	
Vicksburg, Mississippi																			
Virginia City, Montana	24.32	617.7	29.80	756.9	48	8.9	78	SE	1	0.4		0	5s		Calm	0.22	5.6	Fair	
Visalia, California	29.53	750.0	29.89	759.2	63.5	17.5	70	S	2	0.9		0	0			0	0	Clear.	
Washington, D. C	29.75	755.6	29.86	758.4	72	22.2	67	NW	14	6.3		2cs	0	NW		0.04	1.0	Clear	
Wickenburg, Arizona					60	15.6	44	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.76	755.9	29.83	757.7	76	24.4	81	NW	8	3.6		5k	0	NW		0.30	7.6	Fair	
Winnemucca, Nevada	25.73	653.5	30.00	764.3	53.0	11.7	73	Calm	0	0		0	0			0.06	1.5	Clear.	
Wood's Holl, Mass	29.68	753.9	29.72	754.9	67	19.4	79	NE	10	4.5			10ks		NE	0	0	Cloudy	
Yankton, Dakota	28.55	725.2	29.77	756.1	68	20.0	79	SE	6	2.7			10n		Calm	0.30	7.6	Light rain	
Yuma, Arizona	29.70	754.4	29.86	758.4	67	19.4	74	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark																			J. B. Gordon.
Havana, Cuba, W. I	29.85	758.2	29.90	759.4	82	27.8	78	Calm	0	0		4c	0	N		0.03	0.8	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A	25.26	641.6			62.5	16.9	92	Calm			0		10n			0.99	25.1		Thomas Herran.
Navassa, W. I	29.81	757.2	29.89	759.2	80	26.7		SE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	76	24.4	91	SE			2		10n	SE		0.46	11.7	Raining	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.67 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	*Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			79	26.1	95	W	6	2.7			2		W	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.71‡	754.6‡			67.5	19.7	96	Calm			0		Haze		Calm	Slight	Slight			Clearing	
Adams, N. 7° 18′ W. 80° 12′	30.06‡	763.5‡			79	26.1	96	S			3		5		S			Smooth		Fair	
Alaska, Sitka, Alaska	29.98‡	761.5‡			44	6.7	92	E			2					0.35	8.9			Raining	
Alliance. Havre, France	30.24‡	768.1‡			60	15.6	71	WNW			3		1							Pleasant	
Colorado, New York, N. Y	29.82‡	757.4‡			70	21.1	75	NW	0	0			0			0.6	15.			Clear.	
Constitution, League Island, Penn	29.73‡	755.1‡			70	21.1	95	NNW			3		1		Calm					Clear	
Despatch, N. 26° 40′, W. 48° 50′	30.23‡	767.8‡			76	24.4	82	NW			3		6		Calm	1.	25.	Light	NW	Fair	
Enterprise, Antwerp, Holland	30.11‡	764.8‡			62	16.7	77	WSW			2		8		W					Cloudy	
Franklin. Norfolk, Va.	29.79‡	756.7‡			75	23.9	81	N	12	5.4			10		N	0	0			Cloudy	
Hartford. Montevideo, Uruguay.*	30.03‡	762.7‡			52	11.1	73	N			3		5		N	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.74‡	755.4‡			64	17.8	83	NW			1		3		NW					Clear	
Marion, Pensacola, Fla	29.93‡	760.2‡			83	28.3	91	W			1		2		W			Smooth		Clear	
Michigan, Erie, Pa					63	17.2	72	NE			2		0							Clear	
Monocacy, Shanghai, China	29.74‡	755.4‡			70	21.1	90	ESE			2		10		ESE					Cloudy	
Monongahela, Yokohama, Japan	29.70‡	754.4‡			70	21.1	85	SSE			0-1		n			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	29.86‡	758.4‡			76	24.4	82	NW	8	3.6			2		Calm	0	0			Clear	
Onward, Callao, Peru †	30.00‡	762.0‡			64	17.8	78	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.70‡	754.4‡			68	20.0	100	S			2		10							Overcast	
Passaic, Washington, D. C.					74	23.3	72	NNW			2		2		NW					Clear	
Pensacola, Callao, Peru	30.01‡	762.2‡			64	17.8	83	Calm	0	0			10			0	0			Misty	
Portsmouth. N. 46° 50′, W. 73° 44′	29.77‡	756.1‡			67	19.4	79	NW			5		2		NW			Smooth		Squally	
Powhatan, Hampton Roads, Va	29.79‡	756.7‡			74	23.3	81	NNE			4		8		NNE	0	0			Cloudy	
Quinnebaug, Smyrna, Turkey	29.82‡	757.4‡			83	28.3	53	WSW			4		0							Clear	
Ranger, Amoy, China	29.70‡	754.4‡			81	27.2	91	SSE			3		10		SE					Overcast	
Richmond, Taku Bar, China	29.57‡	751.1‡			71	21.7	62	ESE			2		5		ESE	0	0	Smooth	ESE	Fair	
Rio Bravo, Brownsville, Texas	29.83‡	757.7‡			81	27.2	96	SE			1		5		S	0	0			Fair	
Santee, Annapolis, Md.	29.84‡	757.9‡			72	22.2	71	NW			5		5		NW	0	0			Fair	
Saratoga. N. 25° 32′, W. 22° 39′	30.17‡	766.3‡			71	21.7	95	ENE			6		5		ENE	0	0	Mod'ate	ENE	D. clouds	
St. Louis, League Island, Pa	29.81‡	757.2‡			71	21.7	75	N	15	6.7			2		N	0.2	5.			Clear	
Trenton, Cadiz, Spain	30.09‡	764.3‡			80	26.7	44	SSE			2-3		0			0	0	Smooth		Clear	
Tuscarora, N. 23° 24′, W. 109° 15′	29.88‡	758.9‡			78	25.6	91	NW			2		3		N	0	0	Smooth		D. clouds	
Vandalia, Hampton Roads, Va	29.77‡	756.1‡			74	23.3	86	NW			4		8		NNE	0	0	Mod'ate	NE	Cloudy	
Wabash, Boston, Mass	29.84‡	757.9‡			63	17.2	100	N	2	0.9			2			0	0			Fair	
Wyoming, N. 43° 59′, E. 14° 40′	29.93‡	760.2‡			75	23.9	64	NW			1		2		NW			Smooth	NW	Clear	
Wachusett, N. 25° 41′, W. 79° 39′	29.92‡	760.0‡			80	26.7	82	SSW			2		2							Fair	

Note.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 40° 53′, W. 135° 32′		30.50‡	774.7‡	52	11.1		N			5		8ck		N	0	Mod'ate	N	D. clouds	L. B. Walls.
S. S. Colima, N. 35° 20′, W. 121° 36′...†		29.98‡	761.5‡	55	12.8		Calm			0		10		ESE	0	Mod'ate ground.		Foggy	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, N. 37° 45′, W. 122° 30′...†		29.95‡	760.7‡	54	12.2	87	SW			3		4				Heavy	SW	Dense fog	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 30° 17′, W. 143° 32′		30.26‡	768.6‡				NE			5				NE		Mod'ate	Var.	Foggy	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 38° 29′, E. 153° 45′		29.65‡	753.1‡	62	16.7	88	NNE			6		Fog			0	Mod'ate	NNE	Foggy	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 44° 19′, W. 44° 19′		29.78‡	756.4‡	60.0	15.6	71	NNW			5		10			0	Rough	N	Hazy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 36° 57′, W. 75° 35′		29.82‡	757.4‡	70.5	21.4	92	NNW			2		2?		NNW	0	Smooth	NNW	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 50° 14′, W. 3° 12′		30.22‡	767.6‡				WNW			3		5		WNW		3	WNW	Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 17′, W. 67° 24′		29.65‡	753.1‡	55	12.8	80	N			2		9		NNW	Heavy	Smooth		Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Timbalier Light, N. 29° 01′, W. 90° 13′		29.94‡	760.5‡	80	26.7	78	S	3	1.3		2c				0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 32° 06′, W. 67° 29′ †		30.01‡	762.2‡				SSW			1		5			0	Smooth		Fair	N. B. Foss.
Schooner Harry and Fred, N. 21° 30′, W. 67° 30′?		29.78‡	756.4‡				S	5	2.2			4			2. in. or 51. mm	Rough		Raining	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 42° 26′ W. 38° 58′ †		29.51‡	749.5‡	65	18.3	84	WSW			6		5		W		Long	W	Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 41° 19′, W. 71° 58 †		29.69‡	754.1‡				N			5		0				Long	E	Pleasant	L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		29.92‡	760.0‡	79	26.1		WSW			3		1		N	0			Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 14, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.09	764.3	74.7	23.7	75	WNW			2		8			0	0	Very cloudy	Kesxuche.
Algiers			30.04	763.1	75.2	24.0	61	ENE			1		0			0	0	Clear	Tourillere.
La Calle			30.15	765.8	81.3	27.4	68	N			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.17	766.2															Gau.
Saida			30.17	766.2	93.2	34.0	12	NNE			1		0			0	0	Clear	Herbin.
Tebessa			30.15	765.7	83.1	28.4	41	W			4		2			0	0	Fair	Watrin.
Geriville			30.16	766.1	81.1	27.3	55	S			2		2			0	0	Fair	Brugniaux.
Laghouat			30.07	763.8	90.3	32.4	32	E			5		0			0	0	Clear	Bertrand.
Biskra			30.13	765.4	94.6	34.8	31	NW			1		0			0	0	Clear	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.41	747.1	29.96	761.0	57.6	14.2	66	N			5		10			0.378	9.6	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.9	29.87	758.6	73.0	22.8	74	SSW			1		10			0.567	14.4		Dr. Wierzbiski.
Eperies	28.98	736.0	29.52	757.4	72.1	22.3	64	Calm			0		6ks			0	0		Julius Mikolik.
Gratz	28.74	730.1	29.97	761.2	63.5	17.5	52	NW			3		10			0	0		Andreas Rospini.
Hermannstadt	28.45	722.6	29.83	757.7	68.2	20.1	78	N			1		10			1.016	25.65	Raining	Prof. A. Gottschling.
Kremsmünster	28.76	730.4	30.10	764.5	54.3	12.4	93	W			2		10			0.248	6.3		Prof. C. Wagner.
Lemberg	28.85	732.9	29.80	756.9	71.8	22.1	74	S			1		8			0	0		Dr. T. Stanecki.
Pola	29.89	759.3	30.00	762.1	73.6	23.1	57	WSW			2		0			0	0		I.R.Hydrographic Office.
Szathmar	29.46	748.3	29.91	759.8	66.9	19.4	66	W			3		8			0	0		Julius Csics, S. J.
Szegedin	29.62	752.4	29.89	759.3	68.7	20.4	83	NW			1		10			0.390	9.90		Karl Stancel.
Trieste	29.91	759.7	30.01	762.3	74.8	23.8	63	W			1		3			Inap	Inap.	Almost clear	P. Busin.
Vienna	29.30	744.2	30.03	762.7	55.4	13.0	85	NW			4		10			0.528	13.4		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.93	760.2	30.02	762.5	56.1	13.4		SSE	14	6.3			9			0.063	1.60	Overcast	W. Boswell.
Ardrossan	29.99	761.7	30.01	762.2	61	16.1		SSW			2		5					D. clouds	Wm McNeil &G.Carrick
Armagh, Observatory			29.98	761.5	58.9	14.9		SSE	12	5.4			10					Overcast	S. Call.
Bidston (Liverpool Obs)			30.01	762.2	65.4	18.6		SSE	14	6.3			5					D. clouds	John Hartnup.
Bolton (Sharples)			30.03	762.7	63.0	17.2		SSW	12	5.4			4					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.06	763.5	61.0	16.1		SE			2		1			0	0	Blue sky	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	85	29.4		SE			2		6					Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	30.00	762.0	30.10	764.5	67.0	19.4		S			1		7					D. clouds	H. Todd.
Cardington			30.07	763.8	69.4	20.8		SE			1		6					D. clouds	John McLaren.
Chatham, School M. E.	29.99	761.7	30.12	765.0	68.1	20.1		SW			1		5					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.98	761.5	30.02	762.5	58	14.4		SE			2		8					D. clouds	J. Mac Gowan.
Dover	30.06	763.5	30.08	764.0	60	15.6		SW			2		3					¼ clouded	J. Costello.
Falmouth, Observatory	29.81	757.2	30.03	762.7	62.5	16.9		WSW			2		9					Foggy	The Staff.
Fort Napier (Natal)	27.41	696.2	29.70	754.4	73.0	22.8		E			2		1					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.71	754.6	29.94	760.5	86	30.0		W			1		3					D. clouds	
Galway, Queen's College			29.85	758.2	57	13.9		ESE			1		10					Misty	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.07	763.8	30.12	765.0	70.6	21.4		E			3		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.79	756.7	29.99	761.7	63.3	17.4		SSW			4		8					Gloomy	D. G. Maclean. [C.
Great Yarmouth	30.15	765.8	30.16	766.1	54	12.2		SE			2		6					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.10	764.5	70.1	21.2		S			1		3					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.86	758.4	30.08	764.0	60	15.6		SSW			1		10					Raining	Dr. S.E.Hoskins,F.R.S.
Helston	30.06	763.5	30.18	766.6	62	16.7		SW			1		10			0.17	4.3	Overcast	M. P. Moyle.
Holyhead	29.99	761.7	29.99	761.7	64	17.8		S			2		4					D. clouds	John Tilston.
Jersey	29.84	757.9	30.13	765.3	59.2	15.1		SSW			1		10					Foggy	J. Fisher.
Kew, Observatory	30.06	763.5	30.10	764.5	68.5	20.3		S	13	5.8			9					D. clouds	The Met'g'l Office.
Leicester, Museum.	29.81	757.2	30.06	763.5	66.1	18.9		SW			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	81	27.2		NW			2	2c						Blue sky	A. King.
Nairn	29.90	759.4	29.99	761.7	57	13.9		E			1		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			29.96	761.0	84.0	28.9		S			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.89	759.2	30.05	764.0	70.8	21.6		S			3		7ck;k		S	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.54	750.3	30.06	763.5	64.2	17.9		S			3		8					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.08	764.0	66	18.9		SSE			3		7					D. clouds	H. E. Bellamy.
Plymouth	29.96	761.0	30.04	763.0	58.3	14.6		SW			1		10					Showery	John Merrifield.
Prince Town	28.59	726.2	30.06	763.5	54.4	12.4		W			1		10					Drizzling	W. H. Tooker.
*Roche's Point	29.86	758.4	29.98	761.5	61	16.1		S			3		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.82	757.4	29.98	761.5	54	12.2		SE			3		10					Foggy	John C. Walker.
Sandwick Manse (Orkneys)			30.04	763.0	50.1	10.1		SW	4	1.8			10			0	0	Misty	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	85.6	29.8		NE			2		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.83	757.7	30.11	764.8	61.0	16.1		S			1		6			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.97	761.2	30.00	762.0	62.5	16.9	85	Calm			0		6			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.65	753.1	30.05	763.3	64.0	17.8		SSE			2		7					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.90	759.4	30.11	764.8	66.3	19.1		SW			2		9					Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	30.06	763.5	30.07	763.8	66	18.9		SW			4		10					Raining	W. Newcombe.
Valencia, Observatory	29.89	759.2	29.91	759.7	59.6	15.3		WSW	26	11.6			9					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.14	765.5	30.18	766.6	60.6	15.9	75	W	7	3.1		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania).			29.23	742.4	45.0	7.0	100	SW			3		10n			0.25	6.3	Raining	FrancisAbbott F.R.A.S.
Leith, Restalrig Park			30.04	763.0	52.3	11.3		E			2		10s			0.03	0.8	Foggy	Andrew Gibb
Mauritius, Observatory	29.91	759.7	30.11	764.7	69.5	20.8	82	ENE	15.0	6.7			9		ESE			Showery	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	50.0	10.0	73	NNW	20	8.9			10			0	0	Threatening	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.93	760.2	61	16.1		N			4	3	3	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			30.02	762.5	48	8.9		N			4	5	5					Foggy	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 10. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			Blue sky	Capt.W.J.L. Wharton.
§Brig Alliance, N. 56° 02′, W. 13° 35′			Misty	Capt. W. Scott.
Barque Fedalma, N. 38° 55′. W. 56° 50′	6	W	Raining	Capt. H. L. Fox.
S. S. Iron Cross, N. 48° 50′, W. 32° 50′	2	NNE	Showery	Capt. W. Randall.
S. S. Algeria, Off Liverpool Light Ship.	2		D. clouds	Capt. Wm. Watson.
Astarte, N. 4° 15′, W. 22° 25′ *.			Overcast	Capt. Parson.
British Peer, N. 14° 00′, W. 33°, 20′			Misty	Capt. Greig.
Theophane, S. 21° 10′, E. 62° 45′			D. clouds	Capt. Raymond.
Agnes Wilson				Capt. H. W. Dyke
S. S. Amanda.				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
Barque Commewyne				Capt. A. Buchan.
S. S. Royal Alexandra				W. P. Hughes.
S. S. Nizam				Capt. Barlow.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.23	666.2	29.95	760.7	64.4	18.0	88	SE			1	1s				0.14	3.6		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.99	761.7	30.04	762.9	56.5	13.6	78	NW			2		10						
Fanöe	30.09	764.2	30.11	764.7	53.1	11.7	81	WNW			4		10						
Godthaab (Greenland)	30.16	766.1	30.21	767.2	45.0	7.2	87	Calm			0		9						
Stykkisholm (Iceland)	30.08	764.0	30.12	765.1	46.4	8.0	92	E			6		2						
Thorshavn (Faröe)	29.97	761.2	30.00	762.1	55.2	12.9	82	Calm			0		10						
Vestervig	29.84	757.9	30.01	762.2	51.8	11.0	95	W			6		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.61	752.1	30.16	766.1	63.0	17.2	90	SW			1		10			0.020	0.5	Raining	Collignon, Director.
Amiens, Normal School	30.05	763.3	30.16	766.1	74.8	23.8	54	NW			1		8		SE	0	0	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.89	759.3	30.15	765.7	67.8	19.9	57	NW			1					0.138	3.5		Klein, Commandant.
Avignon, Normal School	30.04	762.9	30.11	764.9	79.2	26.2	46	N			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.63	752.7	30.18	766.5	67.5	19.7	44	NE			1		5kn			0	0	Cloudy	O. Saillard, Director.
Beauvais, Normal School	29.90	759.5	30.16	766.1	71.4	21.9	56	SSE			1		8	WNW	SSE	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.33	744.9	30.20	767.1	67.8	19.9	49	N			2		5		NW	0	0	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.33	745.0	30.26	768.6	71.6	22	48	N			1		s	N	N	0	0		Mariot, Director.
Bourges, Normal School	29.63	752.6	30.18	766.5	65.1	18.4	89	W			1		10	W	W	0.004	0.1	Covered	M. Gence, Director.
Brest, Naval Observatory	29.82	757.4	30.06	763.6	62.2	16.8	89	SW			2		10		SW	0.187	4.75	Foggy	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.73	755.2	30.13	765.2	82.8	28.2	41	SE			1		1		SE	0	0	V. slightly Cloudy	September, Dir.
Caen, Normal School	29.67	753.5	30.13	765.3	63.7	17.6	86	S			1		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.57	751.1	30.13	765.3	62.6	17	90	SSE			1		10		SSE	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.88	759.0	30.19	766.9	71.8	22.1	40	W			1		5	W	W	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.84	732.4	30.15	765.9	69.4	20.8	61	SW			1		10		W	0	0		Allnard, Director.
Commercy, Normal School	29.34	745.3	30.19	766.7	68.5	20.3	64	W			1		5k		W	0.051	1.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.98	736.1	30.12	765.1	74.7	23.7	27	NW			3		5		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.44	747.7	30.19	766.7	69.8	21	44	NW			1		2cs	N		0	0	Slightly cld'y	Ablard, Director
La Roche-sur-Yon, N. School	30.02	762.6	30.24	768.0	65.8	18.8	86	SW			1		10			0.035	0.9	Covered	Mouillot, Director.
Le Mans, Normal School	29.88	758.9	30.18	766.6	60.8	16	98	S			1		8		WSW	0	0	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.31	744.4	30.21	767.4	70.5	21.1	49	NW			2	5c		NW	NW	0	0	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	30.08	763.9	30.17	766.4	62.6	17.0	94	SW			1				SW	0.299	7.6		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.80	756.8	30.06	763.4	78.8	26.0	23	NW			3		2			0	0	Slightly cl'dy	E. Stephan, Director
Mirecourt, Normal School	29.17	740.9	30.20	767.0	65.8	18.8	64	NE			1		10		NE	0	0	Covered	Barbier, Director
Nismes, Normal School	29.91	759.7	30.10	764.6	81.7	27.6	54	NW			3		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.07	738.4	30.10	764.6	72.5	22.5	41	N			1		n	N	N	0	0		Chautier, Director.
Puy de Dome (Summit) Obs	25.38	644.6			46.8	8.2	97	W			2		10					Rain & fog	Allnard, Director.
Rochefort, Naval Obs'y	30.16	766.1	30.19	766.9	75.2	24.0	59	WSW			1		10	WSW	WSW	0	0	Covered	Lt. E. Decaute, Director.
Rouen, Normal School	30.07	763.8	30.16	766.0	65.7	18.7	67	SSE			1		10		S	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.07	763.8	30.10	764.5	66.6	19.2	84	SSW			1		8	SSW	SSW	0.087	2.22	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.01	762.2	30.17	766.4	68.5	20.3	59	S			1		10		SSW	0.004	0.1	Covered	E. Renou, Director.
Tarbes, Normal School	29.13	739.8	30.17	766.2	78.1	25.6	68	SW			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.49	749.1	30.22	767.6	73.8	23.2	63	NE			1		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.68	753.8	30.17	766.3	68.4	20.2	55	SW			2					0.004	0.10		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.49	749.1	30.19	766.8	71.4	21.9	54	NE			1		10		N	0	0	Covered	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.80	757.0	29.83	757.7	82.4	28										0.20	5.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.55	751.2	30.18	766.5	69.1	20.6	45	NNE			1		8		NW	0.39	10.0	Covered	Ch. André, Director.
Mont-Louis	25.10	637.4	30.41	772.4	64.4	18.0	59	E	24.2	10.8			6		N	0	0		M. Cave.
Nice			30.06	763.6	76.6	24.8	63	S			2		0			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.89	759.2			70.0	21.1	55	SSE			2		10		S	0	0		Marié Davy, Director.
Perpignan	30.04	763.0	30.15	765.7	78.6	25.9	45	SE	7.4	3.3			1		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.76	578.5			52.9	11.6		W			1		2			0	0	Clear	Gen'l de Nansouty.
Tours	29.98	761.5	30.18	766.5	63.3	17.4	85	W			1		10		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.63	752.6	29.65	753.2	70.0	21.1	92	ENE	4.7	2.1			10			0	0	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.32	744.8	30.17	766.4	60.3	15.7	75	W			4		10	W		0.126	3.2	Raining	Prof. Dr. Hoh.
Berlin	29.97	761.1	30.13	765.4	64.4	18.0	58	NW			1		8			0	0		Prof. Dr. Arndt.
Breslau	29.52	749.9	30.06	763.4	64.0	17.8	59	NNW			3		9			0.465	11.80		Royal University Obs'y.
Carlsruhe	29.78	756.4	30.20	767.1	67.6	19.8	55	WSW			1		7	NW		0	0		Albert Senz.
Cassel	29.60	751.8	30.21	767.3	63.3	17.4	71	W			2		7	WSW		0.082	2.08		Dr. H. Möhl.
Crefeld	30.01	762.2	30.17	766.3	66.7	19.3	52	W			3		8k			0.04	1.		Director Lose.
Emden			30.19	766.8	65.8	18.8	62	W			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.81	757.1	30.17	766.3	69.4	20.8		W			1		3			0	0		Physical Society.
Freienwalde on the Oder	30.08	763.9	30.11	764.9	59.2	15.1	77	WNW			4		10ks	WNW		0.004	0.1		Dr. Assmann.
Friedrichshafen	28.76	730.6	30.19	766.8	60.1	15.6	62	S			3		9	SW		0	0		M. Wilhelm.
Hamburg	30.10	764.5	30.17	766.3	56.7	13.7	77	NW			5		10n			0	0	Gloomy	Captain F. Hegemann.
Kiel	30.11	764.9	30.13	765.3	58.3	14.6	69	W			4		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.89	759.2	29.97	761.3	68.9	20.5	45	N			3		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.72	755.0	30.14	765.6	63.7	17.6	67	NW			2		9	NW		0.622	15.8		Prof. Bruhns, Privy Counsellor.
Memel	29.92	760.0	29.97	761.2	61.3	16.3	57	NW			3		4s					D. clouds	Skalweit.
Munich (München)	28.34	719.9	30.22	767.5	62.4	16.9	49	W			4		8	W		0.036	0.9		Dr. C. Larg.
Neufahrwasser	30.00	762.1	30.02	762.5	62.2	16.8	74	NNE			2		4	WNW		0	0		A. Lothes.
Posen	29.79	756.7	30.08	764.0	60.8	16.0	69	NW			6		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.67	753.7	30.22	767.5	66.2	19.0	56	SW			1		9	WNW		0.007	0.17		Imp. University Observatory.
Stuttgart	29.21	741.9	30.13	765.3	65.8	18.8	44	NW					4	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.65	727.8	30.14	765.5	62.4	16.9	50	WNW	20	9			9ck		N	0.008	0.2		T. Hopfner.
Wustrow	30.07	763.7	30.09	764.3	54.3	12.4	82	W			5		10s			0	0		E. Schultz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	86.4	30.2		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.59	751.6	29.64	752.8	86.1	30.1	63	W					5			0.02	0.5	D. clouds	
Deesa	29.19	741.3	29.64	752.9	98.1	36.7	32	SW					2	SW		0	0	Squally	
Bombay	29.73	755.1	29.77	756.1	84.8	29.3	74	WNW	14.0	6.3			7		WNW	0.08	2.0	D. clouds	
Poona	27.91	708.8	29.76	755.8	79.6	26.4	66						4	Calm		0.05	1.3	D. clouds	
Lahore	28.70	728.9	29.39	746.6	108.3	42.4	19	W	3.6	1.6			0			0	0	Misty	
Belgaum	27.26	692.4	29.81	757.1	73.2	22.9	55	W	20.0	8.9			10	W	W	0.01	0.3	D. clouds	
Roorkee	28.53	724.6	29.37	746.0	105.7	40.9	18	SW	5.1	2.3						0	0		
Agra	28.90	734.0	29.43	747.5	108.1	42.3	19	NW								0	0		
Nagpur	28.53	724.8	29.53	750.2	97.7	36.5	36	E	8.6	3.8			8		SW	0	0	Gloomy	
Lucknow	29.06	738.0	29.41	747.0	106.0	41.1	25	NW	3.9	1.7						0	0	Gloomy	
Allahabad	29.14	740.1	29.43	747.5	106.6	41.4	16	NW	4.0	1.8			3			0	0	Misty	
Patna	29.33	744.9	29.50	749.4	88.2	31.2	73	E	1.9	0.9			10	E	E	0	0	Overcast	
Hazaribagh	27.53	699.2	29.46	748.4	93.8	34.3	31	N	8.4	3.8			9			0	0		
Cuttack	29.53	750.0	29.61	752.1	89.1	31.7	69	W	7.0	3.1			8					Thunder-storm	
Calcutta (Alipore)	29.57	751.0	29.59	751.5	87.2	30.7	71	S	8.0	3.6			10		SW	0	0	Gloomy	
Goalpara	29.19	741.5	29.58	751.3	80.3	26.8	85	SSE	2.5	1.1			7			0	0	D. clouds	
Chittagong	29.60	751.9	29.70	754.3	80.4	26.9	89	SE	5.7	2.6			7			0	0	Misty	
Sibsagar	29.31	744.4	29.64	752.8	83.7	28.7	86	WSW	1.2	0.5			10	W	W	0.15	3.8	Overcast	
Jubbulpore	28.18	715.7	29.47	748.6	103.2	39.6	25	NW	8.8	3.9			8		W	0.14	3.6	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,355 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instru'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.58	751.4	29.98	761.5	73.4	23.0	36	S	3.8	1.7			2			0.126	3.2		Prof. Giovanni Clodig.
Milan	29.49	749.0	29.99	761.7	78.1	25.6	13	NNW			6		1	NW		0	0		Prof. Schiaparelli.
Padua	29.88	759.0	29.99	761.7	74.8	23.8	38	SW	2.5	1.1			0			0.091	2.3		Prof. Dott. Lorenzoni.
Moncalieri	29.12	739.6	29.99	761.8	74.5	23.6	31	SSE	3.1	1.4			1			0	0		Prof. P. F. Denza.
Genoa	29.84	757.9	30.03	762.7	76.1	24.5	45	SE	5.6	2.5			2	W		0	0		Prof. G. M. Garibaldi.
Mondovi	28.15	714.9	29.99	761.8	70.9	21.6	29	NW			4		1	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.96	761.0	30.01	762.2	72.3	22.4	51	NE	9.8	4.4			0			0	0		Prof. Luigi Guidi.
Florence	29.76	756.0	30.01	762.3	79.7	26.5	29	NW			2		8			0.016	0.4		Cav. F. Meucci.
Leghorn	29.94	760.5	30.02	762.6	72.0	22.2	67	SW			4		2			0	0		Prof. P. Monte.
Rome	29.82	757.5	29.99	761.8	80.4	26.9	50	WNW	7.4	3.3			1			0	0		Prof. P. S. Ferrari.
Lecce	29.71	754.6	29.96	760.9	75.4	24.1	47	NNW	21.7	9.7			2	NW		0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.3	29.95	760.8	81.3	27.4	66	SW	3.8	1.7			3			0	0		Prof. D. Conti.
Cagliari	29.91	759.6	30.10	764.4	77.9	25.5	27	NW			4		4	W		0	0		Prof. A. Pacinotti.
Palermo	29.50	757.0	30.05	763.3	75.0	23.9	40	N	9.8	4.4			1			0	0		Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.00	762.0	76.1	24.5	55	NE	2.5	1.1			1	NNE		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.5	30.02	762.6	76.6	24.8	49	WNW	8.7	3.9			3	SW		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.77	756.1	29.79	756.6	73.1	22.8	83	SW	0.8	0.4			10s			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.55	750.6	29.74	755.4	71.2	21.8	96	E	2.1	0.9			10n			0.820	20.83	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	29.77	756.1	29.84	757.9	70.9	21.6	89	ESE	3.0	1.3			10s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.7	30.03	762.7	58.1	14.5	66	SW			1	5	0	W		0	0	½ clouded	Prof. L. Perez.
Leon	24.39	619.6	30.00	761.9	64.9	18.3	90	S			1	0	8n		SW	0.37	9.4	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.1	29.94	760.4	59.9	15.5	77	W	1.1	0.5		8k	0			0.12	3.1	Cloudy	The Staff.
Pabellon (Aguascallentes)					63.3	17.4	86	S			1		10kn			0.19	4.8	Covered	M. V. de Leon, M. E
Tlacotalpam	29.76	756.0	29.78	756.3	80.6	27.0	77	S			2	1	0	S		0	0	Clear	Prof. M. M. Chazaro
San Luis Potosi	24.19	614.3	30.05	763.6	64.0	17.8	79	E			1	3	6	W	E	0.97	24.5	Very cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.0	30.05	763.2	59.2	15.1	81	Calm			0	6c	Fog	Calm	ESE	0	0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	52.9	11.6	86	Calm	0	0		1c	0	Calm		0.008	0.2	Clear	Prof. P. Spina.
Colima	28.34	719.9	29.97	761.2	78.1	25.6	80	ENE			1	0	9		SW	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.64	752.8	29.93	760.1	73.6	23.1	79	SE			1	2	2	Calm	SE	0	0	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.20	767.0	30.20	767.0	64.9	18.3		ESE								0.188	3.5		
Groningen	30.11	764.9	30.17	766.3	62.1	16.7										0	0		
Helder	30.17	766.2	30.17	766.2	57.4	14.1		W			1					0	0		
Hellevoetsluis	30.17	766.3	30.17	766.3	69.8	21.0	64	W			2					0	0		
Utrecht	30.13	765.2	30.17	766.4	67.5	19.7	64	W			2		8			0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.93	760.1	29.98	761.5	55.4	13.0	66	SSW	1.3	0.6	.....	.....	1	.....	.....	0.031	0.8	.....	
Brönö	30.04	762.9	30.08	763.9	46.8	8.2	48	N	13	6	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.79	756.6	29.93	760.2	70.7	21.5	30	SW	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.98	761.6	30.03	762.7	36.3	2.4	70	N	34	15	.....	.....	10	.....	.....	0.047	1.2	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.93	760.2	30.12	765.0	66.6	19.2	85	WNW	10.5	4.7	.....	.....	1	.....	.....	0.551	14.0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.07	763.6	92.3	33.5	22	ESE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	71.2	21.8	73	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.5	30.13	765.3	76.5	24.7	52	S	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.07	763.7	30.14	765.5	71.2	21.8	72	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't. A.M.de Sande, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 09′, W. 0° 56′	.....	.....	30.00	762.1	79.7	26.5	.....	S	.....	.....	3	.....	8	.....	S	2	S	D. clouds	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. S. 14° 16′, E. 12° 19′	.....	.....	29.97	761.3	68.0	20.0	.....	W	.....	.....	5	.....	0	.....	.....	2	W	Blue sky	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	29.97	761.1	79.7	26.5	.....	NE	.....	.....	1	.....	0	.....	.....	1	NE	Blue sky	P. de Fair[illegible]. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.80	757.0	81.5	27.5	.....	SW	.....	.....	5	.....	10	.....	SW	2	SW	Thunder-storm. [12 hrs' rain-fall.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.50	749.4	29.91	759.6	73.8	23.2	49	NNE	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.54	750.3	29.95	760.7	63.1	17.3	45	NW	9	4	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.70	754.3	29.94	760.4	55.0	12.8	37	N	11	5	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.77	756.1	29.78	756.5	47.7	8.7	45	NNW	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.12	739.7	29.73	755.2	70.9	21.6	46	NNW	18	8	.....	.....	6k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.78	756.4	29.85	758.2	80.1	26.7	31	WNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758.6	29.89	759.1	78.6	25.9	60	W	9	4	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.88	733.5	29.42	747.3	48.4	9.1	63	N	27	12	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.42	747.2	29.61	752.2	77.9	25.5	35	WSW	31	14	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.52	749.9	29.54	750.4	48.0	8.9	72	NW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.52	724.4	29.86	758.4	81.1	27.3	28	NW	13	6	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.87	758.8	29.79	756.7	75.0	23.9	54	SSW	22	10	.....	.....	7k	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	28.85	732.9	29.31	744.4	58.5	14.7	74	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	28.88	733.5	29.13	740.0	57.6	14.2	80	S	16	7	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.54	725.0	29.45	748.1	72.9	22.7	31	SSW	22	10	.....	.....	6c;cs;k; ks]	.....	.....	.....	.....	Solar corona	Meteorological Obs.
Nukuss	29.49	749.1	29.71	754.7	89.6	32.0	34	WNW	18	8	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.17	715.6	29.62	752.3	91.4	33.0	57	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.38	746.2	29.85	758.2	74.7	23.7	36	SW	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.66	753.3	29.94	760.5	62.6	17.0	79	NW	22	10	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.41	746.9	29.55	750.5	75.4	24.1	48	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.67	753.7	29.77	756.2	55.0	12.8	97	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.02	762.6	30.13	765.2	76.1	24.5	55	S	2.9	1.30	.....	.....	k	.....	.....	0	0	Clear	Antonio Rave, Directo
Bilbao, Met. Obs'y	30.05	763.2	30.10	764.6	87.1	30.6	48	W	3.0	1.34	.....	0	0	.....	.....	0	0	Clear	Prof. Manuel de Navera[illegible]n
Burgos, Met. Obs'y	27.22	691.5	.....	.....	83.3	28.5	38	S	1.4	0.64	.....	.....	0	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.93	709.4	30.00	762.0	91.4	33.0	26	S	6.7	3.00	.....	1	0	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.01	762.2	30.15	765.8	86.2	30.1	42	SW	6.5	2.89	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.5	30.08	764.1	81.5	27.5	66	WNW	0	0	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.86	758.4	29.92	760.0	83.9	28.8	77	SE	2.2	1.0	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.5	29.83	757.9	84.1	28.9	77	ESE	1.6	0.7	.....	4c	4ks	SW	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.0	30.10	764.4	85.8	29.9	26	ESE	21.1	9.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.91	759.6	30.00	761.9	81.7	27.6	78	E	4.9	2.18	.....	3c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.88	758.9	29.92	759.9	37.4	3.0	.....	N	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.91	759.8	29.97	761.1	52.2	11.2	43	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	29.94	760.5	29.99	761.8	53.2	11.8	63	S	.....	.....	6	.....	0	.....	.....	0	0	.....	
Stockholm	29.82	757.3	30.06	763.6	58.5	14.7	73	NNE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.89	759.1	29.95	760.6	56.8	13.8	73	NNW	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.91	759.6	29.98	761.5	59.0	15.0	51	NE	8.9	4.0	.....	.....	4	.....	.....	0	0	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.56	725.5	30.16	766.0	67.3	19.6	47	W	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	757.8	79.5	26.4	37	ENE	22	9.9	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	105.8	41.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.6	75.6	24.2	.....	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.65	753.1	29.76	755.9	88.9	31.6	65	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.88	758.9	63	17.2	.....	SW	5	2.2	.....	c	0	W	.....	0	0	Clear	W. R. Bigg.
Chatham, N. B	29.54	750.3	29.59	751.6	57	13.9	60	W	10	4.5	.....	0	0	.....	.....	0.02	0.5	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.50	749.3	29.54	750.3	56	13.3	69	W	7	3.1	.....	0	0	.....	.....	0.430	10.92	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.62	752.3	29.80	756.9	59.7	15.4	65	NW	.....	.....	2	8cs	0	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.37	746.0	29.53	750.0	55.7	13.2	53	W	.....	.....	3	0	4ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.56	750.8	29.58	751.3	46	8.9	64	SW	25	11.2	.....	0	5k;s	.....	Calm	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.61	752.1	29.68	753.9	54.8	12.7	53	NW	12	5.4	.....	cs	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	28.72	729.5	29.52	749.8	59	15.0	97	E	12	5.4	.....	5k	5n	E	E	0.970	24.64	Light rain	James Stewart.
Granton, Ontario	28.84	732.5	29.92	760.0	58	14.4	100	S	.....	.....	3	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.52	749.8	29.63	752.6	62	16.7	60	NW	7	3.1	.....	0	0	.....	.....	0.009	0.23	Clear	F. Allison, M. A.
Hamilton, Ontario	29.59	751.6	29.97	761.2	56.7	13.7	78	NW	.....	.....	1	3c	0	.....	.....	0	0	Fine	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.58	751.3	29.91	759.7	57	13.9	88	W	3	1.3	.....	10c	0	Calm	.....	0	0	Fair?	S. Woods, M. A.
Little Glace Bay, N. S	29.30	746.5	29.43	747.5	57.1	13.9	76	NW	14	6.3	.....	2k	0	NW	.....	1.54	39.1	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.57	751.1	29.76	755.9	59	15.0	64	SW	6	2.7	.....	2c	2ks	NW	.....	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.22	742.2	29.90	759.4	58	14.4	70	Calm	0	0	.....	2cs	2ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.89	759.2	62.9	17.2	64	S	.....	.....	1	3k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.93	760.2	56	13.3	94	Calm	0	0	.....	10c	0	SW	.....	0	0	Fair?	H. Morgan.
Port Hastings, N. S	29.46	748.3	29.51	749.5	46.6	8.1	.....	NW	10	4.5	.....	0	0	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.94	760.5	58	14.4	83	W	1	0.4	.....	5ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.36	745.7	29.68	753.9	54	12.2	73	NW	.....	.....	1	0	2s	.....	NW	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.38	746.2	29.82	757.4	61	16.1	63	NW	10	4.5	.....	5c	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.61	752.1	29.67	753.6	58	14.4	58	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.50	749.3	29.66	753.4	58	14.4	47	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.89	759.2	58	14.4	77	S	5	2.2	.....	.....	8ks	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.10	739.1	29.80	758.4	60	15.6	55	SE	8	3.6	.....	8k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.67	723.2	29.94	760.5	51.9	11.1	85	Calm	0	0	.....	8cs	0	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.41	747.0	29.45	748.0	54	12.2	73	NW	13	5.8	.....	0	2ks	.....	NW	0.89	22.6	Clear	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.95	760.7	58	14.4	60	NW	3	1.3	.....	8cs	2s	W	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.58	750.0	29.62	752.3	57.0	13.9	66	NW	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear.	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.22	742.2	29.47	748.5	44.0	6.7	100	SE	.....	.....	.....	.....	10n	.....	.....	0.80	20.3	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.71	754.6	29.93	760.2	61	16.1	61	S	4	1.8		1c	0	W		0	0	Clear	
Alpena, Michigan	29.21	741.9	29.83	757.7	57	13.9	87	SE	9	4.0			10s		Calm	0	0	Cloudy	
Atcha, Aleutian Islands					40	4.4	100	SE			2		10n		SE	0.07	1.8	Cloudy	
Atlanta, Georgia	28.80	731.5	29.88	758.9	76	24.4	60	N	5	2.2		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	29.94	760.5	29.95	760.7	65	18.3	58	N	9	4.0		0	0			0	0	Clear	
Augusta, Georgia	29.80	756.9	29.96	761.0	78	25.6	61	NE	4	1.8		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	29.96	761.0	30.01	762.2	69	20.6	39	NW	6	2.7		0	0			0	0	Clear	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	64	17.8	68	N	12	5.4		2c	0	N		0	0	Clear	
Bismarck, Dakota	27.72	704.1	29.58	751.3	61	16.1	88	N	12	5.4			10s		N	0.40	10.2	Cloudy	
Boerne, Texas	28.41	721.6	29.65	753.1	76	24.4	82	S	4	1.8			10s		S	0	0	Cloudy	
Boise City, Idaho	27.18	690.4	30.14	765.5	54	12.2	61	SE	4	1.8		5k	0	W		0	0	Fair	
Boston, Massachusetts	29.73	755.1	29.88	758.9	62	16.7	56	W	9	4.0		1c	0	N		0	0	Clear	
Brackettville, Texas	28.75	730.2	29.74	755.4	76	24.4	83	S	2	0.9			10n		S	0.41	10.4	Light rain	
Breckenridge, Minnesota	28.41	721.6	29.33	745.0	64	17.8	94	S	13	5.8			10ks		S	0.74	18.8	Cloudy	
Brownsville, Texas	29.76	755.9	29.81	757.2	84	28.9	75	SE	2	0.9		2cs	0	Calm		0	0	Clear	
Buffalo, New York	29.23	742.4	29.91	759.7	59	15.0	70	SW	4	1.8		8cs	Haze	NW	Calm	0	0	Fair	
Burkes, Arizona					69	20.6	19	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.56	750.8	29.84	757.9	60	15.6	60	S	8	3.6		8k	Haze	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.50	749.3	29.86	758.2	81	27.2	70	SE	3	1.3		0	Haze			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	62	16.7	18	N	8	3.6		0	0			0	0	Clear	
Camp Verde, Arizona					57	13.9	25	NW			1	0	0			0	0	Clear	
Campo, California	27.37	695.2	29.94	760.5	44	6.7	76	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	72	22.2	76	NE	1	0.4		1cs	1ks	Calm	Calm	0	0	Clear	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	70	21.1	80	SW	6	2.7		0	0			0.01	0.3	Clear	
Cape Lookout, N. Carolina	29.97	761.2	29.98	761.5	73	22.8	72	NE	8	3.6		0	0			0	0	Clear	
Cape May, New Jersey	29.90	759.4	29.63	760.2	64	17.8	57	NE	6	2.7		0	0			0	0	Clear	
Castroville, Texas	29.06	738.1	29.72	754.9	82	27.8	75	S	4	1.8		8ck	0	S		0	0	Cloudy	
Charleston, South Carolina	29.91	759.7	29.96	761.0	80	26.7	82	E	4	1.8		5k	2ks	E	Calm	0	0	Cloudy	
Charlotte, North Carolina	29.15	740.4	29.92	760.0	73	22.8	72	SE	4	1.8		10ck	0	W		0	0	Cloudy	
Chattanooga, Tennessee	29.15	740.4	29.91	759.7	74	23.3	72	Calm	0	0		2cs	Sm'e	W	Calm	0	0	Fair	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	51	10.6	65	NW	14	6.3		2ck	5s	NW	NW	Inap.	Inap.	Cloudy	
Chicago, Illinois	29.08	738.6	29.74	755.4	66	18.9	79	SE	6	2.7		5cs;ck	0	S		0.04	1.0	Fair	
Cincinnati, Ohio	29.28	743.7	29.91	759.7	71	21.7	66	SE	5	2.2		7k	0	NW		0	0	Fair	
Cleveland, Ohio	29.22	742.2	29.92	760.0	60	15.6	60	SE	7	3.1		5ck	0	SW		0	0	Fair	
Coleman City, Texas	28.03	711.9	29.59	751.6	77	25.0	69	S	6	2.7		2c	2s	W	Calm	0	0	Fair	
Columbus, Ohio	29.09	738.9	29.90	759.4	66	18.9	59	SE	5	2.2		5ck	Sm'e	Calm	Calm	0	0	Fair	
Concho, Texas	27.93	709.4	29.49	749.0	78	25.6	69	SW	3	1.3		0	0			0	0	Clear	
Corsicana, Texas	29.50	749.3	29.94	760.5	75	23.9	86	S	2	0.9		5c;hz	2s	W	S	0	0	Fair	
Davenport, Iowa	29.09	738.9	29.68	753.9	70	21.1	90	W	17	7.6			10n		S	0.14	3.6	Light rain	
Deadwood, Dakota	25.24	641.1			53	11.7	93	NW	2	0.9			10s		NW	0.56	14.2	Cloudy	
Decatur, Texas	28.67	726.7	29.70	754.4	79	26.1	70	S	12	5.4		0	5k		S	0	0	Fair	
Denison, Texas	29.00	736.6	29.74	755.4	79	26.1	78	SW	8	3.6		5k	0	SW		0	0	Fair	
Denver, Colorado	24.77	629.2	29.99	761.7	52	11.1	79	S	4	1.8		2ck	0	NW		0	0	Fair	
Des Moines, Iowa	28.72	729.5	29.60	751.8	68	20.0	90	SW	3	1.3			10s		W	1.09	27.7	Cloudy	
Detroit, Michigan	29.25	742.9	29.89	759.2	62	16.7	77	NE	2	0.9			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.15	689.6	29.30	744.2	67	19.4	69	N	20	8.9		0	0			0	0	Clear	
Dubuque, Iowa	28.92	734.6	29.57	751.1	70	21.1	85	S	5	2.2			10n		S	0.25	6.3	Light rain	
Duluth, Minnesota	28.90	734.0	29.55	750.6	53	11.7	93	NE	3	1.3			10n		NE	0.28	7.1	Light rain	
Eagle Pass, Texa	29.05	737.9	29.73	755.1	75	23.9	95	SE	7	3.1			10n		Calm	0.19	4.8	Light rain	
Eastport, Maine	29.62	752.3	29.69	754.1	59	15.0	59	W	7	3.1		0	0			0	0	Clear	
Edinburg, Texas					83	28.3	83	S			1	2c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.16	664.4			65	18.3	5	W	4	1.8		0	0			0	0	Clear	
Erie, Pennsylvania	29.22	742.2	29.92	760.0	64	17.8	68	S	4	1.8		10ck	0	NW		0	0	Cloudy	
Escanaba, Michigan	29.15	740.4	29.78	756.4	59	15.0	88	S	4	1.8			10n		S	0.13	3.3	Light rain	
Florence, Arizona	28.41	721.6	30.01	762.2	80	26.7	25	N	2	0.9		0	0			0	0	Clear	
Fort Buford, Dakota	27.75	704.8			59	15.0	94	NW	10	4.5			10s		NW	0.81	20.6	Cloudy	
Fort Craig, New Mexico	25.48	647.2	29.54	750.3	53	11.7	36	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	71	21.7	75	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.24	742.7	29.74	755.4	80	26.7	70	SE	9	4.0		0	0			0	0	Clear	
Fort Griffin, Texas	28.53	724.6	29.72	754.9	80	26.7	62	SE	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.33	694.2			57	13.9	69	Calm	0	0		0	0			0.40	10.2	Clear	
Fort McKavett, Texas	27.60	701.0	29.41	747.0	76	24.4	73	S	12	5.4		0	8s		S	Inap.	Inap.	Fair	
Fort St. Michael, Alaska	30.07	763.8	30.11	764.8	34	1.1	100	SW	9	4.0			10k		SW	0.01	0.3	Cloudy	
Fort Sill, Indian Territory	28.54	724.9	29.57	751.1	78	25.6	65	S	10	4.5		0	0			0.11	2.8	Clear	
Fort Stevenson, Dakota	27.77	705.4			58	14.4	87	N	28	12.5			10n		N	1.11	28.2	Light rain	
Fredericksburg, Texas	28.10	713.7	29.59	751.6	75	23.9	37	S	5	2.2		0	2ks		Calm	0	0	Fair	
Galveston, Texas	29.85	758.2	29.89	759.2	82	27.8	79	SW	9	4.0		2k	5ks	Calm	SW	0	0	Cloudy	
Graham, Texas	28.70	729.0	29.68	753.9	80	26.7	70	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.18	741.1	29.80	756.9	67	19.4	64	S	13	5.8			10s		Calm	0	0	Threatening	
Henrietta, Texas	28.80	731.5	29.67	753.6	80	26.7	82	S	12	5.4		0	2s		S	0	0	Fair	
Indianapolis, Indiana	29.09	738.9	29.83	757.7	74	23.3	68	SE	7	3.1		5ck	0	W		0	0	Fair	
Indianola, Texas	29.85	758.2	29.88	758.9	81	27.2	87	S	6	2.7		2c	5ks	W	S	0.01	0.3	Light rain	
Jacksboro, Texas	28.64	727.4	29.68	753.9	82	27.8	63	S	8	3.6		0	0			0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.95	760.7	83	28.3	71	S	3	1.3		2cs	0	Calm		0	0	Clear	
Keokuk, Iowa	29.08	738.6	29.64	752.8	77	25.0	77	SW	17	7.6			10s		W	0.03	0.8	Cloudy	
Key West, Florida	29.91	759.7	29.94	760.5	82	27.8	75	SE	6	2.7		2k	0	SE		0	0	Fair	
Kittyhawk, North Carolina	29.96	761.0	29.98	761.5	70	21.1	80	NE	1	0.4		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	28.97	735.8	29.92	760.0	74	23.3	62	NE	1	0.4		0	Haze			0	0	Clear	
La Crosse, Wisconsin	28.79	731.3	29.47	748.5	68	20.0	95	S	16	7.2			10ks		S	0.38	9.7	Cloudy	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	50	10.0	39	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.34	745.2	29.67	753.6	80	26.7	66	S	3	1.3		0	0			0.22	5.6	Clear	
Leavenworth, Kansas	28.86	733.0	29.65	753.1	75	23.9	64	W	7	3.1			10ks		SW	0.08	2.0	Threatening	
Los Angeles, California	29.60	751.8	29.94	760.5	60.0	15.6	85	SE	2	0.9			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.87	758.7	75	23.9	60	E	3	1.3		0	0			0	0	Clear	
Lynchburg, Virginia	29.33	745.0	29.98	761.5	73	22.8	72	Calm	0	0		5cs	2s	N	W	0	0	Fair	
Madison, Wisconsin	28.68	728.5	29.60	751.8	68	20.0	84	S	18	8.0			10n		Calm	0.01	0.3	Light rain	
Marquette, Michigan	29.02	737.1	29.69	754.1	62	16.7	61	S	4	1.8			10s		SE	0	0	Cloudy	
Mason, Texas	28.22	716.8	29.85	758.2	84	28.9	54	S	7	3.1		8cs	2s	SW	SW	0	0	Cloudy	
Memphis, Tennessee	29.53	750.0	29.85	758.2	80	26.7	59	SE	6	2.7		2ck	0	SW		0	0	Fair	
Milwaukee, Wisconsin	29.00	736.6	29.70	754.4	62	16.7	94	S	16	7.2			10n		SE	0.24	6.1	Light rain	
Mobile, Alabama	29.88	758.9	29.93	760.2	80	26.7	85	N	3	1.3		2k	0	SW		0.05	1.3	Fair	
Montgomery, Alabama	29.70	754.4	29.92	760.0	78	25.6	65	Calm	0	0		1k	0	NE		0	0	Clear	
Morgantown, West Virginia	28.97	735.8	29.93	760.2	65	18.3	73	Calm	0	0		5cs	2s	NW	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.62	599.9	29.98	761.5	35	1.7	61	NW	30	13.4		5k	0	NW		0.02	0.5	Fair	
Nashville, Tennessee	29.39	746.5	29.89	759.2	81	27.2	55	E	2	0.9		0	0			0	0	Clear	
New Haven, Connecticut	29.81	757.2	29.92	760.0	67	19.4	60	N	5	2.2		2c	0	Calm		0	0	Clear	
New London, Connecticut	29.89	759.2	29.94	760.5	68	20.0	51	NW	5	2.2		1cs	Haze	NW	Calm	0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind: Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds: Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
New Orleans, Louisiana	29.86	758.4	29.92	760.0	83	28.3	75	S	3	1.3	.....	0	0	.....	.....	0.10	2.5	Clear	
Newport, Rhode Island	29.87	758.7	29.92	760.0	65.5	18.6	56	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.80	756.9	29.97	761.2	66	18.9	54	N	4	1.8	.....	5cs	Haze	SE	Calm	0	0	Fair	
Norfolk, Virginia	29.94	760.5	30.00	762.0	74	23.3	72	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.88	682.7	29.37	746.0	55	12.8	81	NW	16	7.2	.....	2c	0	W	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	55.0	12.8	87	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.48	723.4	29.50	749.3	70	21.1	90	Calm	0	0	.....	2c	5s	Calm	SW	0.99	25.1	Cloudy	
Oswego, New York	29.62	752.3	29.94	760.5	56	13.3	69	W	9	4.0	.....	8c	0	Calm	.....	0	0	Fair	
Pembina, Dakota	28.63	727.2	29.41	747.0	62	16.7	100	Calm	0	0	.....	.....	10n	.....	Calm	0.72	18.3	Light rain	
Philadelphia, Pa	29.93	760.2	29.98	761.5	65	18.3	54	NE	7	3.1	.....	5cs	Haze	Calm	Calm	0	0	Fair	
Phœnix, Arizona	28.66	728.0	30.39	771.9	70	21.1	24	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.82	452.6	30.03	762.7	23	— 5.0	60	N	8	3.6	.....	5k	0	N	.....	0	0	Fair	
Ploche, Nevada	.....	.....	.....	.....	49	9.4	71	NW	2	0.9	.....	0	0	.....	.....	0.09	2.3	Clear	
Pittsburg, Pennsylvania	29.16	740.7	29.96	761.0	54	12.2	87	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.23	742.4	29.88	758.9	61	16.1	55	S	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Portland, Maine	29.76	755.9	29.81	757.2	61	16.1	55	W	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
Portland, Oregon	30.11	764.8	30.18	766.6	56.0	13.3	84	Calm	0	0	.....	.....	10ks	.....	N	0	0	Cloudy	
Prescott, Arizona	24.75	628.6	30.11	764.8	49	9.4	44	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	28.86	733.0	29.65	753.1	82	27.8	70	SE	12	5.4	.....	8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	29.93	760.2	29.95	760.7	82	27.8	79	SE	5	2.2	.....	2k	0	SE	.....	0	0	Clear	
Red Bluff, California	29.53	750.0	29.87	758.7	70	21.1	53	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.62	752.3	29.82	757.4	80	26.7	78	SE	8	3.6	.....	8c	0	Calm	.....	0	0	Fair	
Rochester, New York	29.33	745.0	29.93	760.2	58	14.4	58	W	8	3.6	.....	9c	0	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.61	752.1	30.18	766.6	51	10.6	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.78	756.4	29.86	758.4	64	17.8	68	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.22	742.2	29.76	755.9	76	24.4	69	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.94	760.5	29.96	761.0	78	25.6	91	SW	3	1.3	.....	1cs	0	Calm	.....	0.07	1.8	Clear	
St. Paul, Minnesota	28.67	728.2	29.44	747.8	65	18.3	89	SE	8	3.6	.....	.....	10n	.....	.....	0.23	5.8	Light rain	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	59	15.0	65	SE	4	1.8	.....	0	8ck	.....	W	0.08	2.0	Cloudy	
San Antonio, Texas	29.14	740.1	29.69	754.1	83	28.3	71	SE	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
San Diego, California	29.89	759.2	29.96	761.0	59	15.0	94	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.26	743.2	29.91	759.7	63	17.2	67	S	8	3.6	.....	10ck	0	W	.....	0	0	Cloudy	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	66	18.9	64	NW	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
San Francisco, California	29.84	757.9	29.91	759.7	54	12.2	90	W	6	2.7	.....	0	Fog	.....	W	0	0	Clear	
Santa Fé, New Mexico	29.27	691.0	29.81	757.2	49	9.4	31	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	86	30.0	72	SE	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Shreveport, Louisiana	29.66	753.4	29.87	758.7	80	26.7	78	S	4	1.8	.....	0	8ks	.....	SW	0	0	Fair	
Silver City, New Mexico	24.30	617.2	30.43	772.9	50	10.0	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.99	761.7	30.02	762.5	77	25.0	77	E	7	3.1	.....	2c	0	Calm	.....	0	0	Fair	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	65	18.3	63	S	2	0.9	.....	5cs	Haze	N	.....	0	0	Fair	
Stockton, Texas	26.84	681.1	29.84	757.9	70	21.1	75	SW	8	3.6	.....	2c	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass	29.80	756.9	29.85	758.2	62	16.7	72	W	15	6.7	.....	2c	0	W	.....	0	0	Clear	
Toledo, Ohio	29.23	742.4	29.89	759.2	65	18.3	63	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
Tucson, Arizona	27.48	698.0	30.03	762.7	62	16.7	36	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.69	754.1	30.17	766.3	62.0	16.7	67	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.93	734.8	29.71	754.6	76	24.4	91	Calm	0	0	.....	.....	10s	.....	S	0.14	3.6	Cloudy	
Vicksburg, Mississippi	29.67	753.6	29.91	759.7	80	26.7	78	SW	4	1.8	.....	0	0	.....	.....	1.30	33.0	Clear	
Virginia City, Montana	24.30	617.2	29.78	756.4	50	10.0	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.51	749.5	29.87	758.7	65	18.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.89	759.2	30.00	762.0	69	20.6	43	NE	4	1.8	.....	2c	0	SW	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	59	15.0	28	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.91	759.7	29.98	761.5	76	24.4	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	48.0	8.9	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.85	758.2	29.89	759.2	62	16.7	71	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.33	719.6	29.54	750.3	64	17.8	78	SW	2	0.9	.....	0	0	.....	.....	1.07	27.2	Clear	
Yuma, Arizona	29.67	753.6	29.84	757.9	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clera	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.86	758.4	29.91	759.7	81	27.2	78	S	1.2	0.5	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.24	641.1	.....	.....	65.5	18.6	90	Calm	.....	.....	0	.....	10n	.....	.....	0.11	2.8	.....	Thomas Herran.
Navassa, W. I	29.86	758.4	29.94	760.5	80	26.7	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	77	25.0	91	E	.....	.....	8	.....	10n	E	.....	1.40	35.6	Raining	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			81	27.2	96	SW	7	3.1			5		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.82‡	757.4‡			75	23.9	79	Calm			0		Haze		Calm	0	0			Clearing	
Adams, N. 7° 41′ W. 82° 50′	30.08‡	764.0‡			79	26.1	91	WSW			2		5		W			Mod'ate	SW	Fair	
Alaska, Sitka, Alaska	30.02‡	762.5‡			44	6.7	92	Calm			0					0.225	5.72			Rain and fog	
Alliance, Havre, France	30.17‡	766.3‡			62	16.7	88	SSE			1		10							Raining	
Colorado, New York, N. Y.	29.97‡	761.2‡			64	17.8	58	N					2		SW	0	0			Hazy	
Constitution, League Island, Penn	29.86‡	758.4‡			67	19.4	55	ENE			1		5		Calm					Clear	
Despatch, N. 27° 50′, W. 51° 45′	30.19‡	766.8‡			76	24.4	82	WSW			4		10		Calm	0	0	Mod'ate	NW	Cloudy	
Enterprise, Antwerp, Holland	30.17‡	766.3‡			65	18.3	73	SSW			1		4		S					Clear	
Franklin, Norfolk, Va.	29.97‡	761.2‡			72	22.2	76	SW	4.8	2.1			2		SW	0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.91‡	759.7‡			57	13.9	75	N			2		5		N	0	0			Fair	
Kearsarge, Portsmouth, N. H.	29.85‡	758.2‡			62	16.7	72	NW			1		3							Clear	
Marion, Pensacola, Fla	29.92‡	760.0‡			83	28.3	100	SSW			1–2		2		S			Smooth		Clear	
Michigan, Erie, Pa					66	18.9	68	NW			2		8		NW					Cloudy	
Monocacy, Shanghai, China	29.68‡	753.9‡			72	22.2	85	ESE			1		10		ESE					Cloudy	
Monongahela, Yokohama, Japan	29.81‡	757.2‡			72	22.2	80	W			0–1		k			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.97‡	761.2‡			84	28.9	68	SSE	8	3.6			2		E	0	0			Clear	
Onward, Callao, Peru †	30.03‡	762.7‡			65	18.3	78	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.65‡	753.1‡			68	20.0	100	E			2		10							Overcast	
Passaic, Washington, D. C.					68	20.0	79	NE			1		2							Clear	
Pensacola, Callao, Peru	30.04‡	763.0‡			64	17.8	89	Calm	0	0			10			0	0			Misty	
Portsmouth, N. 41° 13′, W. 72° 40′	29.92‡	760.0‡			66	18.9	64	NNW			2		5		N; W	0	0	Smooth		Fair	
Powhatan, Hampton Roads, Va	29.94‡	760.5‡			72	22.2	80	NW			2		2		Calm	0	0			Clear	
Quinnebaug, Smyrna, Turkey	29.78‡	756.4‡			81	27.2	48	WSW			4		0							Clear	
Ranger, Amoy, China	29.63‡	752.6‡			82	27.8	91	S			2		8		Calm					Cloudy	
Richmond, Taku Bar, China	29.52‡	749.8‡			72	22.2	95	E			4		8		E	0	0	Mod'ate	ESE	Fair	
Rio Bravo, Brownsville, Texas	29.82‡	757.4‡			83	28.3	87	E			1		0			0	0			Clear	
Santee, Annapolis, Md.	30.00‡	762.0‡			68	20.0	88	N			1		0			0	0			Clear	
Saratoga, N. 24° 47′, W. 26° 56′	30.16‡	766.1‡			72	22.2	90	NE			5		8		SW	0	0	Light	NE	D. clouds	
St. Louis, League Island, Pa	29.97‡	761.2‡			67	19.4	60	N	3	1.3			0			0	0			Clear	
Trenton, Off Cadiz, Spain	30.08‡	764.0‡			79	26.1	44	SSE			2–3		0			0	0	Smooth		Clear	
Tuscarora, N. 24° 22′, W. 110° 19′	29.86‡	758.4‡			70	21.1	85	S			4		2		Calm	0	0	Smooth		D. clouds	
Vandalia, Hampton Roads, Va	29.95‡	760.7‡			72	22.2	85	Calm			0		2			0	0	Mod'ate		Fair	
Wabash, Boston, Mass	29.88‡	758.9‡			65	18.3	100	NW	6	2.7			0			0	0			Clear	
Wyoming, Venice, Italy	30.00‡	762.0‡			74	23.3	56	SE			1		2		SE			Smooth		Clear	
Wachusett, Off Sand Key Light House, Fla.	29.95‡	760.7‡			81	27.2	83	SE			2		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
S. S. City of Tokio, Capt. Maury, N. 39° 29′, W. 129° 34′		30.26‡	768.6‡	52	11.1		NNW			5		10			0	Heavy	NNW	Overcast	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		29.94‡	760.5‡	56	13.3	81	SW			1		0						Fine	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 32° 42′, W. 139° 02′		30.24‡	768.1‡				NE			6				NE		Rough	Var.	Rain & fog.	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 38° 40′, E. 159° 15′		29.99‡	761.7‡	57	13.9	75	ENE			4		2cs			0	Mod'ate	ENE	Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 45° 46′, W. 39° 04′		29.88‡	758.9‡	59.0	15.0	76	NW			3		10			0	Long	NE	Cloudy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 37° 29′, W. 70° 47′		29.96‡	761.6‡	71.5	21.9	60	NNE			3		2?		N	0	Smooth	N	Cloudy?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 51° 38′, E. 2° 02′		30.22‡	767.6‡				SW			3		10		WNW		2	SW	Foggy	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 00′, W. 73° 55′		29.93‡	760.2‡	63	17.2	83	NW			1		2		NW	0	Smooth		Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Southwest Pass, Miss., N. 28°58′ W. 89°24′		29.96‡	761.0‡	82	27.8	79	S			2		2k			0	Smooth		Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 30° 54′, W. 67° 02′ †		29.97‡	761.2‡				W			5		8		W	0	Long	SE	Fair	N. B. Foss.
Schooner Harry and Fred, N. 22° 32′, W. 67° 25′		29.81‡	757.2‡				NNW	8	3.6			0?		S?	1.5 in. or 38.1mm	Long	SE	Clear	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 43° 51′, W. 30° 45′ †		29.81‡	757.2‡	63	17.2	78	WNW			5		2		NW		Mod'ate	NW	Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 41° 38′, W. 69° 52 †		29.85‡	758.2‡				N			3		2		N	0	Long	SE	Pleasant	L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		29.94‡	760.5‡	84	28.9		Calm			0		2						½ covered	Capt. Wm. Shepherd.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

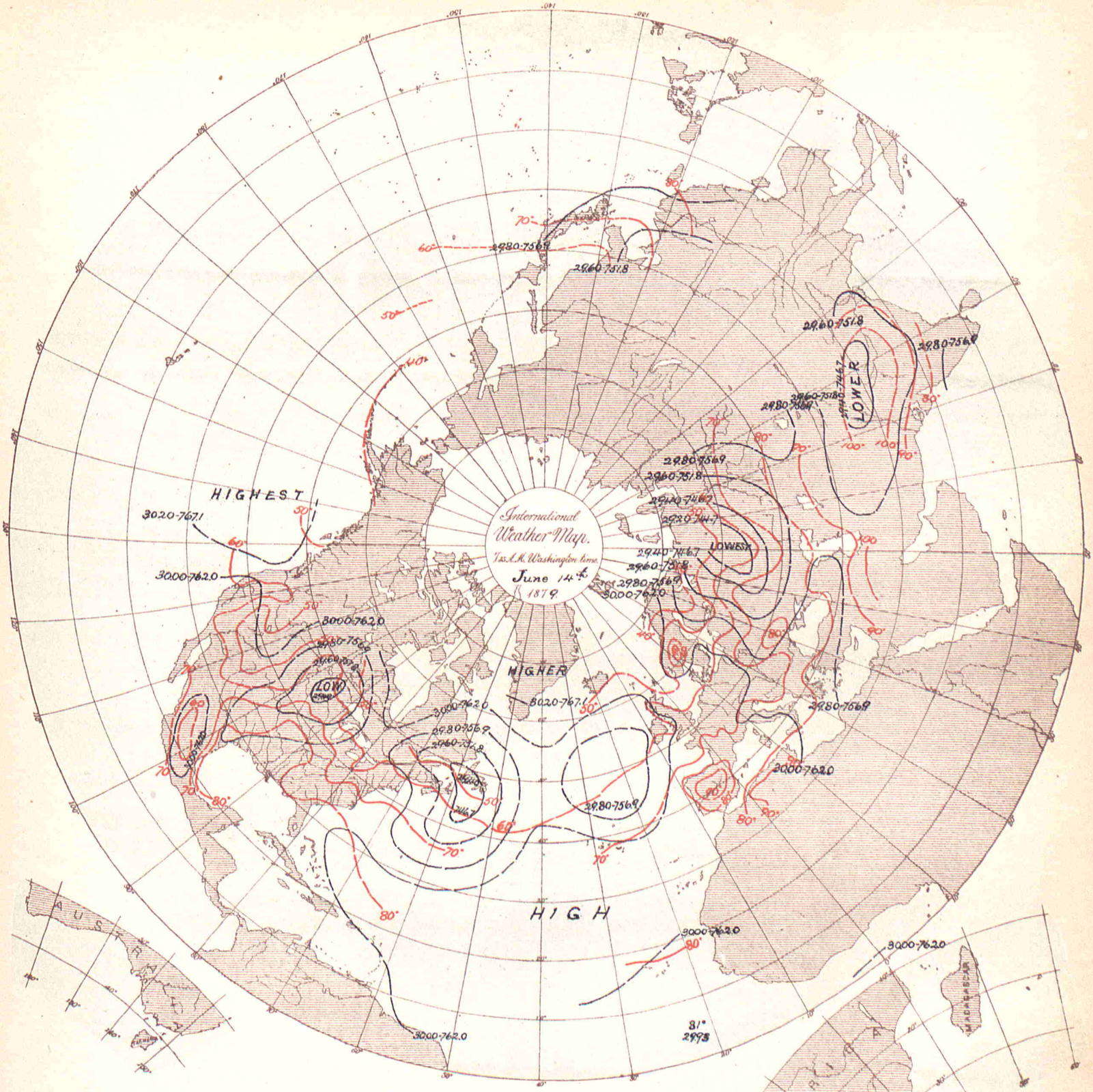
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 15, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.97	761.1	74.1	23.4	88	WNW			2		10			0	0	Covered	Kesxuche.
Algiers			30.29	769.3	77.7	25.4	54	NNE			3		0			0	0	Clear	Tourliiere.
La Calle			29.95	760.8	74.3	23.5	65	NE			3		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.12	765.0															Gau.
Saida			30.01	762.9	99.5	37.5	21	S			3		8			0	0	Very cloudy	Herbin.
Tebessa			30.02	762.4	89.1	31.7	23	N			3		5			0	0	Cloudy	Watrin.
Geriville			30.09	764.2	88.7	31.5	63	S			3		5			0.012	0.3	Cloudy	Brugniaux.
Laghouat			29.98	761.6	96.1	35.6	26	SSW			5		0			0	0	Clear	Bertrand.
Biskra			30.00	761.9	94.6	34.8	24	SE			2		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.43	747.6	29.97	761.2	66.4	19.1	61	N			4		10			0.106	2.7		Prof. Ivan Stozir.
Eperies	29.24	742.6	29.98	761.4	70.9	21.6	60	NNE			1		5			0	0		Dr. Wierzbiski.
Gratz	29.04	737.7	29.89	759.2	70.7	21.5	61	N			3		10k		S	0	0		Julius Mikolik.
Hermannstadt	28.75	730.2	29.96	761.0	67.8	19.9	54	NW			5		5			0.177	4.5		Andreas Rospini.
Kremsmünster	28.44	722.3	29.82	757.4	68.4	20.2	73	ESE			2		8			0.068	1.75	Raining	Prof. A. Gottschling.
Lemberg	28.73	729.7	30.04	763.1	64.0	17.8	66	WSW			2		3			0.598	15.2		Prof. C. Wagner.
Pola	28.95	735.4	29.91	759.6	69.1	20.6	54	NE			2		8			0.020	0.5		Dr. T. Stanecki.
Szathmar	29.85	758.2	29.96	761.0	71.2	21.8	67	WNW			2		6			0	0		I.R.Hydrographic Office.
Szegedin	29.44	747.7	29.89	759.3	62.6	17.0	86	S			3		10			0.579	14.7	Rainy	Julius Csics, S. J.
Trieste	29.58	751.2	29.85	758.1	66.6	19.2	70	SE			1		8			0	0		Karl Stancel.
Vienna	29.89	759.2	29.99	761.8	78.1	25.6	56	W			1		6			0	0	Almost cl'dy	P. Busin.
	29.31	744.4	30.01	762.2	66.7	19.3	66	WNW			4		7			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.70	754.4	29.80	756.9	52.7	11.5		ESE	5	2.2			10			0	0	Misty	W. Boswell.
Ardrossan																			Wm McNeil &G.Carrick
Armagh, Observatory			29.80	756.9	63.2	17.3		W	3	1.3									S. Call.
Bidston (Liverpool Obs)			29.81	757.2	57.9	14.4		NNW	8	3.6			10					Overcast	John Hartnup.
Bolton (Sharples)			29.81	757.2	63.8	17.7		SSW	6	2.7			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire																0.02	0.5		J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.98	761.5	85	29.4		NE			1		3					D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.73	755.1	29.83	757.7	63.0	17.2		S			1		10					Raining	H. Todd.
Cardington			29.81	757.2	65.0	18.3		S			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	62.1	16.7		SW			1		8					Drizzling	J. Carmell, Sapper, R. E.
Donaghadee	29.78	756.4	29.82	757.4	62	16.7		NE			2		2					D. clouds	J. Mac Gowan.
Dover	29.87	758.7	29.89	759.2	58	14.4		SW			1		10					Foggy	J. Costello.
Falmouth, Observatory	29.61	752.1	29.84	757.9	63.0	17.2		SW			2		10					Misty	The Staff.
Fort Napier (Natal)	27.73	704.3	30.02	762.5	58.0	14.4		SE			3		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	86	30.0		W			0		4					D. clouds	
Galway, Queen's College			29.74	755.4	63	17.2		S			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.89	759.2	29.94	760.5	78.8	26.0		E			1		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.59	751.6	29.79	756.7	59.7	15.4		W			3		4					D. clouds	D. G. Maclean.
Great Yarmouth	29.88	758.9	29.88	758.9	57	13.9		S			2		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.69	754.1	29.86	758.4	62.8	17.1		SSW			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.88	758.9	60.5	15.8		SSW			1		10					Misty	Dr. S.E.Hoskins,F.R.S.
Helston	29.89	759.2	30.01	762.2	66	18.9		W			0		10			0.67	17.0	Overcast	M. P. Moyle.
Holyhead	29.80	756.9	29.51	757.2	60	15.6		NNW			2		3					D. clouds	John Tilston.
Jersey	29.64	752.8	29.93	760.2	61.9	16.6		SW			1		10			Blank	Blank	Foggy	J. Fisher.
Kew, Observatory	29.81	757.2	29.84	757.9	62.8	17.1		S	16	7.2			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.55	750.6	29.80	756.9	61.0	16.1		SE			2		10					Raining	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.92	760.0	30.00	762.0	76	24.4		NW			2	2c						Blue sky	A. King.
Nairn	29.70	754.4	29.79	756.7	54	12.2		E			1							Foggy	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	84.0	28.9		SE			1		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.64	752.8	29.82	757.4	60.0	15.6		NNE			1		10n			0.164	4.16	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.28	743.7	29.79	756.7	59.0	15.0		NE			2		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.81	757.2	64	17.8		SSW			2		10					Drizzling	H. E. Bellamy.
Plymouth	29.77	756.1	29.85	758.2	58.4	14.7		S			1		10					Foggy	John Merrifield.
Prince Town	28.41	721.6	29.87	758.7	54.2	12.3		SW			1		10					Foggy	W. H. Tooker.
*Roche's Point	29.77	756.1	29.88	758.9	63	17.2		SSE			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.85	758.2	51.9	11.1		E	6	2.7			2			0	0	D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.71	754.6	29.77	756.1	83.0	28.3		NE			2		1					Blue sky	Serg't W. H.Lyne.
Sheffield	29.56	750.8	29.84	757.9	63.9	17.7		S			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.77	756.1	29.80	756.9	59.4	15.2	77	W			4		8			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.41	747.0	29.82	757.4	63.0	17.2		SW			1		8					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.63	752.6	29.82	757.4	61.2	16.2		S			3		10					D. clouds	Rev.C.H.Grifilth,F.M.S.
Truro, Royal Institution	29.84	757.9	29.85	758.2	66	18.9		S			2		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.75	755.6	29.77	756.1	60.8	16.0		S	6	2.7			6					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.16	766.1	30.20	767.1	62	16.7	67	NW	4	1.8		0	3			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.54	750.3	41.0	5.0	86	W			3		7k			0.30	7.6		FrancisAbbott F.R.A.S.
Leith, Restalrig Park			29.79	756.7	61.2	16.2		W			2		10k			0.02	0.5	Fine	Andrew Gibb
Mauritius, Observatory	29.92	760.0	30.11	764.8	73.1	22.8	64	ESE	11.0	4.9		0	1			0.12	3.0	Fine	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	41.2	5.1	97	W	16	7.2			8			0.47	11.9	Squally	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.72	754.9	60	15.6		N			3	4	0	N		0	0		J. Youngclause.
North Unst (Shetland Is.)			29.84	757.9	49	9.4		NE			2	5	5						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. For Cape of Good Hope and North Unst the originals give the cloudiness by the scale of 0 to 20. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Inches.	Barometer. Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.79‡	756.7‡	77.2	25.1		WSW?			1		2					Blue sky	Capt. W. J. L. Wharton.
§Brig Alliance, N. 55° 48′, W. 12° 33′			29.75‡	755.6‡	58	14.4		S			2		10					Misty	Capt. W. Scott.
Barque Fecalma, N. 39° 30′, W. 53° 55′			29.86	758.4	65	18.3		W			3		4		W	5	W;8	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 49° 00′, W. 27° 55′			29.87	758.7	57	13.9		NW			4		9			3	WNW	Showery	Capt. W. Randall.
S. S. Nizam, N. 32° 38′, E. 31° 43′			29.92‡	760.0‡	77	25.0		NNW			3		1					Blue sky	Capt. Barlow.
Astarte, N. 4° 55′, W. 22° 10′ *.			29.94‡	760.5‡	81.4	27.4		SSW			4		7					D. clouds	Capt. Parson.
British Peer, N. 16° 30′, W. 35° 00′			30.01‡	762.2‡	76.5	24.7		ENE			5		3					Misty	Capt. Greig.
Theophane, S. 22° 05′, E. 59° 05′			30.15‡	765.8‡	70	21.1		ESE			5		10					Raining	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria																			Capt. Wm. Watson.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
San José	26.23	666.2	29.95	760.7	67.1	19.5	90	NE	....	....	1	6cs	....	....	....	0.1	3.	....	Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Bar. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.
Copenhagen	29.95	760.7	30.00	761.9	61.9	16.6	57	WSW	....	....	2	....	4	....	....	....	....	....
Fanöe	29.95	760.6	29.97	761.1	62.6	17.0	77	SSW	....	....	4	....	1	....	....	....	....	....
Godthaab (Greenland)	30.00	762.1	30.05	763.2	46.0	7.8	86	Calm	....	....	0	....	1	....	....	....	....	....
Stykkisholm (Iceland)	29.99	761.7	30.03	762.8	46.0	7.8	89	NE	....	....	7	....	8	....	....	....	....	....
Thorshavn (Faröe)	29.84	757.9	29.87	758.8	49.8	9.9	89	ENE	....	....	2	....	10	....	....	....	....	....
Vestervig	29.76	755.8	29.93	760.1	54.7	12.6	89	SSW	....	....	4	....	10	....	....	....	....	....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Bar. Inches.	Millimeters.	Sea-level Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind From—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Low'r.	Upper From—	Lower From—	Rain Inches.	Millimeters.	Weather.	Observer.
Alençon, Normal School	29.43	747.6	29.98	761.6	73.8	23.2	81	SW	....	....	3	....	8	W	SW	0.173	4.4	Very cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.4	29.93	760.1	73.4	23	74	S	....	....	1	....	10	....	....	1.10	28.	Covered	Bonvallet, Director.
Arras, Engin'r School	29.70	754.3	29.94	760.6	66.9	19.4	88	S	....	....	2	....	....	....	S	Inap.	Inap.	Sprinkling	Klein, Commandant.
Avignon, Normal School	29.90	759.5	29.98	761.5	82.4	28	50	NE	....	....	1	....	0	....	....	0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.43	747.5	29.90	761.0	75.4	24.1	33	SE	....	....	2	2c	....	....	W	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	20.68	758.9	29.93	760.3	73.0	22.8	65	S	....	....	1	....	10	....	SSW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.15	740.5	30.02	762.5	72.5	22.5	55	E	....	....	1	....	2	....	....	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.23	742.4	30.16	766.1	77.7	25.4	51	SW	....	....	1	....	....	....	....	0	0	....	Marlot, Director.
Bourges, Normal School	29.45	747.9	29.98	761.4	71.1	21.7	73	SE	....	....	1	....	2	SE	SE	0.098	2.5	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.61	752.2	29.86	758.4	61.2	16.2	91	SW	....	....	2	....	10	....	SW	0.423	10.75	Raining	Ch. de Kermarec, Dir.
Carcassonne, Normal School	29.52	749.8	29.91	759.8	83.1	28.4	37	E	....	....	3	....	2	....	E	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.84	758.0	29.91	759.7	69.8	21	82	SSW	....	....	1	....	10	....	....	0.205	5.2	Covered	Lair, Director.
Chartres, Normal School	29.39	746.5	29.93	760.3	75.0	23.9	78	S	....	....	2	....	9	S	S	0.071	1.8	....	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.68	753.9	29.99	761.7	75.2	24.0	33	S	....	....	2	....	8	....	....	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.8	29.90	759.5	79.3	26.3	50	SE	....	....	1	....	8	....	SW	0.051	1.3	....	Alluard, Director.
Commercy, Normal School	29.21	742.0	30.03	762.8	74.1	23.4	32	E	....	....	1	....	2ck	....	E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.3	30.05	763.3	80.1	26.7	27	SW	....	....	2	....	2	....	SW	0	0	....	L. Kina, Director.
Grenoble, Normal School	29.24	742.7	29.98	761.5	73.4	23	43	NW	....	....	1	2c	....	N	....	0	0	Partly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.74	755.4	29.95	760.7	71.2	21.8	82	S	....	....	1	....	8	....	SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.64	752.9	29.94	760.5	72.9	22.7	74	SSW	....	....	1	....	8	SW	SW	0.165	4.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.9	30.02	762.6	75.9	24.4	47	NW	....	....	2	1c	....	....	....	0	0	Clear	A. Baudry, Director.
Lorient, Naval Observatory	29.84	757.8	29.94	760.4	63.0	17.2	90	S	....	....	1	....	....	....	S	0.256	6.5	....	Lt. T. Carré, Director.
Mâcon, Normal School	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Galzin, Director.
Marseilles, Observatory	29.71	754.6	29.97	761.3	81.1	27.3	25	SW	....	....	1	....	1	....	....	0	0	V. slightly cloudy	E. Stephan, Director
Mirecourt, Normal School	28.97	735.9	30.00	762.1	61.2	16.2	87	NE	....	....	1	....	2	....	NE	0	0	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.76	756.0	29.95	760.8	59.2	31.8	55	S	....	....	1	....	2	....	S	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.96	735.6	29.98	761.4	78.8	26	44	N	....	....	1	c	....	N	N	0	0	....	Cautier, Director.
Puy de Dome (Summit) Obs	25.26	641.6	....	....	58.6	14.8	78	S	....	....	1	....	8	....	....	0.157	4.0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.07	763.8	30.10	764.6	77.0	25.0	67	E	....	....	1	....	5	WSW	WSW	0.59	15.	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.85	758.2	29.94	760.4	65.7	18.7	90	S	....	....	1	....	10	....	S	0.079	2.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.85	758.3	29.88	759.0	71.8	22.1	68	SSW	....	....	2	....	1	SSW	SSW	0.147	3.72	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.80	757.0	29.97	761.2	71.1	21.7	69	S	....	....	1	....	....	....	SSW	0.008	0.2	....	E. Renou, Director.
Tarbes, Normal School	28.81	731.7	29.83	757.7	79.3	26.8	47	WNW	....	....	2	....	10	....	....	0.31	8.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.23	742.4	29.99	761.7	81.0	27.2	58	SSE	....	....	3	....	1	....	....	0.433	11.0	....	M. Jullier Mercadier.
Versailles, Observatory	29.48	748.8	29.97	761.3	68.7	20.4	72	SW	....	....	2	....	....	....	....	0	0	....	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.5	30.00	761.9	76.5	24.7	55	NW	....	....	1	....	2	....	NE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.82	757.3	29.81	758.0	81.0	27.2	....	....	....	....	....	....	....	....	....	0.24	6.	....	L'Abbé [illegible]
Lyons Obs'y (Park Station)	29.39	746.5	29.98	761.4	76.1	24.5	59	N	....	....	1	3c	....	WNW	....	0	0	Clear	Ch. André, Director.
Mont-Louis	24.93	633.3	30.25	768.3	63.5	17.5	63	E	15.0	6.7	....	....	10	....	....	0	0	Misty	M. Cave.
Nice	....	....	30.03	762.7	78.4	25.8	59	W	....	....	1	....	2	....	....	0	0	....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Marié Davy, Director.
Perpignan	29.89	759.3	30.00	762.0	74.3	23.5	50	SE	11.2	5.0	....	....	1	....	WNW	Inap.	Inap.	....	Dr. Fines.
Pic du Midi (Summit) H. P.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.67	575.7	....	....	57.6	14.2	....	W	....	....	1	....	4	....	....	0.014	0.35	Threatening	Gen'l de Nansouty.
Tours	29.72	755.0	29.92	760.0	73.6	23.1	66	SW	....	....	1	....	10	....	....	0.087	2.2	....	Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.63	752.6	29.65	753.2	72.5	22.5	94	SE	8.3	3.7	....	....	6k	....	....	0.004	0.1	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10	Clouds. Amount. Upper 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.25	742.9	30.06	763.4	70.0	21.1	54	W			2		6	SW		0	0		Prof. Dr. Hoh
Berlin	29.91	759.7	30.08	763.9	69.4	20.8	49	W			1		4			0	0		Prof. Dr. Arndt.
Breslau	29.58	751.2	30.11	764.7	64.2	17.9	60	NNW			1		2			0	0		Royal University Obs'ty.
Carlsruhe	29.58	751.2	29.99	761.7	73.0	22.8	46	E			2		2	SE		0	0		Albert Senz.
Cassel	29.45	747.9	30.05	763.3	72.8	22.4	53	SE			2		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	76.8	24.9	37	SE			4		6k			0	0		Director Lose.
Emden			29.94	760.5	72.4	22.5	52	SSW			1		0			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.68	753.8	30.04	763.0	73.0	22.8		SW			2		5			0	0		Physical Society.
Freienwalde on the Oder	30.03	762.8	30.07	763.8	72.1	23.3	56	NW			3	3c		NW		0	0		Dr. Assmann.
Friedrichshafen	28.62	726.9	30.02	762.5	65.5	18.6	71	SSW			4		0			0	0		M. Wilhelm.
Hamburg	29.95	760.7	30.02	762.5	70.0	21.1	57	SW			2		6k			0	0	Fair	Captain F. Hegemann.
Kiel	29.98	761.4	29.99	761.8	68.0	20.0	54	W			2		5			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.97	761.3	30.06	763.4	58.6	14.8	71	W			4		8			0	0		Prof. E. Luther
Köslin																			H. Müller.
Leipsic Observatory	29.66	753.4	30.07	763.8	69.4	20.8	58	SE			1		4			0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.97	761.3	30.02	762.5	60.4	15.8	65	WSW			3		10cs						Skalweit.
Munich (München)	28.27	718.0	30.14	765.5	64.6	18.1	53	NE			4		2	NE		0.008	0.2		Dr. C. Larg.
Neufahrwasser	30.05	763.2	30.07	763.6	62.2	16.8	61	NNE			3		3	WSW		0	0		A. Lothes
Posen	29.81	757.2	30.10	764.4	63.7	17.6	52	NW			5		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.02	762.6	71.6	22.0	44	Calm			0		1			0.250	6.36		Imp. University Observatory.
Stuttgart	29.10	739.2	30.01	762.2	71.6	22.0	36	S					0			0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.58	725.8	30.04	762.9	67.5	19.7	46	S	1.1	0.5			6ck		S	0	0	Hazy	T. Hopfner.
Wustrow	30.00	762.0	30.02	762.6	59.7	15.4	85	NW			2		5s			0	0		[illegible], Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the [illegible], instead of 2:6, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	83.8	28.8		SW			2.0		k					Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published, occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.8	29.57	751.0	85.5	29.7	61	SSW					6			0	0	D. clouds	
Deesa	29.14	740.2	29.60	751.8	84.8	34.9	32	SSW	23.7	10.6			2	SW		0	0	D. clouds	
Bombay	29.70	754.2	29.73	755.2	85.1	29.5	73	WSW	10.0	4.5			6		SW	0	0	D. clouds	
Poona	27.88	708.1	29.72	754.8	81.8	27.7	53						4	Calm		0	0	D. clouds	
Lahore	28.62	726.8	29.31	744.4	107.6	42.0	21	W	3.8	1.7			0			0	0	Misty	
Belgaum	27.27	692.6	29.81	757.2	73.3	22.9	88	W	9.0	4.0			10	W	W	0	0	D. clouds	
Roorkee	28.49	723.6	29.34	745.2	99.7	37.6	32	NW	4.9	2.2						0	0		
Agra	28.84	732.5	29.37	746.0	105.6	40.9	21	W								0	0		
Nagpur	28.54	724.8	29.56	750.8	84.2	29.0	61	W	8.7	3.9			8		E	0	0	Gloomy	
Lucknow	29.04	737.5	29.39	746.5	101.0	38.3	38		4.4	2.0						0	0	Gloomy	
Allahabad	29.08	738.5	29.37	746.0	104.3	40.2	29	N	2.9	1.3			1			0	0	Misty	
Patna	29.28	743.8	29.46	748.3	86.0	30.0	67	ENE	2.4	1.1			8	ENE	ENE	0	0	D. clouds	
Hazaribagh	27.49	698.3	29.43	747.6	91.8	33.2	35	N	10.9	4.9			10			0	0		
Cuttack	29.46	748.2	29.54	750.2	87.1	30.6	64	SSW	7.0	3.1			3			0.17	4.3	D. clouds	
Calcutta (Alipore)	29.50	749.2	29.52	749.8	84.0	28.9	67	SSE	9.0	4.0			10	W	W	0	0	Gloomy	
Goalpara	29.16	740.6	29.54	750.4	79.0	26.1	86	Calm	2.3	1.0			10			1.83	46.5	Gloomy	
Chittagong	29.57	751.0	29.66	753.3	81.9	27.7	85	S	8.3	3.7			10			0	0	Gloomy	
Sibsagar	29.25	742.9	29.58	751.4	79.1	26.2	93	SE	1.7	0.8			10			1.61	40.9	D. clouds	
Jubbulpore	28.16	715.4	29.50	749.3	86.0	30.0	58	SW	9.4	4.2			10		W	0.68	17.3	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,362 ft., or 412 m.. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.8	29.96	760.9	78.4	25.8	41	S	2.5	1.1			4			0	0		Prof. Giovanni Clodig.
Milan	29.48	748.9	29.98	761.6	80.4	26.9	19	S			2		0			0	0		Prof. Schiaparelli.
Padua	29.87	758.6	29.97	761.3	76.6	24.8	32	W	6.3	2.8			0?	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.5	29.99	761.7	75.4	24.1	30	SE	2.5	1.1			0			0	0		Prof. P. F. Denza.
Genoa	29.82	757.3	30.00	762.1	75.7	24.3	44	S	6.3	2.8			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.11	713.9	29.96	760.9	73.0	22.8	35	NW			4		0?	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.93	760.2	29.98	761.4	74.8	23.8	39	N	4.9	2.2			2			0	0		Prof. Luigi Guidi.
Florence	29.72	754.9	29.97	761.2	82.4	28.0	25	NW			2		0			0	0		Cav. F. Meucci.
Leghorn	29.90	759.4	29.98	761.5	73.9	23.3	64	WSW			4		1			0	0		Prof. P. Monte.
Rome	29.77	756.1	29.94	760.4	80.1	26.7	30	WNW	4.9	2.2			1			0	0		Prof. P. S. Ferrari.
Lecce	29.72	754.9	29.97	761.1	73.4	23.0	44	WNW	6.3	2.8			6	WNW		0	0		Prof. C. De Giorgi.
Cosenza	29.08	738.7	29.93	760.2	78.8	26.0	65	W	3.1	1.4			6			0	0		Prof. D. Conti.
Cagliari	29.76	756.0	29.95	760.8	82.6	28.1	30	NW			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.75	755.7	30.00	762.0	70.5	21.4	64	ENE	6.3	2.8			0			0	0		Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.95	760.7	81.1	27.3	54	SE	7.4	3.3			1	NW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.44	747.8	30.00	761.9	76.6	24.8	62	SW	6.9	3.1			5	WSW		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.71	754.6	29.72	754.9	73.6	23.1	85	S	2.6	1.2			8s,ok			0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.56	750.8	29.75	755.6	70.6	21.4	93	S	1.5	0.7			8s			0.070	1.78	Clear	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.70	754.4	29.77	756.1	66.1	18.9	96	NNW	3.0	1.3		0	7s			0.615	15.62	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	635.9	30.02	762.4	59.9	15.5	66	NW			1	0	9			0	0	Very cloudy	Prof. L. Perez.
Leon	24.42	620.2	30.06	763.6	61.7	16.5	84	ESE			1	0	10n		NE	1.28	32.6	Raining	Prof. M. Leal.
Mexico, Central Obs'y	23.03	585.0	29.98	761.5	56.8	13.8	78	W	1.6	0.7		6k	0			0.19	4.9		The Staff.
Pabellon (Aguascalientes)					60.4	15.8	92	Calm			0		10ks			1.50	38.2	Covered	M. V. de Leon, M. E
Tlacotalpam	29.81	757.2	29.82	757.5	79.0	26.1	77	S			3	2	0	S		0	0	Clear	Prof. M. M. Cházaro.
San Luis Potosi	24.19	614.3	30.01	762.2	68.0	20.0	78	S			1	5	1	W	W	0.77	19.6	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.53	572.2	29.93	760.1	56.5	13.6	87	Calm			0	10p;k	1s	Calm	Calm	Inap	Inap.	Very cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	56.1	13.4	89	Calm	0	0		3k;s	0	Calm		0	0	Clear	Prof. P. Spina.
Colima	28.37	720.7	30.00	762.0	78.1	25.6	80	E			1	0	8		W	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.09	754.1	29.98	761.4	73.0	22.8	92	W			1		10		SE	0.05	1.2	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.8	29.95	760.8	70.5	21.4		S								0	0		
Groningen	29.92	759.9	29.97	761.3	70.2	21.2		S								0	0		
Helder	29.93	760.2	29.93	760.2	65.5	18.6		SSW			3					0.059	1.5		
Hellevoetsluis	29.95	760.6	29.95	760.6	74.5	23.6	69	S			4					0	0		
Utrecht	29.92	759.9	29.97	761.1	74.3	23.5	55	SSW			3		8			0.043	1.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.83	757.7	29.89	759.1	52.2	11.8	88	SSE	6.0	2.7			10			0.008	0.2		
Brönö	29.74	755.3	29.78	756.3	48.6	9.2	61	N	9	4			7			0	0		
Christiania	29.55	750.5	29.69	754.1	68.5	20.3	57	SSW	11	5			4			0	0		
Tromsö	29.89	759.3	29.94	760.4	39.2	4.0	72	NE	9	4			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.07	763.6	30.25	768.4	67.3	19.6	87	W	6.3	2.8			3			0	0		Dr. J. A. Sampaio.
Campo Major	28.95	735.4	29.93	760.1	84.7	29.3	29	WSW	9.4	4.2			4	WSW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.08	764.1	30.17	766.3	71.2	21.8	70	SSE	3.8	1.7			9			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.7	30.02	762.6	70.9	21.6	54	NNW	16.1	7.2			2			0	0		The Staff.
Ponta Delgada (Azores)	30.19	766.9	30.26	768.7	75.6	24.2	61	WNW	16.1	7.2			5			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 25', W. 0° 22'			30.00	762.1	77.0	25		S			3		3		S	3	S	Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			29.98	761.4	68.9	20.5		W			3		2		WNW	1	W	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			29.95	760.8	79.7	26.5		ESE			1		0			1	SE	Blue sky	P. de Fair[illegible].
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.76	756.0	80.6	27.0		SW			3		7		SW	2	SW	Thunder-storm. [4 hours rain-fall.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.61	752.0	30.01	762.3	72.3	22.4	54	N	4	2			2ks						Astronomical Obs.
Wilna	29.59	751.5	29.99	761.8	70.5	21.4	42	NW	4	2			5						Astronomical Obs.
Dorpat	29.79	756.7	30.03	762.8	56.5	13.6	38	NE	7	3			7k						Prof. Dr. Weihrauch.
St. Petersburg	29.95	760.7	29.97	761.1	53.6	12.0	44	NW	16	7			4ks					Light clouds	Central Physical Obs.
Kieff	29.39	746.4	30.00	762.0	64.8	18.2	37	NE	7	3			1cs						Physical Cabinet.
Nikolaiev	29.91	759.7	29.98	761.5	79.0	26.1	44	ENE	18	8			6cs						Kurdakof.
Kertch	29.95	760.8	29.97	761.3	75.2	24.0	83	NE	4	2			4						Lagorio.
Moscow	29.32	744.7	29.87	758.7	51.4	10.8	41	N	13	6			7ks						Meteorological Obs.
Lugan	29.74	755.3	29.94	760.4	69.1	20.6	28	NNE	4	2			0						Meteorological Obs.
Archangel	29.61	752.0	29.63	752.5	45.1	7.3	70	NW	22	10			10						Capt. Sseliwerstow.
Tiflis	28.55	725.2	29.89	759.2	83.7	28.7	38	Calm	0	0			0						Physical Observatory.
Astrakhan	29.96	761.0	29.88	758.9	75.4	24.1	39	ENE	7	3			4ks						Capt. Wisganow.
Krotkowo*	29.00	736.6	29.47	748.4	48.0	8.9	65	W	9	4			10						Cand. Fatjanow.
Kasan	28.92	734.5	29.18	741.2	48.2	9.0	62	W	31	14			10						Physical Cabinet.
Ekaterinburg	28.25	717.5	29.17	740.9	57.7	14.3	36	SW	31	14			7						Meteorological Obs.
Nukuss	29.69	754.0	29.91	759.7	79.2	26.2	48	WNW	7	3			1ks						
Tashkend	28.22	716.9	29.67	753.5	93.2	34.0	35	NW	9	4			0						Teich, A. M.
Barnaul	29.16	740.7	29.63	752.6	76.5	24.7	47	E	4	2			9						Meteorological Obs.
Yeniseisk	29.65	753.1	29.93	760.1	79.2	26.2	41	E	2	1			2						Marks.
Irkutsk																			
Peking (China)	29.53	750.1	29.67	753.7	78.4	25.8	42	Calm	0	0			2k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.65	753.1	29.75	755.6	60.1	15.6	89	Calm	0	0			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	77.7	25.4	45	SSW	2.7	1.19		1c				0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.1	29.94	760.5	77.9	25.5	62	N	3.2	1.43		2	3	W		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.2			84.7	29.3	36	SW	4.4	1.98			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.74	704.5	29.80	756.9	93.0	33.9	23	W	10.4	4.66		2	1	SW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.82	757.5	29.97	761.1	89.6	32.0	41	SE	7.3	3.25		0	1			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.02	737.1	29.89	759.2	68.9	20.5	79	SSW	1.3	0.6			9			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.4	29.96	761.0	83.0	28.3	85	Calm	0	0		0	0			0.913	23.2	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.9	29.81	757.2	84.4	29.1	82	NE	2.9	1.3			3s		E	0.374	9.5	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.3	29.95	760.6	87.4	30.8	33	SSW	7.3	3.3		1	1	S	S	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.56	758.5	29.95	760.8	82.4	28.0	78	SE	2.6	1.15		3s	2k	SE	SE	0.020	0.50	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.84	757.8	29.87	758.8	48.2	9.0	.....	SW	.....	.....	8	.....	.....	.....	.....	0	0	.....	
Umea	29.92	760.0	29.98	761.4	46.4	8.0	89	SE	.....	.....	4	.....	10	.....	.....	0.157	4.0	.....	
Hernosand	29.82	757.3	29.87	758.6	43.2	6.2	94	ESE	.....	.....	4	.....	10	.....	.....	0.142	3.6	.....	
Stockholm	29.64	752.9	29.82	757.4	60.1	15.6	57	S	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.78	756.4	29.84	757.9	61.5	16.4	61	WNW	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.6	29.78	756.5	55.6	13.1	76	S	21.3	9.5	.....	.....	10	.....	SW	0.160	4.06	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.42	721.9	30.00	762.1	71.2	21.8	45	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	757.8	74.3	23.5	58	ENE	9	4.0	.....	.....	1	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	104.0	40.0	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.0	74.1	23.4	.....	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.72	754.9	29.84	758.0	83.5	28.6	68	WNW	.....	.....	1	.....	2n	.....	NW	0	0	D. Clouds	Prof. C. V. A. Van Dyck
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.29	744.0	29.59	751.6	54	12.2	.....	Calm	0	0	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	W. R. Bigg.
Chatham, N. B	29.50	749.3	29.56	750.8	49	9.4	50	NW	8	3.6	.....	10c	0	NW	.....	Inap.	Inap.	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.49	749.0	29.53	750.0	49	9.4	48	W	26	11.6	.....	8cs	0	NW	.....	0.30	7.6	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.37	746.0	29.56	750.8	52.9	11.6	84	E	.....	.....	3	.....	10s	.....	.....	0.065	1.65	Overcast	James Smith, M. A.
Dalhousie, N. B	29.39	746.5	29.56	750.8	46	7.8	.....	W	.....	.....	4	2cs	0	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.66	753.4	29.68	753.9	43	6.1	56	W	25	11.2	.....	5c	2s	NW	W	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.62	752.3	29.69	754.1	47.2	8.4	47	NW	10	4.5	.....	10cs	0	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.01	736.8	29.81	757.2	58	14.4	85	Calm	0	0	.....	0	0	.....	.....	0.580	14.73	Clear	James Stewart.
Granton, Ontario	28.39	721.1	29.44	747.8	66	18.9	100	S	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Light rain	James Grant.
*Halifax, N. S	29.53	750.0	29.64	752.8	56	13.3	40	NW	9	4.0	.....	.....	8ks	.....	NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.15	740.4	29.61	749.5	55.7	13.2	90	E	.....	.....	1	10cs	0	E	.....	.....	.....	Raining	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.22	742.2	29.54	750.3	57	13.9	87	SE	5	2.2	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	S. Woods, M. A.
Little Glace Bay, N. S	29.37	746.0	29.41	747.0	52.9	11.6	55	NW	18	8.0	.....	4k	0	NW	.....	0	0	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.41	747.0	29.61	752.1	51	10.6	74	NE	10	4.5	.....	.....	10n	.....	.....	0.01	0.3	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	28.79	731.3	29.47	748.5	54	12.2	97	E	11	4.9	.....	.....	10n	.....	E	0.56	14.2	Heavy rain	Rev. R. Mosley.
Peterboro, Ontario	28.76	730.5	29.51	749.5	57.7	14.3	100	E	.....	.....	1	.....	10n	.....	.....	0.53	13.5	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	28.82	732.0	29.48	748.8	65	18.3	94	Calm	0	0	.....	.....	10n	.....	SW	0.14	3.6	Light rain	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	28.85	732.8	29.46	748.3	62	16.7	98	E	5	2.2	.....	.....	10n	.....	SW	0.11	2.8	Cloudy	M. Payne.
*Quebec, Quebec	29.40	746.7	29.72	754.9	49	9.4	64	NE	.....	.....	1	.....	10n	.....	NE	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.10	739.1	29.54	750.3	55	12.8	90	SE	3	1.3	.....	.....	10s	.....	SE	0.19	4.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.63	752.6	29.68	753.9	50	10.0	53	N	.....	.....	1	5k	5ks	NW	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.52	749.8	29.69	754.1	49	9.4	50	W	12	5.4	.....	.....	10k	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	28.72	729.5	29.41	747.0	58	14.4	92	E	5	2.2	.....	.....	10ks	.....	SE	0.39	9.9	Light rain	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.11	2.8	.....	R. J. Cole.
Stratford, Ontario	28.20	716.3	29.43	747.5	58.2	14.6	97	SE	2	0.9	.....	.....	10n	.....	.....	0.216	5.48	Light rain	C. J. MacGregor, M. A.
*Sydney, C. B	29.40	746.7	29.44	747.8	54	12.2	49	W	24	10.7	.....	1ck	1ks	.....	W	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.14	740.1	29.52	749.8	52	11.1	94	NE	11	4.9	.....	.....	10n	.....	W	0.32	8.1	Light rain	Magnetic Observatory.
Windsor, N. S	29.53	750.0	29.63	752.6	53.0	11.7	54	NW	5	2.2	.....	8cs	0	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.24	742.7	29.49	749.0	55.0	12.8	56	SW	.....	.....	.....	0	2s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.38	746.2	29.60	751.8	61	16.1	88	N	4	1.8			10n		W	0.02	0.5	Light rain	
Alpena, Michigan	28.78	731.0	29.39	746.5	51	10.6	93	E	4	1.8			10s		Calm	1.15	29.2	Cloudy	
Atka, Aleutian Islands					42	5.6	91	E			4		10s		NE	0.09	2.3	Cloudy	
Atlanta, Georgia	28.71	729.2	29.78	756.4	81	27.2	66	S	10	4.5		2k;hz	Haze	Calm	Calm	0	0	Hazy	
Atlantic City, New Jersey	29.69	754.1	29.70	754.4	64	17.8	84	SW	12	5.4		2c	0	W		0	0	Clear	
Augusta, Georgia	29.71	754.6	29.90	759.4	79	26.1	74	S	4	1.8		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	29.64	752.8	29.68	753.9	74	23.3	74	SW	10	4.5		5cs	0	W		0	0	Fair	
Barnegat, New Jersey	29.66	753.4	29.68	753.9	73	22.8	72	SW	20	8.9		0	2s		W	0	0	Clear	
Bismarck, Dakota	28.04	712.2	29.90	759.4	57	13.9	81	NE	10	4.5		0	0			0.11	2.8	Clear	
Boerne, Texas	28.38	720.8	29.62	752.3	76	24.4	60	S	6	2.7		5k	0	Calm		0	0	Fair	
Boise City, Idaho	26.98	685.3	29.94	760.5	57	13.9	58	S	2	0.9		2k	5s	NW	Calm	0	0	Fair	
Boston, Massachusetts	29.50	749.3	29.65	753.1	62	16.7	88	NE	4	1.8			10s		W	0.03	0.8	Cloudy	
Brackettville, Texas	28.72	729.5	29.70	754.4	77	25.0	18	E	3	1.3			10s		E	0.03	0.8	Cloudy	
Breckenridge, Minnesota	28.63	727.2	29.58	751.3	57	13.9	94	N	16	7.2			10n		E	0.21	5.3	Light rain	
Brownsville, Texas	29.76	755.9	29.80	756.9	84	28.9	87	S	4	1.8		5k	0	S		0	0	Fair	
Buffalo, New York	28.79	731.3	29.45	748.0	65	18.3	84	W	3	1.3			10s		W	0.09	2.3	Threatening	
Burkes, Arizona					70	21.1	36	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.33	745.0	29.60	751.8	58	14.4	82	S	4	1.8			10n		W	0.03	0.8	Heavy rain	
Cairo, Illinois	29.34	745.2	29.70	754.4	76	24.4	77	SW	7	3.1		2ck	1ks	W	SW	0.62	15.7	Fair	
Campo, California	27.38	695.4	29.95	760.7	46	7.8	62	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.89	759.2	29.90	759.4	77	25.0	77	SW	14	6.3		1c	1ks	Calm	Calm	0	0	Clear	
Cape Henry, Virginia	29.77	756.1	29.79	756.7	75	23.9	68	SW	20	8.9		8cs	0	W		0	0	Cloudy	
Cape Lookout, N. Carolina	29.89	759.2	29.90	759.4	78	25.6	78	SW	16	7.2		8c	0	W		0	0	Cloudy	
Cape May, New Jersey	29.65	753.1	29.68	753.9	69	20.6	79	S	14	6.3		5cs	0	S		0	0	Fair	
Castroville, Texas	29.02	737.1	29.68	753.9	82	27.8	71	S	4	1.8		8ck	0	S		0	0	Cloudy	
Charleston, South Carolina	29.85	758.2	29.90	759.4	81	27.2	74	SW	9	4.0		2k	0	W		0	0	Fair	
Charlotte, North Carolina	29.00	736.6	29.77	756.1	75	23.9	81	SW	6	2.7		5cs	5s	SW	S	0	0	Cloudy	
Chattanooga, Tennessee	29.01	736.8	29.76	755.9	79	26.1	66	SW	10	4.5		2k	0	SW		0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	51	10.6	59	W	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	28.75	730.2	29.38	746.2	67	19.4	84	SW	10	4.5			10s		SW	0.63	16.0	Cloudy	
Cincinnati, Ohio	28.96	735.6	29.56	750.8	76	24.4	69	SW	7	3.1		9k	0	SW		0.20	5.1	Cloudy	
Cleveland, Ohio	28.77	730.7	29.44	747.8	70	21.1	88	SE	7	3.1			10n		SW	0.04	1.0	Light rain	
Coleman City, Texas	28.03	711.9	29.59	751.6	78	25.6	69	SW	5	2.2		0	0			0	0	Clear	
Columbus, Ohio	28.72	729.5	29.49	749.0	72	22.2	85	S	6	2.7			10ks		S	0.04	1.0	Cloudy	
Concho, Texas	27.92	709.2	29.49	749.0	79	26.1	43	SW	21	9.4		5k	0	Calm		0	0	Fair	
Corsicana, Texas	29.40	746.7	29.85	758.2	71	21.7	95	SE	5	2.2			10n		W	1.14	29.0	Light rain	
Davenport, Iowa	28.83	732.3	29.42	747.3	67	19.4	79	W	13	5.8			10		W	0.63	16.0	Cloudy	
Deadwood, Dakota	25.34	643.6			54	12.2	80	Calm	0	0		0	0			0.09	2.3	Clear	
Decatur, Texas	28.65	727.7	29.75	755.6	76	24.4	86	SE	10	4.5			8ks		NW	1.05	26.7	Fair	
Denison, Texas	29.03	737.3	29.78	756.4	72	22.2	90	NW	1	0.4		0	5ks		SW	0.89	22.6	Fair	
Denver, Colorado	24.80	629.9	30.02	762.5	54	12.2	61	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	28.64	727.4	29.46	748.3	65	18.3	78	NW	8	3.6			10s		NW	0	0	Cloudy	
Detroit, Michigan	28.78	731.0	29.49	746.7	68	20.0	90	SW	10	4.5			10s		SW	0.08	2.0	Cloudy	
Dodge City, Kansas	27.33	694.2	29.51	749.5	68	20.0	56	Calm	0	0		2c	0	NW		0	0	Fair	
Dubuque, Iowa	28.71	729.2	29.36	745.7	66	18.9	84	SW	7	3.1			10ks		Calm	0.52	13.2	Cloudy	
Duluth, Minnesota	28.92	734.6	29.58	751.3	50	10.0	93	NE	16	7.2			10s		NE	1.27	32.3	Cloudy	
Eagle Pass, Texa	29.00	736.6	29.68	753.9	76	24.4	95	SE	2	0.9			10n		SE	0.20	5.1	Light rain	
Eastport, Maine	29.62	752.3	29.69	754.1	50	10.0	52	NW	4	1.8		10c;hz	0	NW		0	0	Cloudy	
Edinburg, Texas					82	27.8	87	S			4	5k	5s	S	S	0	0	Fair	
El Paso, Texas	26.14	663.9			68	20.0	7	NW	6	2.7		1k	0	NW		0	0	Clear	
Erie, Pennsylvania	28.80	731.5	29.46	748.3	70	21.1	90	SW	13	5.8			10n		Calm	0.02	0.5	Light rain	
Escanaba, Michigan	28.78	731.0	29.40	746.7	55	12.8	93	NE	14	6.3			10s		NE	1.81	46.0	Cloudy	
Florence, Arizona	28.36	720.3	29.96	761.0	82	27.8	21	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.84	707.1			57	13.9	93	E	3	1.3			Fog			0	0	Foggy	
Fort Craig, New Mexico	25.45	646.4	29.51	749.5	53	11.7	42	W	3	1.3		1c	0	Calm		0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	68	20.0	60	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.23	742.4	29.74	755.4	77	25.0	73	Calm	0	0		0	0			Inap.	Inap.	Clear	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	65	18.3	26	N	10	4.5		0	0			0	0	Clear	
Fort Griffin, Texas	28.53	724.6	29.72	754.9	79	26.1	58	S	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.30	693.4			61	16.1	66	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.58	700.5	29.37	746.0	78	25.6	69	S	16	7.2		5cs	2s	Calm	SW	0	0	Fair	
Fort St. Michael, Alaska	30.17	766.3	30.21	767.3	35	1.7	100	W	5	2.2			Fog		W	0	0	Dense fog	
Fort Shaw																			
Fort Sill, Indian Territory	28.61	726.7	29.66	753.4	69	20.6	80	N	6	2.7		2cs	0	Calm		0	0	Clear	
Fort Stevenson, Dakota	28.05	712.5			58	14.4	81	NE	4	1.8		0	0			0	0	Clear	
Fort Verde, Arizona					57	13.9	36	NW			1	0	0			0	0	Clear	
Port Yates																			
Fredericksburg, Texas	28.10	713.7	29.55	750.6	82	27.8	60	SW	8	3.6		5ck	0	Calm		0	0	Fair	
Galveston, Texas	29.83	757.7	29.87	758.7	82	27.8	75	SW	12	5.4		0	5ks		SW	0	0	Fair	
Graham, Texas	28.70	729.0	29.68	753.9	80	26.7	70	SE	2	0.9		0	0			Inap	Inap	Clear	
Grand Haven, Michigan	28.76	730.5	29.37	746.0	62	16.7	88	W	12	5.4			10s		W	1.35	34.3	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.83	732.3	29.72	754.9	72	22.2	71	E	8	3.6		2c	2ks	Calm	Calm	0.37	9.4	Fair	
Indianapolis, Indiana	28.76	730.5	29.48	748.8	71	21.7	80	SW	12	5.4			10s		SW	0.92	23.4	Cloudy	
Indianola, Texas	28.82	757.4	29.86	758.4	85	29.4	72	S	15	6.7		0	1ks		S	0.01	0.3	Clear	
Jacksboro, Texas	28.56	725.4	29.62	752.3	78	25.6	78	SE	4	1.8		0	0			0.70	17.8	Clear	
Jacksonville, Florida	29.92	760.0	29.95	760.7	84	28.9	71	SW	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	28.88	733.5	29.45	748.0	69	20.6	75	W	12	5.4		0	1s		W	0.38	9.7	Clear	
Key West, Florida	29.93	760.2	29.96	761.0	82	27.8	79	S	6	2.7		0	0			0	0	Clear	
Kittyhawk, North Carolina	29.84	757.9	29.86	758.4	75	23.9	77	SW	18	8.0		2ck	0	W		0	0	Fair	
Knoxville, Tennessee	28.82	732.0	29.77	756.1	70	21.1	92	SW	6	2.7			10s		W	0.16	4.1	Cloudy	
La Crosse, Wisconsin	28.65	727.7	29.33	745.0	66	18.9	84	W	6	2.7			10s		W	0	0	Cloudy	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	51	10.6	46	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.42	747.3	29.74	755.4	79	26.1	62	SE	5	2.2		2c	0	SW		0.11	2.8	Clear	
Leavenworth, Kansas	28.82	732.0	29.60	751.8	69	20.6	61	NW	10	4.5		0	0			0.58	14.7	Clear	
Little Rock, Kansas																			
Los Angeles, California	29.55	750.6	29.88	758.9	61.6	16.1	85	SE	6	2.7			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.08	738.6	29.60	751.8	75	23.9	68	SW	15	6.7		5c	0	SW		Inap.	Inap.	Fair	
Lynchburg, Virginia	29.09	738.9	29.72	754.9	79	26.1	70	SW	6	2.7		2c	0	W		0	0	Clear	
Madison, Wisconsin	28.39	721.1	29.30	744.2	68	20.0	79	W	7	3.1		0	2s		W	0.04	1.0	Fair	
Marquette, Michigan	28.81	731.8	29.49	749.0	44	6.7	100	N	8	3.6			10n		Calm	0.65	16.5	Light rain	
Mason, Texas	28.21	716.5	29.86	758.4	79	26.1	78	S	2	0.9		2cs	1s	Calm	S	0	0	Fair	
Memphis, Tennessee	29.41	747.0	29.73	755.1	80	26.7	78	S	8	3.6		4k	7ks	SW	SW	0.35	8.9	Cloudy	
Milwaukee, Wisconsin	28.63	727.2	29.30	744.2	68	20.0	84	SW	19	8.5		0	5s		SW	0.52	13.2	Fair	
Mobile, Alabama	29.86	758.4	29.90	759.4	80	26.7	82	W	8	3.6		2k	0	SW		0.20	7.4	Fair	
Montgomery, Alabama	29.67	753.6	29.89	759.2	80	26.7	82	SW	10	4.5		2k	2ks	SW	SW	0.01	0.3	Fair	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.65	727.7	29.57	751.1	74	23.3	72	SE	7	3.1	.....	5k	2s	SE	Calm	0.03	0.8	Cloudy	
Mt. Washington, N. H.	23.55	598.2	29.91	759.7	40	4.4	100	SW	1	0.4	.....	.....	10n	.....	SW	0.09	2.3	Light rain	
Nashville, Tennessee	29.22	742.2	29.72	754.9	74	23.3	72	SE	2	0.9	.....	1k	5ks	Calm	SE	Inap.	Inap.	Fair	
New Haven, Connecticut	29.52	749.8	29.63	752.6	68	20.0	74	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	29.61	752.1	29.66	753.4	67	19.4	74	SW	6	2.7	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	29.84	757.9	29.89	759.2	82	27.8	75	SW	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
Newport, Rhode Island	29.61	752.1	29.66	753.4	63.5	17.5	81	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
New York, New York	29.49	749.0	29.66	753.4	70	21.1	79	W	10	4.5	.....	5ck	2s	S	Calm	Inap.	Inap.	Fair	
Norfolk, Virginia	29.76	755.9	29.81	757.2	80	26.7	62	SW	17	7.6	.....	2k	2s	W	Calm	0	0	Fair	
North Platte, Nebraska	26.99	685.5	29.49	749.0	56	13.3	75	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.03	762.7	30.07	763.8	49.0	9.4	89	S	1	0.4	.....	0	8s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.48	723.4	29.51	749.5	65	18.3	73	W	10	4.5	.....	2k	0	NW	.....	0	0	Clear	
Oswego, New York	29.21	741.9	29.51	749.5	62	16.7	72	SE	10	4.5	.....	.....	10s	.....	NW	0.02	0.5	Threatening	
Pembina, Dakota	28.90	734.0	29.70	754.4	54	12.2	93	NW	3	1.3	.....	0	0	.....	.....	0.82	20.8	Clear	
Philadelphia, Pa.	29.62	752.3	29.66	753.4	74	23.3	76	SW	19	8.5	.....	8ck;c	0	sW;Calm	.....	0	0	Cloudy	
Phœnix, Arizona	28.61	726.7	30.33	770.4	72	22.2	23	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.90	454.6	30.11	764.8	28	— 2.2	66	SW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Pioche, Nevada	.....	.....	.....	.....	59	15.0	33	S	6	2.7	.....	6	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.79	731.3	29.54	750.3	73	22.8	67	SW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	28.78	731.0	29.39	746.5	66	18.9	89	W	1	0.4	.....	.....	10ks	.....	W	0.05	1.3	Cloudy	
Portland, Maine	29.64	752.8	29.69	754.1	54	12.2	74	E	11	4.9	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Portland, Oregon	30.07	763.8	30.15	765.8	50	10.0	82	S	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	62	16.7	22	NW	5	2.2	.....	2ck	0	NW	.....	Inap.	Inap.	Fair	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	29.95	760.7	29.96	761.0	84	28.9	75	SE	6	2.7	.....	5k	0	SE	.....	0	0	Fair	
Red Bluff, California	29.37	746.0	29.71	754.6	70	21.1	28	N	4	1.8	.....	1c	0	W	.....	0	0	Clear	
Rio Grande City, Texas	29.60	751.8	29.81	757.2	82	27.8	72	SE	8	3.6	.....	0	2ks	.....	SE	0	0	Clear	
Rochester, New York	28.91	734.3	29.48	748.8	64	17.8	89	W	2	0.9	.....	.....	10n	.....	W	0.15	3.8	Light rain	
Roseburg, Oregon	29.66	750.8	30.13	765.3	52	11.1	69	NW	4	1.8	.....	5k	5s	N	N	0	0	Cloudy	
Sacramento, California	29.65	753.1	29.73	755.1	60	15.6	71	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.95	737.9	29.59	751.6	70	21.1	80	W	16	7.2	.....	0	0	.....	.....	1.20	30.5	Clear	
St. Marks, Florida	29.95	760.7	29.96	761.0	79	26.1	82	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.61	726.7	29.39	746.5	56	13.3	80	N	12	5.4	.....	.....	10s	.....	N	0.12	3.0	Cloudy	
Salt Lake City, Utah	25.55	649.0	29.88	758.9	60	15.6	44	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.14	740.1	29.68	753.9	80	26.7	78	SE	4	1.8	.....	10k	0	SE	.....	0	0	Cloudy	
San Diego, California	29.86	758.4	29.93	760.2	61	16.1	88	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	28.82	732.0	29.44	747.8	72	22.2	76	SW	15	6.7	.....	1c	0	W	.....	0.08	2.0	Clear	
Sandy Hook, New Jersey	29.61	752.1	29.64	752.8	74	23.3	68	SW	20	8.9	.....	5c;ck	0	W	.....	0	0	Fair	
San Francisco, California	29.76	755.9	29.82	757.4	53	11.7	86	W	12	5.4	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	46	7.8	26	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.84	757.9	29.93	760.2	85	29.4	72	SW	7	3.1	.....	8k	0	SW	.....	0	0	Fair	
Shreveport, Louisiana	29.65	753.1	29.86	758.4	72	22.2	100	NW	6	2.7	.....	.....	10n	.....	SW	0.45	11.4	Heavy rain	
Silver City, New Mexico	24.27	616.4	30.18	766.6	67	19.4	41	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.91	759.7	29.95	760.7	78	25.6	91	SW	11	4.9	.....	5k	0	Calm	.....	0	0	Fair	
Socom	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.50	749.3	29.62	752.3	65	18.3	84	S	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Threatening	
Stockton, Texas	26.83	681.5	29.83	757.7	75	23.9	60	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.62	752.3	29.67	753.6	59	15.0	100	N	10	4.5	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Toledo, Ohio	28.78	731.0	29.41	747.0	74	23.3	68	SW	16	7.2	.....	0	2ks	.....	SW	0.17	4.3	Clear	
Tucson, Arizona	27.46	697.5	30.01	762.2	65	18.3	48	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.60	751.8	30.09	764.3	53.0	11.7	63	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.89	733.8	29.67	753.6	79	26.1	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.63	752.6	29.88	758.9	79	26.1	87	W	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Virginia City, Montana	24.30	617.2	29.78	756.4	57	13.9	41	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.41	747.0	29.76	755.9	64	17.8	53	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.58	751.3	29.68	753.9	74	23.3	76	SW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	61	16.1	40	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.83	757.7	29.90	759.4	77	25.0	82	SW	10	4.5	.....	8k	0	SW	.....	0	0	Fair	
Winnemucca, Nevada	25.52	648.2	29.88	758.9	58	11.7	67	SW	8	3.6	.....	0	1s	.....	SW	0	0	Clear	
Wood's Holl, Mass.	29.62	752.3	29.66	753.4	62	16.7	83	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.37	720.3	29.58	751.3	61	16.1	71	NW	25	11.2	.....	.....	10ks	.....	NW	0.14	3.6	Cloudy	
Yuma, Arizona	29.61	752.1	29.77	756.1	70	21.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.89	759.2	29.94	760.5	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	1.15	29.2	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	64.0	17.8	84	Calm	.....	.....	0	3cs	2ks	.....	.....	0.09	2.3	.....	Thomas Herran.
Navassa, W. I.	29.85	758.2	29.93	760.2	81	27.2	82	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.98	761.5	29.98	761.5	82	27.8	83	SE	.....	.....	2	5k	6ks	E	.....	0	0	½ clouded	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,100 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.91‡	759.7‡			81	27.2	96	SW	9	4.0			5		SW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.78‡	756.4‡			68	20.0	95	Calm			0		8s		NE	0.45	11.4			Cloudy	
Adams, N. 9° 27′ W. 84° 30′	30.05‡	763.3‡			79	26.1	91	NW			3		5		NW			Mod'ate		Fair	
Alaska, Sitka, Alaska	30.17‡	766.3‡			47	8.3	85	W			1					0	0			Overcast	
Alliance, Havre, France	29.94‡	760.5‡			65	18.3	89	Calm			0		10							Rainy	
Colorado, New York, N. Y.	29.65‡	753.1‡			72	22.2	95	SW					8			0	0			Fair	
Constitution, League Island, Penn	29.57‡	751.1‡			77	25.0	73	SW			3		4		SW					Pleasant	
Despatch, N. 29° 08′, W. 55° 10′	30.17‡	766.3‡			76	24.4	95	WSW			8		5		Calm	0	0	Mod'ate	SW	Fair	
Enterprise, Antwerp, Holland	30.02‡	762.5‡			73	22.8	63	SSW			4		6		S;W					Cloudy	
Franklin, Norfolk, Va	29.79‡	756.7‡			76	24.4	77	SSW	12	5.4			2		SSW	0	0			Clear	
Hartford, Montevideo, Uruguay.*	29.86‡	758.4‡			56	13.3	63	S			2		2			0.05	1.3			Fair	
Kearsarge, Portsmouth, N. H.	29.68‡	753.9‡			59	15.0	76	NE			2		10							Heavy rain.	
Marion, Pensacola, Fla	29.90‡	759.4‡			84	28.9	96	SW			3		5		SW			Smooth		Fair	
Michigan, Erie, Pa					72	22.2	90	S			2		10		W					Rainy	
Monocacy, Shanghai, China	29.73‡	755.1‡			74	23.3	90	ESE			1		10		ESE					Cloudy	
Monongahela, Yokohama, Japan	29.74‡	755.4‡			70	21.1	90	Calm			0		n			Mod'ate	Mod'ate			Overcast	
New Hampshire, Port Royal, S. C.	29.90‡	759.4‡			80	26.7	87	SW	14	6.3			2		SW	0	0			Clear	
Onward, Callao, Peru †	30.00‡	762.0‡			63	17.2	89	NE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.68‡	753.9‡			70	21.1	100	E			1		8							Clearing	
Passaic, Washington, D. C.					77	25.0	91	SW			5		5		S					Fair	
Pensacola, Pisco, Peru	30.02‡	762.5‡			64	17.8	89	Calm	0	0			10			0	0			Misty	
Portsmouth, N. 41° 13′, W. 72° 40′	29.64‡	752.8‡			62	16.7	88	SSW			1		10		Calm	0	0	Smooth		Cloudy	
Powhatan, Hampton Roads, Va	29.84‡	757.9‡			75	23.9	77	SW			5		5		Calm	0	0			Fair	
Quinnebaug, Smyrna, Turkey	29.77‡	756.1‡			84	28.9	57	W			3		0							Clear	
Ranger, Amoy, China	29.72‡	754.9‡			82	27.8	91	SSW			3		8		Calm					Cloudy	
Richmond, N. 35° 44′, E 118° 17′	29.66‡	753.4‡			70	21.1	85	ESE			2		0		SE	0	0	Smooth	SE	Clear	
Rio Bravo, Brownsville, Texas	29.80‡	756.9‡			81	27.2	96	E			1		1		S	0	0			Clear	
Santee, Annapolis, Md	29.71‡	754.6‡			75	23.9	72	SW			3		8		W	0	0			Cloudy	
Saratoga, N. 24° 47′, W. 81° 41′	30.19‡	766.8‡			76	24.4	82	NNE			5		2		SSW	0	0	Mod'ate	NE	Hazy	
St. Louis, League Island, Pa	29.72‡	754.9‡			73	22.8	76	SW	16	7.2			5		SW	0	0			Fair	
Trenton, N. 36° 32′, W. 8° 09′	29.98‡	761.5‡			68	20.0	84	WNW			2-5		0			0	0	Smooth		Clear	
Tuscarora, Pichilinque, Lower Cal.	29.90‡	759.4‡			67	19.4	95	S			5		0			0	0	Smooth		Blue sky	
Vandalia, Hampton Roads, Va	29.75‡	755.6‡			74	23 3	86	SW			5		0			2.	51.	Mod'ate	SW	Clear	
Wabash, Boston, Mass	29.86‡	758.4‡			61	16.1	100	SW	6	2.7			10			0.15	3.8			Raining	
Wyoming, Venice, Italy	29.96‡	761.0‡			74	23.3	51	SSE			1		0?		S?			Smooth		Clear	
Wachusett, N. 26° 52′, W. 83° 57′	29.97‡	761.2‡			82	27.8	87	WNW			0-1		2							Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury N. 38° 04′, W. 123° 37′		30.12‡	765.0‡	52	11.1		NW			6		8ck		N	0	Heavy	NNW	D. clouds	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur .
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		29.85‡	758.2‡	55	12.8	74	SW			1		2						Fine	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia N. 34° 55′, W. 134° 39′		30.28‡	769.1‡				NNE			6				NNE		Heavy	N	Rain and fog	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer. N. 39° 10′, E. 164° 51′		30.08‡	764.0‡	54	12.2	74	ENE			4		2cs			0	Mod'ate	ENE	Misty	D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 47° 26′, W. 33° 16′		29.73‡	755.1‡	63.0	17.2	89	S			5		10			14h'rs	Mod'ate	S	Foggy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 38° 10′, W. 65° 16′		30.01‡	762.2‡	75.0	23.9	55	WNW			3		8		WNW		Smooth	WNW	Sprinkling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, N. 53° 46′, E. 6° 26′		30.07‡	763.8‡				SSE			3		2		SE		2	SE	Fair	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.53‡	751.6‡	68	20.0	84	SW			7		3		SW	0			Clear	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 40° 32′, W. 70° 44′		29.71‡	754.6‡				SW	20	8.9			8		W;SW		Mod'ate	SW	Cloudy	Capt. Randle.
S. S. Nederland																			Capt. Jackson.
S. S. Switzerland																			Capt. Nichols.
S. S. Vaderland																			
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Horn I'd, Gulf of M., N. 30°13′ W. 88°31′		29.94‡	760.5‡	82	27.8	79	WSW	8	3.6			5ks		W	0	Smooth		Cloudy	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", N. 29° 34′ W. 69° 18′ †		30.09‡	764.3‡				SW			1		2		WSW	Light	Long	SE	Fair	N. B. Foss.
Schooner Harry and Fred, N. 23° 20′, W 67° 29′		29.91‡	757.2‡				SSE	3	1.3			2		SE		Smooth			Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 44° 58′ W. 27° 37′ †		29.94‡	760.5‡	63	17.2	83	W			4		8		WNW		Cross	NW; SW	Cloudy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 7′ W. 68° 7′ †		29.65‡	753.1‡				ESE			1		10		E		Short	SE	Cloudy	L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′ †		29.94‡	760.5‡	81	27.2		S			2		2		SW	0			¼ covered	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 16, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.97	761.1	77.9	25.5	73	Calm			0		8			0	0	Very cloudy	Kesxuche.
Algiers			29.87	758.7	79.5	26.4	38	WSW			7		0			0	0	Clear	Tourilliere.
La Calle			29.87	758.8	86.4	30.2	67	NE			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.01	762.2															Gau.
Saida			30.02	762.6	87.8	31.0	18	N			5		5			0	0	Cloudy	Herbin.
Tebessa			29.91	759.7	91.1	34.5	17	W			7		5			0	0	Cloudy	Watrin.
Geriville			30.07	763.7	90.7	32.6	63	SSE			7		2			0	0	Fair	Brugniaux.
Laghouat			29.91	759.8	101.1	38.4	20	SW			6		2			0	0	Fair	Bertrand.
Biskra			29.89	759.2	97.5	36.4	29	SE			1		2			0	0	Fair	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.32	744.6	29.84	757.9	75.4	24.1	58	E			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.12	739.7	29.86	758.5	72.3	22.4	63	SE			1		1			0	0		Dr. Wierzbiski.
Eperies	28.98	736.2	29.82	757.5	74.5	23.6	66	Calm			0		6ks			0.179	4.55		Julius Mikolik.
Gratz	28.64	727.4	29.83	757.7	73.8	23.2	57	SW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.46	722.9	29.86	758.5	60.1	15.6	92	NNW			1		10			0.258	6.55	Raining	Prof. A. Gottschling.
Kremsmünster	28.47	723.1	29.74	755.4	75.4	24.1		ENE			3		3			0	0		Prof. C. Wagner.
Lemberg	28.92	734.6	29.87	758.8	68.9	20.5	71	S			3		8			0	0		Dr. T. Stanecki.
Pola	29.82	757.5	29.93	760.3	79.2	26.2	54	SSE			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.45	747.9	29.89	759.3	68.7	20.4	64	N			1		10			0.150	3.8		Julius Csics, S. J.
Szegedin	29.60	751.8	29.87	758.7	70.9	21.6	62	E			1		5			0	0		Karl Stancel.
Trieste	29.88	759.0	29.98	761.6	76.8	26.0	48	W			1		1			0	0	Almost clear	P. Busin.
Vienna	29.16	740.6	29.84	757.8	72.1	22.3	64	SE			1		5			0.059	1.5		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.60	751.8	29.70	754.4	49.7	9.8		ENE	15	6.7			10			0.265	6.73	Overcast	W. Boswell.
Ardrossan	29.57	751.1	29.59	751.6	62	16.7		ENE			4		8					Misty	Wm. McNeil & G. Carrick
Armagh, Observatory			29.58	751.3	60.1	15.6		NNE	8	3.6			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.49	749.0	64.9	18.3		E	17	7.6			10					Overcast	John Hartnup.
Bolton (Sharples)			29.51	749.5	63.3	17.4		E	12	5.4			10					Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.18	741.1	29.57	751.1	63.6	17.6		E			4		10			0.07	1.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	81	27.2		SE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.49	749.0	29.58	751.3	60.0	15.6		S			1		10					Raining	H. Todd.
Cardington			29.48	748.8	62.0	16.7		SE			1		10					Raining	John McLaren.
Chatham, School M. E.	29.37	746.0	29.50	749.3	65.0	18.3		S			3		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.55	750.6	29.60	751.8	53	11.7		NE			4		10					Foggy	J. Mac Gowan.
Dover	29.50	749.3	29.52	749.8	60	15.6		SW			3		7					Showery	J. Costello.
Falmouth, Observatory	29.34	745.2	29.56	750.8	60.6	15.9		W			3		10					Overcast	The Staff.
Fort Napier (Natal)	27.81	706.4	30.09	764.3	61.4	16.3		NE			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.74	755.4	29.97	761.2	84	28.9		SW			1		4					D. clouds	
Galway, Queen's College			29.53	750.0	56	13.3		NE			1		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.91	759.7	29.96	761.0	71.8	22.1		W			4		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.43	747.5	29.64	752.8	55.8	13.2		NNE			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.62	752.3	29.62	752.3	55	12.8		E			2		6					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.31	744.5	29.48	748.8	61.0	16.1		E			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.35	745.5	29.57	751.1	60	15.6		WNW			3		5					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.66	753.4	29.78	756.4	65	18.3		W			0		10			0.94	23.9	Overcast	M. P. Moyle.
Holyhead	29.47	748.5	29.49	749.0	55	12.8		NE			2		10					Drizzling	John Tilston.
Jersey	29.33	745.0	29.62	752.3	58.8	14.9		WNW			4		4			Blank	Blank	Foggy	J. Fisher.
Kew, Observatory	29.44	747.8	29.48	748.8	61.5	16.4		E	10	4.5			10					Misty	The Met'g'l Office.
Leicester, Museum	29.25	742.9	29.50	749.3	59.2	15.1		NE			1		10					Raining	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	76.0	24.4		SE			2		0					Blue sky	A. King.
Nairn	29.62	752.3	29.71	754.6	51	10.6		NE			1		10					Hazy	W. D. Penny.
Nassau (Bahamas)			30.00	762.0	85.5	29.7		SE			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.36	745.7	29.54	750.3	58.2	14.6		NE			3		10n		NW	0.359	9.12	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.96	735.6	29.48	748.8	57.2	14.0		NE			3–4		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.47	748.5	60	15.6		Calm			0		10					Raining	H. E. Bellamy.
Plymouth	29.45	748.0	29.52	749.8	60.1	15.6		WSW			3		8					D. clouds	John Merrifield.
Prince Town	28.11	714.0	29.56	750.8	52.4	11.3		NW			4		10					Raining	W. H. Tooker.
*Roche's Point	29.49	749.0	29.60	751.8	58	14.4		SW			3		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.31	744.5	29.47	748.5	52	11.1		NW			1		10					Foggy	John C. Walker.
Sandwick Manse (Orkneys)			29.75	755.6	50.8	10.4		E	7	3.1			10					Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.72	754.9	29.78	756.4	73.2	22.9		NNE			2		9					Showery	Serg't W. H. Lyne.
Sheffield	29.30	744.2	29.57	751.1	60.4	15.8		E			2		10			0.40	10.2	Raining	W. F. Cooper.
Silloth Rectory	29.54	750.3	29.57	751.1	63.4	17.4	66	E			4		6			0.400	10.16	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.15	740.4	29.55	750.6	64.9	18.3		E			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.29	744.0	29.50	749.3	60.4	15.8		SW			4		10					Showery	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.58	751.3	29.59	751.6	63	17.2		W			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.53	750.0	29.56	750.8	59.0	15.0		NW	11	4.9			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.19	766.8	30.23	767.8	59.8	15.4	84	SE	12	5.4		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.62	752.3	50.0	10	79	N			1		10kn			0.03	0.8		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.70	754.4	50.0	10.0		E			3		10s			0.35	8.9	Overcast	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.10	764.6	73.9	23.3	70	E	19.5	8.7		0	2		E	0.05	1.3	Squally	C. Meldrum.
Melbourne, Observatory	30.02	762.5	30.11	764.8	52.0	11.1	85	NW	7	3.1			8			0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.74	755.4	57	13.9		N			3	0	0			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.75	755.6	50	10.0		E			6	10	10	E		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town s 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.84‡	757.9‡	73.5	23.1		WNW			5–7		10					Thunder-storm	Capt. W. J. L. Wharton.
§Brig Alliance, N. 55° 42′, W. 11° 13′			29.64‡	752.8‡	54	12.2		N			3		10					Overcast	Capt. W. Scott.
Barque Fedalma, N. 41° 00′, W. 51° 30′			29.86	758.4	68	20.0		WSW			6		9			5	W	Misty	Capt. H. L. Fox.
S. S. Iron Cross, N. 49° 35′, W. 24° 20′			29.65	753.1	57	13.9		SE			4		10			2	NNE	Rain & fog	Capt. W. Randall.
S. S. Nizam, N. 32° 53′, E. 27° 30′			29.92‡	760.0‡	75	23.9		WNW			4		0					Blue sky	Capt. Barlow.
Astarte, N. 6° 15′, W. 23° 15′ *			30.01‡	762.2‡	85.6	29.8		SE			3		3					D. clouds	Capt. Parson.
British Peer, N. 19° 30′, W. 37° 10′			30.13‡	765.3‡	77.5	25.3		ENE			6		5					Misty	Capt. Greig.
Theophane, S. 23° 20′, E. 56° 10′			30.13‡	765.3‡	78	25.6		NE			5		3					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria,																			Capt. Wm. Watson.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.21	665.7	29.93	760.2	68.0	20.0	91	S			1	8ks;c		SE		0.5	13.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.68	753.8	29.72	755.0	70.5	21.4	68	SSW			2		2						
Fanöe	29.68	753.8	29.70	754.3	64.9	18.3	86	WSW			2		10						
Godthaab (Greenland)	29.89	759.3	29.94	760.4	54.7	12.6	64	NNE			2		6						
Stykkisholm (Iceland)	30.00	762.0	30.04	763.1	41.0	5.0	69	NE			8		5						
Thorshavn (Faröe)	29.81	757.1	29.84	758.0	47.7	8.7	87	NE			3		10						
Vestervig	29.51	749.6	29.68	753.9	60.4	15.8	93	Calm			0		0					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.13	739.8	29.68	753.8	67.6	19.8	76	SW			2		8	W	SW	0.402	10.2	Very cloudy	Collignon, Director.
Amiens, Normal School	29.49	749.1	29.60	751.8	74.1	23.4	66	SW			1		8		SE	0.35	9.	Very cloudy	Bonvallet, Director.
Arras, Engin'r School	29.33	744.9	29.57	751.1	69.8	21.0	75	SW			4				SW	0.169	4.3		Klein, Commandant.
Avignon, Normal School	29.83	757.6	29.91	759.6	69.8	21	73	WSW			1		8		S			Rainy	Giraud, Director.
Bar-sur-Seine, Normal School	29.19	741.3	29.72	755.0	62.4	16.9	87	S			1		10		SW	0.043	1.1	Raining	C. Saillard, Director.
Beauvais, Normal School	29.37	746.0	29.63	752.5	68.2	20.1	77	SSW			3		10		SW	0.329	8.35	Covered	Frere Eugene Marie.
Besançon, Normal School	28.93	734.8	29.79	756.6	69.8	21	53	S			8		8		S	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.04	737.5	29.96	761.0	64.0	17.8	78	W			2		n	S	S	0	0		Marlot, Director.
Bourges, Normal School	29.20	741.6	29.73	755.2	65.7	18.7	81	SW			1		5	SW	SW	0.094	2.4	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.38	746.2	29.62	752.4	64.4	18.0	76	W			2		6		W	0.532	13.50	Squally	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.41	746.9	29.81	757.1	68.7	20.4	81	E			2		10	ESE	E	0.08	2.	Covered	September, Dir.
Caen, Normal School	29.51	749.6	29.58	751.4	66.6	19.2	53	SW			2		5		WSW	1.606	40.8	Cloudy	Lair, Director.
Chartres, Normal School	29.13	739.8	29.67	753.7	65.5	18.6	94	S			3		9		SW	0.598	15.2		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.35	745.5	29.65	753.2	71.2	21.8	65	SW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.46	722.8	29.76	755.9	69.8	21.0	67	W			1		10		SW	0	0		Alluard, Director.
Commercy, Normal School	28.85	732.9	29.68	753.8	72.0	22.2	66	SE			1		8n		SE	0.189	4.8	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.83	732.2	29.97	761.2	79.2	26.2	30	S			3		5		SE	0	0		L. Kina, Director.
Grenoble, Normal School	29.09	738.8	29.83	757.6	68.0	20	62	NW			2		10kn		SW	0	0	Covered	Ablard, Director
La Roche-sur-Yon, N. School	29.58	751.2	29.78	756.5	63.3	17.4	68	SW			4		8		SW	0.807	20.5	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.39	746.4	29.69	754.0	65.7	18.7	63	W			4		5	NE	WSW	0.858	21.8	Cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.97	735.8	29.86	758.4	60.6	15.9	87	SW			4		10n	W	W	0.992	25.20	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.60	751.9	29.70	754.4	63.7	17.6	74	SW			3			NW	SW	0.283	7.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.61	752.2	29.87	758.8	79.3	26.3	39	ESE			1		8			0.346	8.8	Very cloudy.	E. Stephan, Director
Mirecourt, Normal School	28.72	729.4	29.75	755.6	57.6	14.2	91	NE			1		5		NE	0	0	Cloudy	Barbier, Director
Nismes, Normal School	29.61	752.2	29.81	757.2	68.0	20	83	SE			1		10		S	0	0	Covered	M. Boyer, Director.
Privas, Normal School	28.89	733.7	29.94	760.4	60.8	16	93	S			4		n	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.02	635.5			43.9	6.6	100	W			8		10			0	0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.78	756.5	29.82	757.3	65.3	18.5	70	SSW			4		8	WSW	WSW	0.16	4.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.53	750.0	29.61	752.2	66.6	19.2	63	SSE			1		8		SW	0.732	18.6	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.58	751.2	29.60	751.9	63.7	17.6	80	WSW			3		5	WSW	WSW	0.560	14.22	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.50	749.4	29.67	753.6	64.8	18.2	85	SW			2				SSW;WSW	0.130	3.3		E. Renou, Director.
Tarbes, Normal School	28.81	731.7	29.86	758.5	64.4	18	67	WSW			2		10			0.47	12.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.17	741.0	29.90	759.4	60.4	15.8	96	NW			1		10			0.969	24.6		M. Julier Mercadier.
Versailles, Observatory	29.17	741.0	29.67	753.5	63.3	17.4	86	SW			2					0.212	5.38		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.06	738.0	29.75	755.7	65.1	18.4	81	SW			1		8		S	0.055	1.4	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	81.3	27.4										0.39	10.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.27	743.4	29.88	758.9	62.1	16.7	85	SSW			1		10		SSW	0.053	1.35	Raining	Ch. André, Director.
Mont-Louis	24.78	629.5	30.10	764.5	59.4	15.2	62	SSW	18.6	8.3			4		W	0.106	2.7	Raining	M. Cave.
Nice			29.93	760.3	75.9	24.4	41	E			2		8			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.40	746.7			64.0	17.8	86	SW			4		10			0.067	1.7	Raining	Marié Davy, Director.
Perpignan	29.71	754.6	29.82	757.3	69.6	20.9	75	SE	5.6	2.5			9		SW	0.555	14.1	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.39	568.7			41.0	5.0		S			1		10			0.071	1.80	Threatening	Gen'l de Nansouty.
Tours	29.52	749.7	29.71	754.7	66.6	19.2	77	SW			3		10		W	0.272	6.9		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.77	756.1	29.79	756.7	72.1	22.3	97	E	5.8	2.6			3k			0	0	Fair	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 368 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–11	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.94	735.0	29.78	756.3	73.8	23.2	42	W			2		4	W		0	0		Prof. Dr. Hoh.
Berlin	29.65	752.6	29.79	756.7	77.0	25.0		SE			3		7			0	0		Prof. Dr. Arndt.
Breslau	29.36	745.8	29.89	759.2	76.3	24.6	44	SSE			2		2			0	0		Royal University Obs'ry.
Carlsruhe	29.30	744.1	29.70	754.4	75.2	24.0	59	S			0		8	SW		0.319	8.1	Thunder-storm.	Albert Senz.
Cassel	29.10	739.0	29.69	754.2	79.9	26.6	45	SW			4		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.46	748.3	29.62	752.4	81.1	27.3	44	SE			4		8			0	0		Director Lose.
Emden			29.57	751.1	77.0	25.0	57	S			1		5			0.016	0.4		Prof. Dr. Prestel.
Frankfort on the Main	29.36	745.7	29.72	754.8	80.2	26.8		S			2		7			0	0		Physical Society.
Freienwalde on the Oder	29.77	756.2	29.81	757.2	75.6	24.2	47	S			3		6cs	SW		0	0		Dr. Assmann.
Friedrichshafen	28.37	720.5	29.74	755.3	71.6	22.0	67	SSW			3		6	WSW		0.520	13.2		M. Wilhelm.
Hamburg	29.65	753.0	29.71	754.7	75.6	24.2	50	SSE			3		5k			0	0	Fair	Captain F. Hegemann.
Kiel	29.68	753.8	29.69	754.2	74.8	23.8	50	S			1		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.82	757.3	29.89	759.3	73.4	23.0	42	W			2		4			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.35	745.5	29.75	755.6	77.4	25.2	49	SE			2		5	SW		0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.90	759.5	29.95	760.7	65.3	18.5	60	SW			1		7cs						Skalweit.
Munich (München)	28.00	711.2	29.95	760.7	76.6	24.8	53	NW			2		2	NW		0	0		Dr. C. Larg.
Neufahrwasser	29.89	759.3	29.91	759.7	67.6	19.8	55	E			3		10			0	0		A. Lothes.
Posen	29.62	752.3	29.89	759.3	77.5	25.3	47	S			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.22	742.1	29.73	755.2	79.0	26.1	54	S			2		10					Raining	Imp. University Observatory.
Stuttgart	28.82	732.1	29.72	754.8	73.9	23.3	59	W			1		4	W		0.378	9.6	Heavy rain	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.30	718.8	29.72	754.9	76.5	24.7	37	Calm	0	0			5ck			0	0	Hazy	T. Hopfner.
Wustrow	29.74	755.5	29.77	756.1	77.4	25.2	43	S			5		5k			0.043	1.1		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 10, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.50	749.4	29.88	758.9	84.9	29.4		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.40	746.7	29.45	747.9	87.3	30.7	64	SW					7			0.02	0.5	D. clouds	
Deesa	29.05	737.9	29.51	749.5	93.8	34.3	48	SW	25.3	11.4			1	SW		0	0	Misty	
Bombay	29.63	752.5	29.66	753.4	83.6	28.7	81	WSW	13.0	5.8			10		E	0.83	21.1	Overcast	
Poona	27.82	706.7	29.68	753.8	77.1	25.0	75						8	Calm		0.05	1.3	D. clouds	
Lahore	28.59	726.1	29.28	743.8	105.3	40.7	28	W	4.0	1.8			8			0	0	Misty	
Belgaum	27.20	690.9	29.74	755.4	73.6	23.1	88	W	10.0	4.5			9	SW	SW	0.04	1.0	Showery	
Roorkee	28.45	722.6	29.30	744.2	100.7	38.2	30	SW	3.9	1.7			10			0	0	Misty	
Agra	28.83	732.4	29.37	745.9	102.6	39.2	21	S								0	0		
Nagpur	28.49	723.6	29.50	749.3	94.2	34.6	37	W	5.9	2.6			2			0	0	Blue sky	
Lucknow	29.01	736.9	29.37	746.0	100.0	37.8	40	N	3.9	1.7						0	0	Gloomy	
Allahabad	29.07	738.3	29.36	745.7	103.1	39.5	34	Calm	5.4	2.4			9		W	0	0	D. clouds	
Patna	29.27	743.5	29.45	748.0	91.3	32.9	63	E	1.0	0.5			10	E	E	0.01	0.3	Overcast	
Hazaribagh	27.52	698.9	29.52	749.8	75.3	24.1	88	S	12.5	5.6			10			0.51	12.8	Thunder-storm	
Cuttack	29.43	747.4	29.51	749.5	91.3	32.9	62	SW	4.0	1.8			3			0.04	1.0	D. clouds	
Calcutta (Alipore)	29.49	749.0	29.51	749.6	81.2	27.3	82	SSW	9.0	4.0			10	W		0	0	Overcast	
Goalpara	29.16	740.8	29.55	750.6	76.4	24.7	92	NE	4.9	2.2			10		W	1.04	26.4	Overcast	
Chittagong	29.56	750.7	29.65	753.0	77.9	25.5	97	SSE	7.8	3.5			10			0.30	7.6	Raining	
Sibsagar	29.24	742.7	29.57	751.2	79.1	26.2	94	WSW	2.0	1.0			10	W	W	0.88	22.4	Overcast	
Jubbulpore	28.12	714.4	29.44	747.7	94.2	34.6	39	W	8.7	3.9			3		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.52	749.9	29.92	760.0	76.1	24.5	57	S	6.3	2.8			8			0	0		Prof. Giovanni Clodig.
Milan	29.38	746.3	29.88	759.0	82.2	27.9	31	W			2		9			0.067	2.2		Prof. Schiaparelli.
Padua	29.79	756.7	29.90	759.4	79.0	26.1	36	S	3.1	1.4			1	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.00	736.6	29.87	758.8	77.2	25.1	36	E	4.9	2.2			8	WSW		0.177	4.5		Prof. P. F. Denza.
Genoa	29.76	756.0	29.95	760.7	74.3	23.5	48	SW	3.1	1.4			2	SW		0	0		Prof. G. M. Garibaldi.
Mondovi	28.04	712.1	29.89	759.1	74.5	23.6	37	NNW			4		4	SW		0	0		Prof. D. C. Bruno.
Pesaro	29.85	758.1	29.89	759.3	77.4	25.2	35	E	16.1	7.2			0			0	0		Prof. Luigi Guidi.
Florence	29.67	753.5	29.91	759.8	81.5	27.5	30	NW			2		0			0	0		Cav. F. Meucci.
Leghorn	29.85	758.2	29.93	760.3	76.8	24.9	54	SW			6		1			0	0		Prof. P. Monte.
Rome	29.80	756.9	29.97	761.2	79.5	26.4	47	SW	11.9	5.3			1			0	0		Prof. P. S. Ferrari.
Lecce	29.76	755.8	30.00	762.0	72.3	22.4	47	NNW	13.0	5.8			3	N		0.028	0.7		Prof. C. De Giorgi.
Cosenza	29.10	739.2	29.95	760.7	84.4	29.1	66	NW	2.5	1.1			4			0	0		Prof. D. Conti.
Cagliari	29.70	754.4	29.89	759.2	81.0	27.2	39	SE			4		0			0	0		Prof. A. Pacinotti.
Palermo	29.75	755.6	30.00	761.9	72.5	22.5	65	NE	7.4	3.3			0			0	0		Prof. G. Cacciatore.
Syracuse	29.95	760.6	30.02	762.4	79.5	26.4	51	SE	4.9	2.2			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.7	30.03	762.8	76.6	24.8	51	SSW	2.5	1.1			1			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.83	757.7	29.84	757.9	71.7	22.1	89	W	1.4	0.6			1s			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	70.2	21.2	93	SSW	0.8	0.3			1s			0.040	1.02	Clear	S. Takehayashi.
Tokei. (Yeddo) Observatory.	29.76	755.9	29.83	757.7	70.0	21.1	92	SSE	6.3	2.8			2ck;s			0.003	0.08	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.02	635.6	30.02	762.4	58.6	14.8	68	Calm			0	0	8		SW	0	0	Cloudy	Prof. L. Perez.
Leon	24.38	619.3	29.98	761.5	64.8	18.2	83	S			1	3c	2ks	NW		0.035	0.9	¾ clouded	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.1	30.01	762.2	55.4	13.0	78	NW	0.4	0.2			10ks		E	0	0	Covered	The Staff.
Pabellon (Aguascalientes)					63.0	17.2	89	Calm			0	9ks	0			0.13	3.4	Very cloudy	M. V. de Leon, M. E
Tlacotalpam	29.80	757.0	29.82	757.3	79.3	26.3	78	SE			2	3	0	S		0	0	Clear	Prof. M. M. Chazaro.
San Luis Potosi	24.16	613.6	30.06	763.4	62.1	16.7	63	ESE			1		10		W	0.10	2.6	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.0	30.07	763.7	57.6	14.2	86	W			1	5c	1s	Calm	Calm	Inap	Inap	Raining	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.8	30.14	765.6	59.7	15.4	63	Calm	0	0		9	0	Calm		0.17	4.2	Cloudy	Prof. P. Spina.
Colima	28.36	720.3	29.99	761.8	77.5	25.3	82	NW			1	0	0			0	0	Very fine	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.66	753.3	29.95	760.6	72.9	22.7	89	NW			1		10		Calm	Inap.	Inap.	Raining	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.56	750.9	29.56	750.9	72.7	22.6		ESE								0.079	2.0		
Groningen	29.60	751.8	29.65	753.2	73.0	22.8		S								0.094	2.4		
Helder	29.61	752.0	29.61	752.0	65.7	18.7		NE			1					0.110	2.8		
Hellevoetsluis	29.59	751.5	29.59	751.5	74.5	23.6	60	SE			2					0.217	5.5		
Utrecht	29.56	750.9	29.62	752.1	76.8	24.9	53	SE			3		5			0.193	4.9	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.63	752.6	29.69	754.0	59.4	15.2	66	W	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.76	756.0	29.80	757.0	48.9	9.4	56	N	9	4	.....	.....	4	.....	.....	0	0	.....	
Christiania	29.54	750.2	29.68	753.8	64.8	18.2	63	S	11	5	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.80	756.8	29.84	757.9	42.4	5.8	48	NE	18	8	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.08	763.9	30.26	768.7	66.7	20.4	83	W	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.7	30.01	762.2	71.1	21.7	54	WNW	14.3	6.4	.....	.....	7	.....	.....	0	0	Solar halo	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.11	764.9	30.20	767.1	70.7	21.5	66	SW	8.1	3.6	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.12	765.0	66.7	19.3	54	NW	17.4	7.8	.....	.....	8	NW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.22	767.5	30.29	769.3	74.8	23.8	67	WNW	11.9	5.3	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 27', E. 0° 17'	.....	.....	30.16	766.1	79.0	26.1	.....	SSW	.....	.....	3	.....	7	.....	SSW	3	S	D. clouds	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.96	761.0	62.6	17.0	.....	WNW	.....	.....	3	.....	2	.....	ESE	1	WNW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	30.02	762.4	82.0	27.8	.....	SE	.....	.....	2	.....	1	.....	Calm	2	SE	D. clouds	P. de Fair[illegible]. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.81	757.2	79.7	26.5	.....	SW	.....	.....	2	.....	7	.....	SW	1	SW	Raining, 2 hours rain-fall.	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.48	748.9	29.89	759.1	77.2	25.1	41	SSE	11	5	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.52	749.7	29.92	759.9	73.2	22.9	47	SW	2	1	.....	.....	9	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.67	753.5	29.90	759.5	61.5	16.4	68	W	7	3	.....	.....	8k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.83	757.6	29.84	758.0	59.0	15.0	65	SW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.35	745.6	29.9[illegible]	761.1	70.5	21.4	40	SSE	9	4	.....	.....	2c;cs	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.87	758.8	29.9	760.6	71.1	21.7	53	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.43	747.6	29.9	761.2	64.2	17.9	47	SW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.80	756.8	30.0	761.9	70.9	21.6	32	E	2	1	.....	.....	5	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	29.84	758.0	29.[illegible]	758.5	48.0	8.9	65	WNW	11	5	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.56	725.5	29.[illegible]	769.2	89.1	31.7	33	SE	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.14	765.5	30.06	763.4	67.1	19.5	29	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.22	742.3	29.69	754.1	56.1	13.4	47	WNW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.30	744.2	29.57	751.1	45.3	7.4	76	WNW	13	6	.....	.....	10m	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.26	717.8	29.21	741.8	44.6	7.0	79	WSW	18	8	.....	.....	10	.....	.....	.....	.....	Raining	Meteorological Obs.
Nukuss	29.67	753.6	29.89	759.2	85.8	29.9	41	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.22	716.9	29.68	753.9	88.2	31.2	32	NW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.07	738.3	29.54	750.3	79.3	26.3	44	W	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.38	746.3	29.66	753.3	75.6	24.2	48	E	9	4	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.64	752.9	29.78	756.5	80.4	26.9	37	S	7	3	.....	.....	6ks	.....	.....	.....	.....	Thunder-storm.	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.78	756.3	29.87	758.8	51.4	10.8	91	S	4	2	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.69	754.1	29.79	756.7	73.0	22.8	62	ESE	4.3	1.9	.....	.....	9	.....	.....	0	0	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.86	758.5	29.92	759.9	68.0	20.0	65	N	2.9	1.31	.....	2	3	SW	.....	0.374	9.5	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682.6	.....	.....	66.2	19.0	38	W	9.4	4.19	.....	.....	3	.....	.....	.....	.....	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.69	703.2	29.83	757.6	77.4	25.2	55	NW	23.9	10.67	.....	1	1	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.65	753.0	29.79	756.6	94.1	34.5	37	S	4.6	2.08	.....	4	4	SE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.02	737.1	29.91	759.6	61.0	16.1	90	WSW	16.8	7.5	.....	.....	8	.....	.....	0.476	12.1	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.4	29.96	761.0	84.7	29.3	82	Calm	0	0	.....	Ics;ck	2k	.....	.....	0.496	12.6	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.7	29.84	758.0	84.6	29.2	86	E	0	0	.....	.....	10n	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.0	70.3	21.3	57	WNW	17.8	8.0	.....	0	10	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.1	30.02	762.4	83.8	28.8	74	E	9.6	4.30	.....	7ks	6k	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.3	29.85	758.3	50.7	10.4	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.78	756.4	29.83	757.7	49.3	9.6	76	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.74	755.5	29.80	756.8	51.8	11.0	87	E	.....	.....	2	.....	10	.....	.....	0.177	4.5	.....	
Stockholm	29.61	752.0	29.78	756.5	60.1	15.6	81	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Wisby	29.74	755.3	29.80	756.5	65.8	18.8	59	S	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.71	754.5	29.78	756.4	55.8	13.2	88	ENE	4.7	2.1	.....	.....	10	.....	SSW	0.159	4.06	.....	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.19	716.1	29.76	755.8	76.7	24.8	56	W	.....	.....	2	.....	8	.....	.....	0.386	9.8	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.7	71.6	22.0	72	ENE	8	3.5	.....	.....	9	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	107.6	42.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.2	71.8	22.1	.....	NW	.....	.....	2	.....	0	.....	.....	0.24	6.	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.72	754.9	29.84	757.8	84.7	29.3	67	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.29	744.0	29.59	751.6	54	12.2	.....	NE	5	2.2	.....	.....	8s	.....	NE	0.48	10.9	Cloudy	W. R. Bigg.
Chatham, N. B	29.61	752.1	29.67	753.6	57	13.9	67	NW	6	2.7	.....	10c	0	NW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.64	752.8	59	15.0	57	E	8	3.6	.....	2ck	2s	W	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.34	745.2	29.53	750.0	55.9	13.3	66	NE	.....	.....	2	4cs	0	.....	.....	0.130	3.30	Fair	James Smith, M. A.
Dalhousie, N. B	29.45	748.0	29.61	752.1	57	13.9	69	E	.....	.....	1	0	2ks	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.67	753.6	29.69	754.1	49	9.4	82	E	10	4.5	.....	5k	5ks	E	E	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.57	751.1	29.64	752.8	57.6	14.2	55	NE	7	3.1	.....	10cs	0	.....	.....	0.05	1.3	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.19	741.4	30.00	762.0	60	15.6	85	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.61	726.7	29.69	754.1	54	12.2	100	W	.....	.....	1	1c	0	.....	.....	0.48	10.9	Clear	James Grant.
*Halifax, N. S	29.50	749.3	29.62	752.3	55	12.8	88	Calm	0	0	.....	.....	10ks	.....	.....	0.016	0.40	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.32	744.7	29.68	753.9	56.5	13.6	84	NW	.....	.....	1	10cs	0	NW	.....	1.00	25.4	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.23	742.4	29.56	750.8	56	13.3	90	NE	11	4.9	.....	8c	0	Calm	.....	0.69	17.5	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.63	752.6	29.67	753.6	56.4	13.6	66	E	3	1.3	.....	2c	0	SW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.35	745.5	29.54	750.3	54	12.2	71	NE	14	6.3	.....	5ck	5s	W	.....	0.20	5.1	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.05	737.9	29.73	755.1	52	11.1	69	N	11	4.9	.....	0	0	.....	.....	0.46	11.7	Clear	Rev. R. Mosley.
Peterboro, Ontario	28.92	734.6	29.67	753.6	57.7	14.3	75	N	.....	.....	4	0	0	.....	.....	0.08	2.0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	28.99	736.3	29.67	753.6	53	11.7	100	NE	9	4.0	.....	.....	10n	.....	NE	0.42	10.7	Cloudy	H. Morgan.
Port Hastings, N. S	29.58	751.3	29.62	752.3	57.5	14.2	.....	Calm	0	0	.....	0	0	.....	.....	0.50	12.7	Fine	Peter Grant.
Port Stanley, Ontario	29.04	737.6	29.67	753.6	56	13.3	94	N	4	1.8	.....	.....	10n	.....	NE	0.74	18.8	Cloudy	M. Payne.
*Quebec, Quebec	29.32	744.7	29.64	752.8	54	12.2	74	NE	.....	.....	6	0	2s	.....	NE	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.25	742.9	29.70	754.4	54	12.2	55	N	8	3.6	.....	0	0	.....	.....	0.35	8.9	.....	W. H. McIntyre.
St. Andrews, N. B	29.53	750.0	29.58	751.3	54	12.2	71	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.43	747.5	29.60	751.8	57	13.9	63	E	8	3.6	.....	0	8ks	.....	.....	0.25	6.3	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.03	737.3	29.73	755.1	54	12.2	64	NE	6	2.7	.....	2cs	0	.....	.....	Inap.	Inap.	Clear	K. Stewart.
Stayner, Ontario	28.94	735.1	29.71	754.6	51	10.6	72	N	10	4.5	.....	5ck	0	NW	.....	0.60	15.2	Fair	R. J. Cole.
Stratford, Ontario	28.45	722.6	29.71	754.6	51.9	11.1	86	N	10	4.5	.....	1c	1ks	N	.....	0.137	3.48	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.59	751.6	29.63	752.6	60	15.6	56	NW	3	1.3	.....	2c	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.30	744.2	29.67	753.6	55.	12.8	75	N	12	5.4	.....	.....	10ks	.....	N	1.54	39.1	Cloudy	Magnetic Observatory.
Windsor, N. S	29.51	749.5	29.60	751.8	54.0	12.2	74	NE	2	0.9	.....	4cs	5k	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.40	746.7	29.65	753.1	53.0	11.7	61	SW	.....	.....	.....	5k	5s	.....	.....	0.01	0.3	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.23	742.4	29.45	748.0	58	14.4	94	NW	5	2.2			10n		NW	1.67	42.4	Light rain	
Alpena, Michigan	29.20	741.7	29.84	757.9	48	8.9	63	N	17	7.6		0	0			0	0	Clear	
Atcha, Aleutian Islands					46	7.8	85	W			1	0	0			0	0	Clear	
Atlanta, Georgia	28.73	729.7	29.82	757.4	72	22.2	85	NW	10	4.5			10ks;s		NW	0.66	16.8	Cloudy	
Atlantic City, New Jersey	29.52	749.8	29.53	750.0	77	25.0	69	W	12	5.4		0	0			0	0	Clear	
Augusta, Georgia	29.66	753.4	29.85	758.2	82	27.8	49	SW	8	3.6		0	1s		Calm	0	0	Clear	
Baltimore, Maryland	29.54	750.3	29.59	751.6	79	26.1	58	W	14	6.3		2k	0	W		Inap.	Inap.	Clear	
Barnegat, New Jersey	29.48	748.8	29.50	749.3	81	27.2	67	W	15	6.7		0	0			0	0	Clear	
Bismarck, Dakota	28.18	715.8	30.04	763.0	59	15.0	87	SE	6	2.7		0	0			0	0	Clear	
Boerne, Texas	28.43	722.1	29.69	754.1	72	22.2	90	Calm	0	0		5k	5ks	S	S	0.06	1.5	Cloudy	
Boise City, Idaho	26.40	670.6	29.86	758.4	43	6.1	92	W	12	5.4			10s		Calm	0.10	2.5	Threatening	
Boston, Massachusetts	29.36	745.7	29.51	749.5	51	10.6	100	NE	6	2.7			10n		NE	0.96	24.4	Light rain	
Brackettville, Texas	28.74	730.0	29.73	755.1	75	23.9	86	SE	3	1.3		0	8s		Calm	0	0	Fair	
Breckenridge, Minnesota	29.00	736.6	29.98	761.5	56	13.3	87	E	6	2.7		0	0			Inap.	Inap.	Clear	
Brownsville, Texas	29.78	756.4	29.82	757.4	85	29.4	76	SE	4	1.8		0	2s		Calm	0	0	Clear	
Buffalo, New York	28.95	735.3	29.63	752.6	51.5	10.8	89	N	5	2.2			10s		N	0.76	19.3	Cloudy	
Burkes, Arizona					72	22.2	12	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.20	741.7	29.48	748.8	53	11.7	94	N	9	4.0			10n		N	0.52	13.2	Light rain	
Cairo, Illinois	29.50	749.3	29.87	758.7	75	23.9	64	NW	6	2.7		0	2ks		NW	0	0	Fair	
Campo, California	27.35	694.7	29.92	760.0	38	3.3	63	W	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.74	755.4	29.75	755.6	78	25.6	86	SW	30	13.4		5cs	1ks;s	SW	SW	0	0	Cloudy	
Cape Henry, Virginia	29.65	753.1	29.66	753.4	78	25.6	78	SW	21	9.4		8cs	1s	SW	SW	0.26	6.6	Cloudy	
Cape Lookout, N. Carolina	29.76	755.9	29.77	756.1	78	25.6	91	SW	32	14.3		2c	0	W		0	0	Fair	
Cape May, New Jersey	29.50	749.3	29.53	750.0	71	21.7	85	W	21	9.4		2ck	0	W		0	0	Clear	
Castroville, Texas	29.10	739.1	29.77	756.1	76	24.4	86	S	6	2.7			10s		Calm	0.44	11.2	Cloudy	
Charleston, South Carolina	29.78	756.4	29.83	757.7	83	28.3	71	SW	9	4.0		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	28.96	735.6	29.72	754.9	78	25.6	73	W	6	2.7		5ck;cs	0	SW		0.04	1.0	Fair	
Chattanooga, Tennessee	29.05	737.9	29.80	756.9	80	26.7	66	SW	7	3.1		1k	0	Calm		0.51	13.0	Clear	
Cheyenne, Wyoming	23.99	609.3	29.93	760.2	55	12.8	62	S	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.19	741.4	29.88	758.9	52	11.1	66	N	19	8.5		0	0			0.42	10.7	Clear	
Cincinnati, Ohio	29.10	739.1	29.71	754.6	70	21.1	70	W	8	3.6		2k	7ks	NW	NW	0	0	Cloudy	
Cleveland, Ohio	28.98	736.1	29.68	753.9	58	14.4	88	N	9	4.0			10s		N	0.65	16.5	Threatening	
Coleman City, Texas	28.11	714.0	29.70	754.4	73	22.8	85	NW	12	5.4		2c	0	Calm		0.15	3.8	Fair	
Columbus, Ohio	28.86	733.0	29.64	752.8	73	22.8	67	W	12	5.4		5k	0	W		Inap.	Inap.	Fair	
Concho, Texas	28.00	711.2	29.60	751.8	72	22.2	90	NE	4	1.8		0	0			1.84	46.7	Clear	
Corsicana, Texas	29.43	747.5	29.88	758.9	73	22.8	90	NW	2	0.9		1cs	1s	Calm	Calm	0.32	8.1	Clear	
Davenport, Iowa	29.29	744.0	29.92	760.0	56	13.3	69	N	11	4.9			10s		N	0.17	4.3	Cloudy	
Deadwood, Dakota	25.27	641.8			65	18.3	49	SW	8	3.6		0	0			0	0	Clear	
Decatur, Texas	28.72	729.5	29.82	757.4	77	25.0	69	SE	4	1.8		0	0			0	0	Clear	
Denison, Texas	29.09	738.9	29.84	757.9	76	24.4	86	SW	1	0.4		0	0			0	0	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	56	13.3	63	NW	2	0.9		0	0			0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.96	761.0	58	14.4	82	NE	8	3.6			10s		NE	0.06	1.5	Cloudy	
Detroit, Michigan	29.07	738.4	29.72	754.9	55	12.8	87	N	15	6.7			10s		N	0.98	24.9	Threatening	
Dodge City, Kansas	27.40	696.0	29.61	752.1	63	17.2	72	E	12	5.4		5k	0	W		Inap.	Inap.	Fair	
Dubuque, Iowa	29.27	743.4	29.96	761.0	54	12.2	61	N	7	3.1		2c	Haze	NW	Calm	0.19	4.8	Fair	
Duluth, Minnesota	29.41	747.0	30.09	764.3	50	10.0	72	NE	4	1.8		0	0			0	0	Clear	
Eagle Pass, Texa	29.07	738.4	29.76	755.9	74	23.3	90	SE	15	6.7			10n		SE	2.61	66.3	Light rain	
Eastport, Maine	29.52	749.8	29.59	751.6	49	9.4	71	NE	4	1.8			10s			0.01	0.3	Cloudy	
Edinburg, Texas					82	27.8	83	S			1	5c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.12	663.4			68	20.0	5	NW	6	2.7		1k	0	W		0	0	Clear	
Erie, Pennsylvania	28.96	735.6	29.66	753.4	54	12.2	93	N	12	5.4			10n		N	0.40	10.2	Light rain	
Escanaba, Michigan	29.33	745.0	29.98	761.5	45	7.2	68	N	24	10.7		0	0			0.11	2.8	Clear	
Florence, Arizona	28.35	720.1	29.95	760.7	83	28.3	19	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.74	704.6			59	15.0	81	SE	9	4.0		0	0			0	0	Clear	
Fort Craig, New Mexico	25.45	646.4	29.51	749.5	55	12.8	44	Calm	0	0		2k	0	SW		0	0	Fair	
Fort Davis, Texas	25.17	639.3	30.13	765.3	69	20.6	70	SW	6	2.7		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.34	745.2	29.85	758.2	73	22.8	72	Calm	0	0		0	0			0	0	Clear	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	64	17.8	34	N	8	3.6		0	0			0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.86	758.4	70	21.1	90	Calm	0	0		0	0			0.35	8.9	Clear	
Fort Keogh, Montana	27.20	690.9			64	17.8	78	N	1	0.4		0	0			0	0	Clear	
Fort McKavett, Texas	27.64	702.0	29.47	748.5	72	22.2	76	S	8	3.6		5cs	0	Calm		0	0	Clear	
Fort St. Michael, Alaska	30.00	762.0	30.04	763.0	33	0.6	100	N	3	1.3			Fog		N	0	0	Dense fog	
Fort Shaw																			
Fort Sill, Indian Territory	28.67	728.2	29.71	754.6	76	24.4	64	E	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.13	714.5			60	15.6	88	E	4	1.8		1c	0	Calm		0	0	Fair	
Fort Verde, Arizona					63	17.2	33	NW			4	0	0			0	0	Clear	
Port Yates																			
Fredericksburg, Texas	28.18	715.8	29.66	753.4	77	25.0	69	S	4	1.8		2cs	5ks	Calm	Calm	0	0	Fair	
Galveston, Texas	29.86	758.4	29.96	759.4	82	27.8	79	Calm	0	0		2k;hz	0	Calm		0	0	Clear	
Graham, Texas	28.79	731.3	29.79	756.7	74	23.3	76	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.20	741.7	29.82	757.4	61	16.1	66	N	6	2.7		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.89	733.8	29.78	756.4	79	21.1	80	W	2	0.9		0	0			0	0	Clear	
Indianapolis, Indiana	28.98	736.1	29.73	755.1	60	15.6	85	NW	8	3.6			10s		NW	0	0	Threatening	
Indianola, Texas	29.88	758.9	29.90	759.4	84	28.9	79	Calm	0	0		1c	1ks	Calm	S	0	0	Clear	
Jacksboro, Texas	28.66	728.0	29.83	757.7	76	24.4	73	S	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.91	760.5	85	29.4	68	SW	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.27	743.4	29.86	758.4	60	15.6	88	NE	8	3.6			10s		NE	0.09	2.3	Cloudy	
Key West, Florida	29.95	761.0	29.99	761.7	84	28.9	79	S	4	1.8		5c;ck	0	Calm;E		0	0	Fair	
Kittyhawk, North Carolina	29.68	753.9	29.70	754.4	81	27.2	74	SW	20	8.9		8cs	0	SW		0	0	Fair	
Knoxville, Tennessee	28.83	732.3	29.78	756.4	73	22.8	83	SW	12	5.4		1cs	1ks	Calm	SW	0.79	20.1	Clear	
La Crosse, Wisconsin	29.27	743.4	30.00	762.0	50	10.0	79	N	6	2.7		0	0			0.04	1.0	Clear	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	58	14.4	53	NW	2	0.9		5k	0	W		0	0	Fair	
Laredo, Texas	29.43	747.5	29.75	755.6	80	26.7	62	E	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	29.10	739.1	29.92	760.0	62	16.7	83	N	6	2.7			10ks		N	0	0	Cloudy	
Little Rock, Kansas																			
Los Angeles, California	29.55	750.6	29.89	759.2	60.0	15.6	88	SE	4	1.8			10n		SE	0.02	0.5	Light rain	
Louisville, Kentucky	29.22	742.2	29.75	755.6	70	21.1	70	W	8	3.6			10ks		Calm	0	0	Cloudy	
Lynchburg, Virginia	29.02	737.1	29.65	753.1	81	27.2	63	SW	4	1.8		1c	0	W		1.11	28.2	Clear	
Madison, Wisconsin	28.96	735.6	29.94	760.5	49	9.4	64	N	16	7.2		0	0			0.43	10.9	Clear	
Marquette, Michigan	29.34	745.2	30.05	763.3	41	5.0	74	N	12	5.4		0	0			0.08	2.0	Clear	
Mason, Texas	28.25	717.5	29.92	760.0	76	24.4	73	SW	2	0.9		8cs	0	SW		0.41	10.4	Fair	
Memphis, Tennessee	29.54	750.3	29.87	758.7	75	23.9	68	NW	8	3.6		4ks	0	W		0	0	Fair	
Milwaukee, Wisconsin	29.17	740.9	29.89	759.2	52	11.1	54	N	20	8.9		0	0			0.93	23.6	Clear	
Mobile, Alabama	29.88	758.9	29.92	760.0	80	26.7	82	W	5	2.2		0	5s		W	0.38	9.7	Fair	
Montgomery, Alabama	29.67	753.6	29.89	759.2	81	27.2	78	SW	8	3.6		5k	2ks	W	W	Inap.	Inap.	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.68	728.5	29.60	751.8	74	23.3	63	NW	16	7.2	.....	5k	0	NW	.....	0.24	6.1	Fair	
Mt. Washington, N. H.	23.44	595.4	29.80	756.9	42	5.6	100	S	15	6.7	.....	.....	10n	.....	S	0.86	21.8	Light rain	
Nashville, Tennessee	29.30	744.2	29.80	756.9	78	25.6	65	Calm	0	0	.....	1cs	0	Calm	.....	1.57	39.9	Clear	
New Haven, Connecticut	29.34	745.2	29.45	748.0	67	19.4	92	SE	1	0.4	.....	.....	Fog	.....	Calm	0.75	19.1	Foggy	
New London, Connecticut	29.43	747.5	29.47	748.5	59	15.0	94	NE	3	1.3	.....	.....	Fog	.....	Calm	0.51	13.0	Foggy	
New Orleans, Louisiana	29.86	758.4	29.92	760.0	82	27.8	75	SW	6	2.7	.....	2k	0	SW	.....	0.18	4.6	Clear	
Newport, Rhode Island	29.45	748.0	29.50	749.3	58	14.4	88	N	4	1.8	.....	.....	Fog	.....	.....	0.48	12.2	Foggy	
New York, New York	29.31	744.5	29.46	748.8	73	22.8	81	NW	8	3.6	.....	0	2s	.....	Calm	1.15	29.2	Clear	
Norfolk, Virginia	29.62	752.3	29.88	753.9	78	25.6	78	N	10	4.5	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
North Platte, Nebraska	27.11	688.6	29.63	752.6	56	13.3	87	SE	10	4.5	.....	5k	5s	W	SE	0	0	Cloudy	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	40.0	4.4	96	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.86	733.0	29.93	760.2	60	15.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.26	743.2	29.57	751.1	50	10.0	86	N	9	4.0	.....	.....	10s	.....	W	0.94	23.9	Cloudy	
Pembina, Dakota	29.10	739.1	29.91	759.7	58	14.4	88	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa.	29.46	748.3	29.50	749.3	77	25.0	77	SW	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.60	726.4	30.33	770.4	70	21.1	13	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	29	— 1.7	56	SW	20	8.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Ploche, Nevada	.....	.....	.....	.....	57	13.9	20	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.83	732.3	29.59	751.6	66	18.9	89	W	9	4.0	.....	.....	10n	.....	W	0.20	5.1	Light rain	
Port Huron, Michigan	29.08	738.6	29.73	755.1	51	10.6	86	N	20	8.9	.....	0	2ks	.....	N	0.50	12.7	Clear	
Portland, Maine	29.50	749.3	29.55	750.6	51	10.6	93	N	8	3.6	.....	.....	10n	.....	Calm	1.04	26.4	Heavy rain	
Portland, Oregon	30.13	765.3	30.21	767.3	45.5	7.5	88	SE	4	1.8	.....	0	8s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	62	16.7	22	NW	5	2.2	.....	2ck	0	NW	.....	0	0	Fair	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	29.96	761.0	29.98	761.5	87	30.6	65	SW	12	5.4	.....	5k	0	SW	.....	0	0	Fair	
Red Bluff, California	29.63	752.6	29.99	761.7	57	13.9	31	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.65	753.1	29.86	758.4	80	26.7	82	E	7	3.1	.....	8c	0	Calm	.....	0	0	Fair	
Rochester, New York	29.02	737.1	29.62	752.3	52	11.1	86	NW	8	3.6	.....	.....	10s	.....	NW	1.08	27.4	Cloudy	
Roseburg, Oregon	29.68	753.9	30.26	768.6	42	5.6	91	N	1	0.4	.....	8k	0	N	.....	0	0	Fair	
Sacramento, California	29.83	757.7	29.92	760.0	62	16.7	32	NW	23	10.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.29	744.0	29.85	758.2	62	16.7	88	NW	10	4.5	.....	.....	10n	.....	NW	Inap.	Inap.	Light rain	
St. Marks, Florida	29.95	760.7	29.96	761.0	80	26.7	82	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.19	741.4	30.01	762.2	54	12.2	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	26.27	641.8	29.60	751.8	65	18.3	49	E	4	1.8	.....	4k	0	SW	.....	Inap.	Inap.	Fair	
San Antonio, Texas	29.17	740.9	29.72	754.9	75	23.9	77	SE	8	3.6	.....	.....	10s	.....	SE	0.43	10.9	Cloudy	
San Diego, California	29.88	758.9	29.95	760.7	59	15.0	88	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.04	737.6	29.69	754.1	59	15.0	94	N	23	10.3	.....	.....	10s	.....	N	0.54	13.7	Threatening	
Sandy Hook, New Jersey	29.44	747.8	29.46	748.3	78	25.6	69	W	18	8.0	.....	0	0	.....	.....	1.56	39.6	Clear	
San Francisco, California	29.90	759.4	29.97	761.2	53	11.7	86	S	4	1.8	.....	2ck	Fog	NW	Calm	0	0	Fair	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	56	13.3	35	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.80	756.9	29.89	759.2	88	31.1	62	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.68	753.9	29.88	758.9	79	26.1	82	W	3	1.3	.....	2ck	5ks	Calm	Calm	0.31	7.9	Fair	
Silver City, New Mexico	24.25	616.7	30.40	772.1	50	10.0	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.80	756.9	29.84	757.9	79	26.1	95	SW	18	8.0	.....	2cs	1ks	SW	SW	0	0	Fair	
Socorro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.36	745.7	29.49	749.0	54	12.2	93	NE	6	2.7	.....	.....	10n	.....	E	0.54	13.7	Light rain	
Stockton, Texas	26.85	682.0	29.85	758.2	74	23.3	40	S	16	7.2	.....	2cs	0	S	.....	0	0	Fair	
Thatcher's Island, Mass.	29.46	748.3	29.52	749.8	53	11.7	100	NE	14	6.3	.....	.....	10n	.....	NE	1.31	33.3	Light rain	
Toledo, Ohio	29.06	738.1	29.71	754.6	59	15.0	76	NE	15	6.7	.....	.....	10s	.....	NE	0.15	3.8	Cloudy	
Tucson, Arizona	27.44	697.0	30.00	762.0	64	17.8	29	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.67	753.6	30.16	766.1	50.0	10.0	58	SW	18	8.0	.....	0	8s	.....	W	0	0	Fair	
Uvalde, Texas	28.95	735.3	29.74	755.4	74	23.3	81	Calm	0	0	.....	.....	10s	.....	S	0.23	5.8	Cloudy	
Vicksburg, Mississippi	29.66	753.4	29.90	759.4	82	27.8	75	SW	2	0.9	.....	0	0	.....	.....	0.24	6.1	Clear	
Virginia City, Montana	24.04	610.6	29.52	749.8	46	7.8	84	Calm	0	0	.....	.....	10n	.....	Calm	0.69	17.5	Heavy rain	
Visalia, California	29.50	749.3	29.86	758.4	55	12.8	53	NW	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Washington, D. C.	29.48	748.8	29.59	751.6	78	25.6	73	SW	6	2.7	.....	2k	0	SW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	62	16.7	36	W	.....	.....	2	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.71	754.6	29.78	756.4	82	27.8	75	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.42	645.7	29.78	756.4	38	3.3	91	W	4	1.8	.....	.....	10n	.....	W	0.19	4.8	Light rain	
Wood's Holl, Mass.	29.44	747.8	29.47	748.6	61	16.1	88	N	1	0.4	.....	.....	10s;fg	.....	Calm	0.97	24.6	Cloudy	
Yankton, Dakota	28.76	730.5	30.03	762.7	54	12.2	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Yuma, Arizona	29.58	751.3	29.74	755.4	68	20.0	51	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	81	27.2	78	Calm	0	0	.....	8c	0	Calm	.....	0.25	6.3	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	65.0	18.3	85	Calm	.....	.....	0	3cs;k	0	.....	.....	0.06	1.5	.....	Thomas Herran.
Navassa, W. I.	29.89	759.2	29.97	761.2	80	26.7	82	NE	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.01	762.2	82	27.8	79	NE	.....	.....	2	3c	5k	E	.....	0.440	11.18	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.95‡	760.7‡			80	26.7	87	W	8	3.6			5		W	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.81‡	757.2‡			70.5	21.4	92	SSW			3		Haze		Calm	0.40	10.2			Clear	
Adams, Punta Arenas, Costa Rica	29.87‡	758.7‡			79	26.1	95	Calm			0		5							Fair	
Alaska, Sitka, Alaska	30.02‡	762.5‡			46	7.8	92	Calm			0		5			0	0			D. clouds	
Alliance, Havre, France	29.63‡	752.6‡			63	17.2	83	NW			1		10		NW					Cloudy	
Ashuelot, Cheefoo, China	29.86‡	758.4‡			67	19.4	79	SE			2		2		S	0	0			Hazy	
Colorado, New York, N. Y.	29.48‡	748.8‡			75	23.9	72	SW	5	2.2			2			0.71	1.80			Clear	
Constellation, Chesapeake Bay, N. 38° 57′, W. 76° 25′	29.66‡	753.4‡			74.5	23.6	76	W			3		8		W					Fair	
Constitution, League Island, Penn.	29.45‡	748.0‡			80	26.7	74	WSW			4		1		SW					Clear	
Despatch, N. 30° 25′, W. 58° 45′	30.25‡	768.3‡			75	23.9	100	W			4		6		WSW	0	0	Long	SW	Fair	
Enterprise, Antwerp, Holland	29.59‡	751.6‡			79	26.1	66	SE			4–5		4		SSE					Clear	
Franklin, Norfolk, Va.	29.70‡	754.4‡			78	25.6	86	SW	12	5.4			10		SW	0.02	0.5			Cloudy	
Hartford, Montevideo, Uruguay	29.82‡	757.4‡			58	14.4	88	NNW	5	2.2			10		NW	0	0			Cloudy	
Kearsarge, Portsmouth, N. H.	29.53‡	750.0‡			51	10.6	93	N			1–2		10							Light rain	
Marion, Pensacola, Fla.	29.91‡	759.7‡			83	28.3	91	SW			2		5		SW			Smooth		Fair	
Michigan, Erie, Pa.	29.61‡	752.1‡			55	12.8	93	NNW			4		10		NNW					Cloudy	
Monocacy, Shanghai, China	29.78‡	756.4‡			76	24.4	86	ESE			3		8							Cloudy	
Monongahela, Yokohama, Japan	29.80‡	756.9‡			72	22.2	85	S			1		k			Light	Light			D. clouds	
New Hampshire, Port Royal, S. C.	29.87‡	758.7‡			80	26.7	82	SW	14	6.3			2		Calm	0	0			Clear	
Onward, Callao, Peru †	30.28‡	767.8‡			64	17.8	83	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.77‡	756.1‡			72	22.2	100	ESE			2		2							Fair	
Passaic, Washington, D. C.					76	24.4	91	SW			2		2		SW					Clear	
Pensacola, Pisco, Peru	30.02‡	762.5‡			63	17.2	89	W	1	0.4			10			0	0	Smooth	W	Overcast	
Portsmouth, N. 41° 18′, W. 72° 40′	29.43‡	747.5‡			59	15.0	94	E			3		10		Calm			Smooth		Cloudy	
Powhatan, Hampton Roads, Va.	29.70‡	754.4‡			75	23.9	90	SW			3		8		SW	0.15	3.8			Cloudy	
Quinnebaug, N. 38° 25′, E. 26° 07′	29.87‡	758.7‡			78	25.6	56	NW			3		0					Smooth		Clear	
Ranger, Amoy, China	29.81‡	757.2‡			80	26.7	91	S			1–2		10		Calm					Raining	
Richmond, N. 39° 20′, E. 120° 20′	29.81‡	757.2‡			68	20.0	90	SSE			1–2		5		S	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.84‡	757.9‡			80	26.7	96	SE			1		0			0	0			Clear	
Santee, Annapolis, Md.	29.51‡	749.5‡			77	25.0	69	W			1		2		W	0	0			Clear	
Saratoga, N. 24° 48′, W. 35° 56′	30.29‡	769.4‡			79	26.1	78	ENE			6		2		ENE	0	0	Mod'ate	ENE	D. clouds	
St. Louis, League Island, Pa.	29.52‡	749.8‡			76	24.4	82	SW	13	5.8			5		SSW	0	0			Fair	
Trenton, N. 35° 45′, W. 10° 45′	30.17‡	766.3‡			66	18.9	??	N			3		5		N	0	0	Mod'ate	W	Fair	
Tuscarora, Pichilinque, Lower Cal.	29.87‡	758.7‡			68	20.0	95	SSE			3		0			0	0	Smooth		Blue sky	
Vandalia, Hampton Roads, Va.	29.67‡	753.6‡			75	23.9	95	SW			4		5		SW					Cloudy	
Wabash, Boston, Mass.	29.53‡	750.0‡			52	11.1	??	NE	6	2.7			10			0.79	20.1			Rainy	
Wyoming, Venice, Italy	29.91‡	759.7‡			75	23.9	64	SSE			2		2		S			Smooth		Clear	
Wachusett, N. 28° 34′, W. 85° 34′	29.97‡	761.2‡			81	27.2	83	WSW			3		2					Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			
S. S. City of Tokio Capt. Maury San Francisco, Cal.		30.15‡	765.8‡	52	11.1		NNW			3		5k		NW	0	Smooth		D. clouds	L. B. Walls.
S. S. Colima																			Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.†		29.92‡	760.0‡	51	10.6	86	SE			2		0						Clear.	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 36° 36′, W. 130° 14′		30.38‡	771.6‡				NNE			7				N		Heavy	N	Rain & fog.	R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 48° 32′, W. 27° 28′		29.82‡	757.4‡	59.0	15.0	82	W			6		5		W	11h'rs	Mod'ate	NW	Light rain	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 39° 22′, W. 59° 00′		29.88‡	758.9‡	73.5	23.1	67	WSW			6		5		WSW	0	Rough	WSW	Clear?	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.89‡	759.2‡				SSW			3		5		SW				Cloudy?	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.53‡	750.0‡	73	22.8	90	SW			7		8		SW	0			Fine	Captain R. W. Sargent. W m. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 40° 44′, W. 64° 35′.		29.60‡	751.8‡				SW	12	5.4			10		SW; WNW		Rough	SW	Heavy rain.	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		29.94‡	760.5‡	82	27.8	83	W	8	3.6			5k		W	0			D. clouds	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", N. 28° 40′. W. 65° 30′ †.		30.19‡	766.8‡				S			1		0			0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred, N 24° 39′, W. 67° 50′		29.96‡	758.4‡				SE	12	5.4			2		SE	0	Smooth	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 45° 52′ W. 24° 28′ †.		29.71‡	754.6‡	62.5	16.9	91	WNW			5		10		NW		Mod'ate	NW	Hazy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′. W 66° 57′ †.		29.49‡	749 0‡				SE			1		Fog				Very Heavy	S	Cloudy	L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		29.93‡	760.2‡	80	26.7		W			5				W				Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 17, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.00	762.0	76.6	24.8	71	WNW			1		5			0	0	Cloudy	Kesxuche.
Algiers			29.94	760.5	77.4	25.2	54	WNW			2		0			0	0	Clear	Touriliere.
La Calle			29.96	761.0	83.7	28.7	33	N			1		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			29.99	761.7															Gau.
Saida			30.11	764.9	85.1	29.5	21	N			4		2			0	0	Fair	Herbin.
Tebessa			29.91	759.7	98.6	37.0	16	SSW			7		2			0	0	Fair	Watrin.
Geriville			30.09	764.2	85.1	29.5	63	NW			2		2			0	0	Fair	Brugniaux.
Laghouat			29.92	760.0	101.8	38.8	25	SSW			4		0			0	0	Clear	Bertrand.
Biskra			29.88	759.0	103.1	39.5	40	NW			2		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.18	741.2	29.70	754.4	76.6	24.8	48	W			3		6			0.047	1.2		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.92	734.6	29.65	753.0	78.1	25.6	53	ESE			1		2			0	0		Dr. Wierzbiski.
Eperies	28.80	733.7	29.72	754.9	74.8	23.8	66	SE			2		5cs		N	0	0		Julius Mikolik.
Gratz	28.44	722.4	29.58	751.2	77.0	25.0	53	SW			4		6			0	0		Andreas Rospini.
Hermannstadt	28.42	721.9	29.78	756.3	74.8	23.8	66	E			2		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.41	721.6	29.72	755.0	57.9?	14.4?		WSW			5		10			0	0		Prof. C. Wagner.
Lemberg	28.78	730.9	29.71	754.7	73.0	22.8	60	SE			2		2			0	0		Dr. T. Stanecki.
Pola	29.64	752.9	29.75	755.6	69.6	20.9	81	SE			6		10			0	0		I.R.Hydrographic Office.
Szathmar	29.35	745.6	29.80	756.8	77.0	25.0	58	S			2		4			0	0		Julius Csics, S. J.
Szegedin	29.47	748.5	29.73	755.2	75.2	24.0	63	S			1		10			0	0		Karl Stancel.
Trieste	29.65	753.2	29.76	755.8	77.0	25.0	64	S			1		10			0.110	2.8	Thunder-storm.	P. Busin.
Vienna	28.88	733.5	29.56	750.7	74.7	23.7	68	SE			3		9			0.205	5.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.40	746.7	29.50	749.3	50.4	10.2		NE	12	5.4			10			0	0	Overcast	W. Boswell.
Ardrossan	29.46	748.3	29.48	748.8	57	13.9		NW			2		8					Overcast	Wm. McNeil & G. Carrick
Armagh, Observatory			29.54	750.3	55.9	13.3		NNW	3	1.3			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.48	748.8	59.4	15.2		W	13	5.8			4					D. clouds	John Hartnup.
Bolton (Sharples)			29.46	748.3	59.4	15.2		W	6	2.7			8					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.08	738.6	29.47	748.5	62.4	16.9		W			2		10			0.25	6.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	83	28.3		NE			2		6					Gloomy	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.41	747.0	29.50	749.3	65.0	18.3		SSW			1		7					D. clouds	H. Todd.
Cardington			29.50	749.3	69.0	20.6		W			1		8					Overcast	John McLaren.
Chatham, School M. E.	29.41	747.0	29.53	750.0	64.8	18.2		SW			1		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.49	749.0	29.53	750.0	54	12.2		NNE			3		8					D. clouds	J. Mac Gowan.
Dover	29.54	750.3	29.56	750.8	60	15.6		SW			3		4					½ clouded	J. Costello.
Falmouth, Observatory	29.31	744.5	29.53	750.0	59.3	15.2		NW			5		6					Gloomy	The Staff.
Fort Napier (Natal)	27.73	704.3	30.02	762.5	65.0	18.3		E			2		1					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	81	27.2		Calm			0		5					D. clouds	
Galway, Queen's College			29.56	750.8	61	16.1		NW			1		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.91	759.7	29.97	761.2	69.2	20.7		W			5		4					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.28	743.7	29.49	749.0	57.0	13.9		NNE			1		10					Raining	D. G. Maclean.
Great Yarmouth	29.53	750.0	29.54	750.3	60	15.6		SW			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.35	745.5	29.52	749.8	64.7	18.2		SW			3		6					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.33	745.0	29.55	750.6	55	12.8		SW			4		10					Raining	Dr. S. E. Hoskins, F.R.S.
Helston	29.59	751.6	29.71	754.6	63	17.2		NW			6		8ck			0.25	6.3	Fine	M. P. Moyle.
Holyhead	29.51	749.5	29.53	750.0	53	11.7		NW			3		10					Misty	John Tilston.
Jersey	29.30	744.2	29.59	751.6	54.2	12.3		WSW			6		10					Threatening	J. Fisher.
Kew, Observatory	29.45	748.8	29.52	749.8	62.0	16.7		SSW	15	6.7			9					Threatening	The Met'g'l Office.
Leicester, Museum.	29.24	742.7	29.48	748.8	63.5	17.5		SW			3		9					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.83	757.7	29.90	759.4	77.0	25.0		SE			3		0					Blue sky	A. King.
Nairn	29.44	747.8	29.53	750.0	50	10.0		E			1		10					Raining	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	84.5	29.2		SE			2		6			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.30	744.2	29.48	748.8	69.1	20.6		SSW			3	c	4k;ks		SW; SSW	0.023	0.59	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.96	735.6	29.47	748.5	65.2	18.4		S			2		5					Misty	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.50	749.3	62	16.7		Calm			0		7					D. clouds	H. E. Bellamy.
Plymouth	29.38	746.2	29.45	748.0	59.1	15.1		SW			1		10					Overcast	John Merrifield.
Prince Town	28.03	711.9	29.47	748.5	56.6	13.7		W			2		10					Gloomy	W. H. Tooker.
*Roche's Point	29.54	750.3	29.65	753.1	57	13.9		NNW			5		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.36	745.7	29.52	749.8	56	13.3		NNW			3		7					Showery	John C. Walker.
Sandwick Manse (Orkneys)			29.56	750.8	51.9	11.1		E	20	8.9			10					Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.76	755.9	29.82	757.4	81.6	27.6		SW			2		4			0	0	D. clouds	Serg't W. H. Lyne.
Sheffield	29.20	741.7	29.48	748.8	69.8	21.0		SW			1		5			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.44	747.8	29.47	748.5	55.4	13.0	92	Calm			0		10			0.113	2.87	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.08	738.6	29.48	748.8	61.2	16.2		SW			2		7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.32	744.7	29.53	750.0	60.7	15.9		SW			3		8					D. clouds	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.60	751.8	29.61	752.1	60	15.6		NW			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.67	753.6	29.69	754.1	55.5	13.1		NW	13	5.8			10					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.02	762.5	30.06	763.5	66.8	19.3	50	S	7	3.1		9	9			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.92	760.0	42.0	5.6	74	S			3		8kn			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.52	749.8	50.8	10.4		NE			2		10s			0.05	1.3	Rain and fog	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.10	764.5	74.4	23.6	68	ESE	10.5	4.7		0	4		SE	0.01	0.3	Fine	C. Meldrum.
Melbourne, Observatory	30.13	765.5	30.22	767.6	49.8	9.9	85	WSW	6	2.7			8			0.06	1.5	Showery	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.55	750.6	54	12.2		N			3	3	3		N	0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.60	751.8	48	8.9		E			6	10	10		E	0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.89‡	759.2‡	77	25.0		WNW			2		3					Misty	Capt. W. J. L. Wharton.
Barque Fedalma, N. 42° 15′, W. 49° 05′			29.65	753.1	63	17.2		WSW			3		10			4	Confused.	Rain & fog	Capt. H. L. Fox.
S. S. Iron Cross, N. 50° 30′, W. 19° 55′			29.78	756.4	60	15.6		W			3		7			4	W	Misty	Capt. W. Randall.
S. S. Nizam, N. 33° 46′, E. 22° 59′			30.04‡	763.0‡	72	22.2		NW			5		0					Blue sky	Capt. Barlow.
Astarte, N. 7° 20′, W. 23° 30′ *.			30.05‡	763.3‡	84.2	29.0		NE			2		2					Blue sky	Capt. Parson.
British Peer, N. 22° 30′, W. 38° 40′			30.21‡	767.3‡	77.5	25.3		NE			5		5					D. clouds	Capt. Greig.
Theophane, S. 23° 45′, E. 54° 45′			30.16‡	766.1‡	71.8	22.1		SSE			2		5					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria																			Capt. Wm. Watson.
§Brig Alliance																			Capt. W. Scott.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.24	666.5	29.96	761.0	67.6	19.8	83	NE			1	5c	2d			0.3	8.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.50	749.2	29.54	750.4	70.3	21.3	66	S			2		5						
Fanöe	29.51	749.5	29.53	750.0	59.2	15.1	88	SW			4		10						
Godthaab (Greenland)	29.92	759.9	29.96	761.0	38.7	3.7	88	NW			2		10						
Stykkisholm (Iceland)	29.81	757.2	29.85	758.3	38.5	3.6	67	NE			8		5						
Thorshavn (Faröe)	29.62	752.3	29.65	753.2	47.1	8.4	84	SSE			2		10						
Vestervig	29.34	745.3	29.51	749.6	65.1	18.4	48	SW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.15	740.5	29.71	754.5	64.0	17.8	70	SW			1		8	SW	W	0.031	0.8	Very cloudy	Collignon, Director.
Amiens, Normal School	29.50	749.2	29.60	751.9	65.5	18.6	71	WSW			1		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.34	745.3	29.59	751.6	64.0	17.8	77	SW			2				SW	0.150	3.8		Klein, Commandant.
Avignon, Normal School	29.78	756.3	29.85	758.3	74.1	23.4	56	W			1				W	0.661	16.8		Giraud, Director.
Bar-sur-Seine	29.16	740.7	29.70	754.4	62.8	17.1	66	SW			1		8		SW	0.906	23.0	Sprinkling	C. Saillard, Director.
Beauvais, Normal School	29.35	745.6	29.61	752.2	60.3	15.7	72	WNW			2		8		W	0.08	2.	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	28.90	734.1	29.77	756.1	63.7	17.6	76	S			4				S	0	0		A. Carré, Director.
Bourg-en-Bresse, N. School	28.94	735.0	29.85	758.3	68.7	20.4	64	W			1		n	W	W	1.071	27.2		Marlot, Director.
Bourges, Normal School	29.17	741.0	29.71	754.6	65.8	18.8	76	SW			3		10	SW	SW	0.098	2.5	Covered	M. Gence, Director.
Brest, Naval Observatory	29.41	746.9	29.65	753.1	61.2	16.2	79	W			3		10		W	0.108	2.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.48	748.8	29.88	759.0	73.0	22.8	53	W			1		5	W	W	0.913	23.2	Cloudy	September, Dir.
Caen, Normal School	29.53	750.0	29.60	751.8	63.0	17.2	73	SSW			3		10			0.04	1.	Covered	Lair, Director.
Chartres, Normal School	29.08	738.6	29.62	752.4	68.0	20	80	SW			2		8		S	0.205	5.2		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.37	746.1	29.69	754.0	61.7	16.5	75	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.44	722.3	29.79	756.6	65.7	18.7	54	SW			2		8		SW	0.343	8.7		Alluard, Director.
Commercy, Normal School	28.85	732.8	29.70	754.3	57.7	14.3	82	W			1		8kn		W	1.06	27.	Very cloudy	Dr. Coulet, Director.
Commune de Grésasque*	28.78	731.1	29.93	760.1	69.8	21	58	NW			3		5		NW	0.661	16.8		L. Kina, Director.
Grenoble, Normal School	29.09	738.9	29.83	757.7	68.4	20.2	57	NW			1		5kn	S		0.760	19.30	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.58	751.2	29.79	756.6	63.3	17.4	72	SW			4		5		WSW	0.071	1.8	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.38	746.2	29.68	753.8	62.6	17	67	W			3		8		WSW	0.020	0.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.91	734.2	29.80	756.9	66.0	18.9	61	W			2		5k	W	W	0.47	12.	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.61	752.1	29.71	754.6	61.5	16.4	79	WSW			4			SW	W	0.165	4.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.30	751.8	29.86	758.5	69.6	20.9	59	WSW			2		2			0.071	1.8	Pretty clou'y	E. Stephan, Director
Mirecourt, Normal School	28.69	728.8	29.70	754.4	59.7	15.4	87	N			1		10		E	0.098	2.5	Covered	Barbier, Director
Nismes, Normal School	29.05	753.2	29.85	758.2	73.8	23.2	44	NW			3		2		NW	0.610	15.50	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.80	731.0	29.83	757.6	68.0	20	50	NW			3		n	NW	NW	0.654	16.6		Cantier, Director.
Puy de Dome (Summit) Obs	24.98	634.5			41.4	5.2	97	WSW			4		10			0.551	14.0	Raining	Alluard, Director.
Rochefort, Naval Obs'y	29.78	756.5	29.82	757.3	65.5	18.6	69	W			4		5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.52	749.9	29.61	752.1	62.2	16.8	73	NNW			1		8		SW	0.157	4.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.58	751.3	29.61	752.1	59.0	15.0	80	SW			4		8	WSW	WSW	0.726	18.42	Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.47	748.5	29.63	752.7	64.8	18.2	70	W			3				WSW	0.217	5.5		E. Renou, Director.
Tarbes, Normal School	28.94	735.0	29.96	761.0	70.7	21.5	66	W			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.21	741.8	29.93	760.1	68.0	20.0	67	NW			2		9			0.339	8.6		M. Julier Mercadier.
Versailles, Observatory	29.14	740.2	29.63	752.7	64.8	18.2	55	W			3					0.136	3.42		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.08	738.6	29.77	756.2	67.1	19.5	67	SSW			2		8		W	0.55	14.	Very cloudy.	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.81	757.1	29.84	757.8	80.6	27										0.08	2.		L'Abbé Marchésl.
Lyons Obs'y (Park Station)	29.19	741.5	29.80	756.8	69.4	20.8	53	SSW			2		5		SSW	0.713	18.1	Cloudy	Ch. André, Director.
Mont-Louis	24.79	629.6	30.10	764.6	59.0	15.0	51	WSW	18.6	8.3			0			0	0		M. Cave.
Nice			29.74	755.3	79.2	26.2	40	W			4		2			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.35	745.6			65.5	18.6	67	WSW			3		8		WSW	0.122	3.1		Marié Davy, Director.
Perpignan	29.80	756.8	29.90	759.5	68.5	20.3	54	S	11.2	5.0			3		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.46	570.4			42.6	5.9		W			2		10			0.043	1.1	Threatening	Gen'l de Nansouty.
Tours	29.51	749.5	29.71	754.5	64.4	18.0	76	SW			3		8		W	0.055	1.4		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.67	753.5	29.69	754.1	75.0	23.9	96	S	7.4	3.3			10n			0.134	3.4	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Grésasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 h. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Grésasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.81	731.8	29.64	752.9	63.1	17.3	71	W			4		7	SW		0.906	23.0		Prof. Dr. Hoh.
Berlin	29.32	744.6	29.48	748.7	82.0	27.8		SE			2		4			0	0		Prof. Dr. Arndt.
Breslau	29.10	739.2	29.63	752.5	79.9	26.6	47	SE			4		2			0	0		Royal University Obs'ry.
Carlsruhe	29.29	744.0	29.71	754.6	61.2	16.2	84	W			2		10	SW		0.902	22.9	Heavy rain	Albert Senz.
Cassel	28.99	736.4	29.59	751.6	62.2	16.8	82	S			2		8	SW		0.191	4.86		Dr. H. Möhl.
Crefeld	29.43	747.4	29.59	751.5	58.1	14.5	91	NW			3		10			0.67	17.	Raining	Director Lose.
Emden			29.43	747.6	69.1	20.6	61	NW			1		8			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.30	744.1	29.65	753.2	62.2	16.8		SW			3		10			0.358	9.1		Physical Society.
Freienwalde on the Oder	29.47	748.4	29.50	749.4	84.6	29.2	39	SE			4		3cs;k	SE		0	0		Dr. Assmann.
Friedrichshafen	28.33	719.6	29.72	755.0	63.5	17.5	69	WSW			3		7	W		0.035	0.9		M. Wilhelm.
Hamburg	29.47	748.6	29.54	750.3	69.8	21.0	70	SW			1		10kn			0.016	0.4		Captain F. Hegemann.
Kiel	29.52	749.7	29.53	750.1	67.6	19.8	69	W			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.61	752.1	29.69	754.1	83.3	28.5	34	S			6		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.07	738.4	29.47	748.6	73.8	23.2	65	SE			3		9					Thunder-storm	Prof. Brahns, Privy Counsellor.
Memel	29.71	754.6	29.76	755.8	77.0	25.0	53	SW			1		4ks						Skalweit.
Munich (München)	27.97	710.4	29.82	757.3	55.8	13.2	86	SW			4		10	SW		0.756	19.2		Dr. C. Larg.
Neufahrwasser	29.66	753.3	29.67	753.7	81.0	27.2	37	S			4		4			0	0		A. Lothes.
Posen	29.35	745.5	29.62	752.4	81.1	27.3	40	SE			6		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.18	741.1	29.71	754.6	66.9	19.4	57	SSW			4		7			0.669	16.99		Imp. University Observatory.
Stuttgart	28.74	730.0	29.65	753.0	66.2	19.0	52	W			2		6	W		0.185	4.7	Light rain	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.22	716.7	29.69	754.0	58.3	14.6	74	W	7	3			10		SW	0.630	16.0		T. Hopfner.
Wustrow	29.53	750.0	29.55	750.6	66.0	18.9	84	NW			1		10ks			0.106	2.7	Thunder-storm.	E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.4	29.91	759.8	83.5	28.6		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.38	746.3	29.43	747.5	85.8	29.9	67	SW					8			0	0	D. clouds	
Deesa	29.03	737.4	29.48	748.9	96.8	36.0	33	SSW	23.1	10.3			1	SW		0	0	D. clouds	
Bombay	29.62	752.3	29.66	753.3	78.7	25.9	93	S	22.0	9.8			8		NE	1.59	40.4	Overcast	
Poona	27.82	706.6	29.67	753.5	78.8	26.0	63						6			0	0	D. clouds	
Lahore	28.77	730.6	29.50	749.2	81.8	27.7	75	NE	5.1	2.3			10			0.17	4.3	Raining	
Belgaum	27.22	691.2	29.76	756.0	71.5	21.9	88	W	14.0	6.3			10	W	W	0.03	0.8	Showery	
Roorkee	28.65	727.6	29.54	750.2	79.8	26.6	75	NW	4.6	2.1			10			1.40	35.6	Gloomy	
Agra	28.90	734.0	29.44	747.7	97.6	36.4	38	S					4		S	0	0		
Nagpur	28.49	723.7	29.51	749.4	89.7	32.1	48	SW	4.9	2.2			8		NE	0	0	Gloomy	
Lucknow	29.10	739.8	29.47	748.6	90.2	32.3	63	NE	5.9	2.6			10	Calm		0.05	1.3	Overcast	
Allahabad	29.18	741.2	29.48	748.8	97.1	36.2	39	ENE	5.1	2.3			2			0.06	1.5	D. clouds	
Patna	29.36	745.6	29.53	750.1	86.6	30.3	70	NNE	1.0	0.4			4	NNE	NNE	0.07	1.8	D. clouds	
Hazaribagh	27.56	700.0	29.54	750.2	82.3	27.9	77	SSE	8.3	3.7			8			0.36	9.1	Thunder-storm.	
Cuttack	29.54	750.3	29.62	752.4	83.0	28.3	78	NNW	2.0	0.9			10					Raining	
Calcutta (Alipore)	29.57	751.0	29.59	751.6	80.7	27.1	87	SW	2.0	0.9			10	SW		0	0	Overcast	
Goalpara	29.19	741.5	29.58	751.3	79.6	26.4	82	S	1.8	0.8			6			0.08	2.0	D. clouds	
Chittagong	29.58	751.3	29.67	753.6	78.6	25.9	96	Calm	5.3	2.4			10			0.26	6.6	Raining	
Sibsagar	29.30	744.2	29.63	752.6	80.2	26.8	90	WSW	1.7	0.8			10	W	W	2.50	63.5	D. clouds	
Jubbulpore	28.14	714.8	29.45	748.0	97.7	36.5	37	E	3.2	1.4			5		E	0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer: Corrected or instrumental error and temperature. Inches.	Barometer: Corrected or instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.37	746.1	29.77	756.2	65.7	18.7	89	S	0.7	0.3			10			0.917	23.3		Prof. Giovanni Clodig.
Milan	29.23	742.4	29.73	755.1	73.6	23.1	45	SSW			2		5	SW		0.024	0.6		Prof. Schiaparelli.
Padua	29.63	752.6	29.74	755.3	72.9	22.7	61	NE	1.3	0.6			8	SW		0.047	1.2		Prof. Dott. Lorenzoni.
Moncalieri	28.83	732.2	29.70	754.4	71.2	21.8	49	SE	4.3	1.9			6	NW		0	0		Prof. P. F. Denza.
Genoa	29.59	751.5	29.77	756.2	71.6	22.0	64	SW	6.9	3.1			4	SW		0.087	2.2		Prof. G. M. Garibaldi.
Mondovi	27.89	708.5	29.74	755.4	70.2	21.2	51	NE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.65	753.2	29.70	754.4	82.0	27.8	44	SW	11.2	5.0			5	SW		0	0		Prof. Luigi Guidi.
Florence	29.54	750.2	**29.78**	**756.5**	**72.5**	22.5	71	W			2		8	SW		0.220	5.6		Cav. F. Meucci.
Leghorn	29.70	754.3	**29.78**	**756.4**	70.1	24.5	56	SW			6		5			0	0		Prof. P. Monte.
Rome	29.66	753.3	29.83	757.6	76.5	24.7	63	S	17.4	7.8			9			0	0		Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.91	759.8	82.4	28.0	64	SW	18.6	8.3			8	SW		0	0		Prof. C. De Giorgi.
Cosenza	29.00	736.7	29.85	758.2	88.2	31.2	57	NW	1.3	0.6			5			0	0		Prof. D. Conti.
Cagliari	29.64	752.9	29.83	757.7	84.0	28.9	44	S			2		3	W		0	0		Prof. A. Pacinotti.
Palermo	29.61	752.1	29.86	758.4	84.9	29.4	36	SW	8.1	3.6			4			0	0		Prof. G. Cacciatore.
Syracuse	29.84	757.9	29.91	759.8	80.2	26.8	56	NW	11.2	5.0			0?	SW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.35	745.4	29.90	759.5	73.4	23.0	69	SW	7.4	3.3			10			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	76.1	24.5	81	NE	2.3	1.0			8s			0	0	Foggy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.72	754.9	29.92	759.9	71.9	22.2	95	SW	0.9	0.4			8s			0.005	0.13	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.82	757.4	29.89	759.2	72.4	22.4	93	S	2.5	1.1			9s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	636.0	30.05	763.3	57.2	14.0	66	SW			1	0	1			0	0	Clear	Prof. L. Perez.
Leon	24.41	620.0	30.01	762.2	65.3	18.5	84	S			1	1c	3k	SW	SW	0	0	Fair.	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.9	30.03	762.7	57.0	13.9	85	SW	0.9	0.4			10 k			0.50	12.6	Covered	The Staff.
Pabellon (Aguascalientes)					61.3	16.3	87	SW			1	1cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.85	758.1	29.86	758.4	79.3	26.3	89	SW			2	0	10		SW	0	0	Covered	Prof. M. M. Chàzaro.
San Luis Potosi	24.18	614.1	30.05	763.3	64.0	17.8	52	SE			1	6	0	W		0.08	0.2	Fair	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.53	572.2	30.08	764.0	57.0	13.9	80	Calm			0	0	1s			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	59.0	15.0	84	Calm	0	0			10		S	0.22	5.5	Covered	Prof. P. Spina.
Colima	28.37	720.5	30.00	761.9	77.7	25.4	74	Calm			0	0	1		SW	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.68	753.9	29.97	761.2	75.9	24.4	80	NW			1	6	2	SE		Inap	Inap.	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,793.6 m., or 5,931.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.60	751.8	29.60	751.8	67.8	19.9		WNW								0.272	6.9		
Groningen	29.50	749.3	29.56	750.7	65.5	18.6		W								0.039	1.0		
Helder	29.56	750.8	29.56	750.8	59.7	15.4		SW			4					0	0		
Hellevoetsluis	29.57	751.0	29.57	751.0	64.2	17.9	71	W			4					0.307	7.8		
Utrecht	29.55	750.6	29.60	751.8	63.9	17.7	72	W			1		8			0.008	0.2	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.46	748.2	29.51	749.6	59.0	15.0	85	Calm	0	0	.....	.....	10	.....	.....	0.402	10.2	Raining	
Brönö	29.64	752.9	29.68	753.9	50.7	10.4	58	N	11	5	.....	.....	3	.....	.....	0.252	6.4	.....	
Christiania	29.45	748.1	29.60	751.7	61.2	16.2	71	ENE	4	2	.....	.....	10	.....	.....	.....	.....	Light rain	
Tromsö	29.71	754.5	29.75	755.6	41.5	5.3	72	NE	27	12	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.97	761.2	30.16	766.0	68.7	20.4	87	W	5.6	2.5	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.08	763.9	69.8	21.0	63	WNW	11.2	5.0	.....	.....	9	WNW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.1	30.21	767.3	70.9	21.6	63	SW	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.12	765.0	67.5	19.7	75	WNW	13.7	6.1	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.14	765.6	30.21	767.4	72.0	22.2	75	SW	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 35′, E. 0° 40′	.....	.....	30.15	765.7	77.9	25.5	.....	SSW	.....	.....	3	.....	2	.....	SSW	3	SW	Blue sky	H. C. e Athayde.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	29.93	760.2	63.0	17.2	.....	WNW	.....	.....	3	.....	2	.....	ESE	1	WNW	D. clouds	J.C. M. Cabrate, 1st Lt.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	30.03	762.8	79.2	26.2	.....	ENE	.....	.....	3	.....	5	.....	NE	2	.....	D clouds	P. de Fair[illegible]
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. Teixeira da Silva, Com'd't.
Sadó	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.82	757.5	79.2	26.2	.....	SW	.....	.....	2	.....	6	.....	SW	1	S	Raining. 1 hour rain-fall	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Wärsaw	29.36	744.2	29.70	754.4	77.4	25.2	49	SSE	11	5	.....	.....	6ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.40	746.7	29.80	756.8	77.4	25.2	46	SW	4	2	.....	.....	8	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.58	751.4	29.82	757.3	72.3	22.4	47	NW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.84	758.0	29.86	758.4	58.5	14.7	90	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.7	29.81	757.1	74.5	23.6	33	SE	4	2	.....	2c	.....	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.71	754.7	29.78	756.5	69.6	20.9	70	ENE	13	6	.....	.....	6ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.34	745.2	29.87	758.6	68.4	20.2	48	N	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.62	752.1	29.81	757.1	75.7	24.3	28	E	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.92	760.0	29.94	760.5	52.0	11.1	76	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.37	720.7	29.71	754.5	83.3	28.5	33	SW	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.96	761.0	29.88	758.9	75.2	24.0	27	SSE	4	2	.....	.....	9s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.31	744.4	29.76	755.9	65.7	18.7	37	NW	16	7	.....	.....	2	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.42	747.2	29.68	753.8	62.1	16.7	43	NW	9	4	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.34	719.9	29.28	743.9	46.4	8.0	77	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.60	751.8	29.82	757.4	82.6	28.1	39	N	7	3	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.28	718.3	29.75	755.7	83.8	28.8	29	NW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.01	736.8	29.48	748.8	72.7	22.6	50	SE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.38	746.2	29.66	753.3	69.4	20.8	67	SSW	34	15	.....	.....	10	.....	.....	.....	.....	Thunder-storm	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.61	752.0	29.75	755.6	74.5	23.6	62	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.84	757.8	29.93	760.3	52.5	12.4	94	SE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.80	757.0	29.91	759.7	72.7	22.6	55	S	7.6	3.39	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.84	757.9	29.89	759.3	73.0	22.8	65	NW	2.9	1.28	.....	.....	10	.....	.....	0.071	1.8	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.7	.....	.....	64.8	18.2	62	S	10.8	4.84	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.77	705.4	29.59	759.3	79.9	26.6	35	W	12.0	5.34	.....	1	3	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	91.8	33.2	46	S	3.6	1.61	.....	.....	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.02	737.2	29.91	759.6	62.6	17.0	90	SW	12.5	5.6	.....	.....	10	.....	.....	0.146	3.7	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	760.9	30.02	762.6	80.0	26.7	81	E	5.6	2.5	.....	1c;cs	0	.....	.....	1.756	44.6	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.8	29.80	757.1	83.3	28.5	82	SE	2.7	1.2	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.96	761.0	30.06	763.5	70.9	21.6	62	WNW	20.9	9.3	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.97	761.2	30.06	763.5	79.2	26.2	84	SE	0	0	.....	10kn	4kn	SE	SE	0.276	7.00	Raining	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.79	756.7	29.83	757.7	52.9	11.6	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.75	755.7	29.87	758.8	55.8	13.2	62	S	.....	.....	2	.....	1	.....	.....	0.031	0.8	.....	
Hernosand	29.68	753.9	29.80	757.0	58.6	14.8	87	E	.....	.....	4	.....	1	.....	.....	0	0	.....	
Stockholm	29.54	750.2	29.71	754.7	66.7	19.3	75	SE	.....	.....	4	.....	4	.....	.....	0.252	6.4	.....	
Wisby	29.65	753.1	29.71	754.6	77.7	25.4	40	S	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.63	752.6	29.71	754.5	60.1	15.6	87	ENE	4.9	2.2	.....	.....	10	.....	ESE	0.001	0.02	Raining	Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.16	715.2	29.76	756.0	64.0	17.8	94	W	.....	.....	4	.....	5	.....	SW	0.244	6.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	79.3	26.3	45	WSW	9	4.0	.....	.....	7	.....	W	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	104.0	40.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.02	762.6	81.0	27.2	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.79	756.7	87.6	30.9	57	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.64	752.8	29.94	760.5	52	11.1	.....	NW	6	2.7	.....	0	2s	.....	NW	0	0	Clear	W. R. Bigg.
Chatham, N. B	29.77	756.1	29.83	757.7	51	10.6	76	NE	13	5.8	.....	.....	10ks	.....	NE	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	.....	.....	.....	.....	.....	.....	.....	NE	8	3.6	.....	.....	10s	.....	.....	0.110	2.79	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.84	757.9	47.7	8.7	90	NW	.....	.....	3	.....	10s	.....	.....	0.221	5.62	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.71	754.6	29.88	758.9	49.8	9.9	82	E	.....	.....	3	.....	10ks	.....	.....	0	0	Gloomy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.87	758.7	46	7.8	96	NE	40	17.9	.....	.....	10n	.....	NE	0.02	0.5	Light rain	J. McWilliams.
Fredericton, N. B	29.76	755.9	29.82	757.4	46.6	8.1	88	NE	5	2.2	.....	.....	10n	.....	.....	0.49	12.4	Light rain	Prof. Harrison.
*Fort Garry, Manitoba	29.38	746.2	30.18	766.6	64	17.8	86	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.05	737.9	30.15	765.8	50	10.0	86	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.58	751.3	29.69	754.1	50	10.0	81	SE	14	6.3	.....	.....	10n	.....	SE	0.171	4.35	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.11	764.8	52.3	11.3	77	NW	.....	.....	1	2c	0	NW	.....	0	0	Fine	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.63	752.6	29.96	761.0	52	11.1	71	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.74	755.4	29.78	756.4	47.1	8.4	86	E	8	3.6	.....	.....	10n	.....	.....	0.23	5.8	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.59	751.6	29.79	756.7	51	10.6	87	W	12	5.4	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.39	746.5	30.09	764.3	50	10.0	79	NW	12	5.4	.....	5k	0	NE	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.27	743.4	30.02	762.5	50.2	10.1	68	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.11	764.8	49	9.4	85	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.69	754.1	29.74	755.4	46.6	7.8	.....	E	7	3.1	.....	.....	.....	.....	.....	0.60	15.2	Fine	Peter Grant.
Port Stanley, Ontario	29.49	749.0	30.14	765.5	51	10.6	82	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.50	749.3	29.81	757.2	49	9.4	100	NE	.....	.....	5	.....	10n	.....	NE	0.87	22.1	Heavy rain	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.53	750.0	29.99	761.7	50	10.0	79	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.70	754.4	29.75	755.6	47	8.3	84	NE	.....	.....	3	.....	10n	.....	E	0.20	5.1	Light rain	Dr. Gove.
St. John, N. B	29.50	749.3	29.67	753.6	46	7.8	96	NE	9	4.0	.....	.....	10n	.....	.....	.....	.....	Drizzling	G. Murdock, C. E.
*Saugeen, Ontario	29.42	747.3	30.15	765.8	49	9.4	78	NW	18	8.0	.....	.....	8ks	.....	N	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.32	744.7	30.11	764.8	45	7.2	76	NW	13	5.8	.....	.....	10n	.....	NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.12	765.0	47.0	8.3	82	NW	10	4.5	.....	2ck	0	NW	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.74	755.4	29.78	756.4	49	9.4	85	E	8	3.6	.....	.....	10n	.....	E	0.11	2.8	Cloudy	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.09	764.3	51	10.6	63	N	21	9.4	.....	.....	10ks	.....	N	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.61	752.1	29.70	754.4	49.5	9.7	93	NE	13	5.8	.....	.....	10n;k	.....	.....	0.95	24.1	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.64	752.8	29.89	759.2	48.0	8.9	78	NE	.....	.....	.....	10k?	10s?	.....	.....	0	0	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.92	760.0	56	13.3	63	NW	10	4.5		0	0			0.06	1.5	Clear	
Alpena, Michigan	29.56	750.8	30.21	767.3	52	11.1	66	NW	14	6.3		0	0			0	0	Clear	
Atcha, Aleutian Islands					43	6.1	91	W			1		10s		NW	0	0	Cloudy	
Atlanta, Georgia	28.84	732.5	29.93	760.2	75	23.9	64	W	7	3.1		2ck	0	Calm		0	0	Clear	
Atlantic City, New Jersey	29.93	760.2	29.94	760.5	64	17.8	53	N	8	3.6		0	0			0	0	Clear	
Augusta, Georgia	29.79	756.7	29.98	761.5	79	26.1	78	Calm	0	0		5ck	Haze	SW	Calm	0	0	Fair	
Baltimore, Maryland	29.96	761.0	30.01	762.2	66	18.9	50	N	7	3.1		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	63	17.2	52	N	10	4.5		0	0			Inap.	Inap.	Clear	
Bismarck, Dakota	28.25	717.5	30.10	764.5	58	14.4	75	SE	10	4.5		8c	0	S		0	0	Cloudy	
Boerne, Texas	28.52	724.4	29.77	756.1	75	23.9	77	SE			1	5k	0	SE		0	0	Fair	
Boise City, Idaho	27.06	687.3	30.02	762.5	46	7.8	72	W	12	5.4			10s		W	0.23	5.8	Cloudy	
Boston, Massachusetts	29.68	753.9	29.83	757.7	58	14.4	64	NW	8	3.6		1k	0	Calm		0.03	0.8	Clear	
Brackettville, Texas	28.81	731.8	29.80	756.9	76	24.4	91	SE	8	3.6			10ks		SE	0	0	Cloudy	
Breckenridge, Minnesota	29.19	741.4	30.18	766.6	55	12.8	84	SE	13	5.8		2c	0	W		0	0	Clear	
Brownsville, Texas	29.83	757.7	29.88	758.9	83	28.3	75	E	2	0.9		2k	0	Calm		0	0	Clear	
Buffalo, New York	29.37	746.0	30.06	763.5	52	11.1	66	NW	10	4.5		1k	0	NW		0	0	Clear	
Burkes, Arizona					68	20.0	18	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.56	750.8	29.85	758.2	50	10.0	72	W	12	5.4			10ks		NW	0.09	2.3	Cloudy	
Cairo, Illinois	29.80	756.9	30.19	766.8	59	15.0	70	N	9	4.0		0	0			Inap.	Inap.	Clear	
Campo, California	27.32	693.9	29.89	759.2	36	2.2	53	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.98	761.5	29.98	761.5	71	21.7	71	NE	20	8.9			10s		NE	0.01	0.3	Threatening	
Cape Henry, Virginia	29.97	761.2	29.98	761.5	68	20.0	60	NE	18	8.0		2k;cs	0	N		0.06	1.5	Fair	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	74	23.3	66	NE	24	10.7			10s		NE	0.05	1.3	Cloudy	
Cape May, New Jersey	29.90	759.4	29.93	760.2	64	17.8	57	N	14	6.3		0	0			0.08	2.0	Clear	
Castroville, Texas	29.16	740.7	29.83	757.7	81	27.2	74	SE	4	1.8		2ck	0	Calm		0.21	5.3	Fair	
Charleston, South Carolina	29.88	758.9	29.94	760.5	80	26.7	78	W	6	2.7		2k	0	W		0	0	Fair	
Charlotte, North Carolina	29.14	740.1	29.91	759.7	76	24.4	60	N	10	4.5		2k	0	W		0	0	Fair	
Chattanooga, Tennessee	29.24	742.7	30.01	762.2	73	22.8	67	N	2	0.9		0	0			0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	53	11.7	80	S	16	7.2			Fog		Calm	0.02	0.5	Foggy	
Chicago, Illinois	29.56	750.8	30.26	768.6	51	10.6	72	N	7	3.1		0	0			0	0	Clear	
Cincinnati, Ohio	29.52	749.8	30.16	766.1	63	17.2	52	E	6	2.7		0	0			Inap.	Inap.	Clear	
Cleveland, Ohio	29.44	747.8	30.16	766.1	56	13.3	57	N	10	4.5		0	0			0.02	0.5	Clear	
Coleman City, Texas	28.16	715.3	29.74	755.4	78	25.6	78	SE	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.32	744.7	30.15	765.8	59	15.0	65	N	7	3.1		5k	0	NW		Inap.	Inap.	Fair	
Concho, Texas	28.05	712.5	29.64	752.8	77	25.0	77	SW	11	4.9		0	0			0	0	Clear	
Corsicana, Texas	29.52	749.8	29.96	761.0	75	23.9	90	SE	1	0.4		0	0			0	0	Clear	
Davenport, Iowa	29.62	752.3	30.27	768.8	52	11.1	54	NE	9	4.0		0	0			0	0	Clear	
Deadwood, Dakota	25.27	641.8			65	18.3	58	S	4	1.8		0	0			0.23	5.8	Clear	
Decatur, Texas																			
Denison, Texas	29.15	740.4	29.90	759.4	78	25.6	78	SE	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.73	628.1	29.95	760.7	59	15.0	82	NW	4	1.8		8ck	2s	NW	Calm	0.16	4.1	Cloudy	
Des Moines, Iowa	29.35	745.5	30.23	767.8	58	14.4	76	Calm	0	0		8cs	0	NW		0	0	Fair	
Detroit, Michigan	29.53	750.0	30.20	767.1	51	10.6	65	N	11	4.9		0	0			0	0	Clear	
Dodge City, Kansas	27.40	696.0	29.60	751.8	66	18.9	84	SE	12	5.4			8ks		SW	0.13	3.3	Cloudy	
Dubuque, Iowa	29.58	751.3	30.29	769.4	50	10.0	58	NE	6	2.7		0	0			0	0	Clear	
Duluth, Minnesota	29.67	753.6	30.36	771.1	48	8.9	70	NE	3	1.3		0	0			0	0	Clear	
Eagle Pass, Texa	29.14	740.1	29.83	757.7	75	23.9	90	SE	6	2.7			10s		SE	0.01	0.3	Cloudy	
Eastport, Maine	29.70	754.4	29.77	756.1	46	7.8	92	NE	12	5.4			10n;fg		NE	0.18	4.6	Light rain	
Edinburg, Texas					82	27.8	87	Calm			0	2k	2s	S	S	0	0	Fair	
El Paso, Texas	26.15	664.2			72	22.2	16	W	5	2.2		2k	0	W		0	0	Fair	
Erie, Pennsylvania	29.40	746.7	30.12	765.0	55	12.8	62	NW	7	3.1		0	0			Inap.	Inap.	Clear	
Escanaba, Michigan	29.67	753.6	30.33	770.4	51	10.6	59	N	10	4.5		0	0			0	0	Clear	
Florence, Arizona	28.34	719.8	29.94	760.5	85	29.4	29	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.86	707.6			59	15.0	87	SE	11	4.9			10s		SE	0.02	0.5	Cloudy	
Fort Craig, New Mexico	25.46	646.7	29.52	749.8	53	11.7	30	Calm	0	0		1k	0	Calm		0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	70	21.1	70	SW	3	1.3		0	0			0.03	0.8	Clear	
Fort Gibson, Indian Ter	29.47	748.5	29.98	761.5	76	24.4	60	E	11	4.9		0	0			0	0	Clear	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	64	17.8	30	N	8	3.6		0	0			0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.91	759.7	76	24.4	77	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.26	692.4			67	19.4	74	Calm	0	0		0	0			0.29	7.4	Clear	
Fort McKavett, Texas	27.73	704.3	29.55	750 6	75	23.9	68	S	4	1.8		2c	5s	Calm	S	0	0	Fair	
Fort St. Michael, Alaska	29.93	760.2	29.95	760.7	41	5.0	100	N	7	3.1		0	0			0	0	Clear	
Fort Shaw																			
Fort Sill, Indian Territory	28.72	729.5	29.77	756.1	79	26.1	62	SE	8	3.6		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.18	715.8			60	15.6	70	SE	14	6.3		4ck	0	SE		0	0	Fair	
Fort Verde, Arizona					68	20.0	34	SW			1	0	0			0	0	Clear	
Fort Yates																			
Fredericksburg, Texas	28.24	717.3	29.72	754.9	77	25.0	69	S	9	4.0		5k	0	Calm		0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	82	27.8	83	S	1	0.4		5k	0	E		0	0	Fair	
Graham, Texas	28.87	733.3	29.86	758.4	79	26.1	74	SE	2	0.9		0	0			0	0	Clear	
Grand Haven, Michigan	29.62	752.3	30.27	768.8	55	12.8	56	NE	8	3.6		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.96	735.6	29.85	758.2	78	25.6	78	SE	6	2.7		2c	0	Calm		0	0	Fair	
Indianapolis, Indiana	29.35	745.5	30.13	765.3	55	12.8	68	NE	1	0.4		1k	0	Calm		0	0	Clear	
Indianola, Texas	29.94	760.5	29.97	761.2	82	27.8	83	Calm	0	0		3c;k	0	Calm;SE		0	0	Fair	
Jacksboro, Texas	28.82	732.0	29.88	758.9	81	27.2	63	SW	8	3.6		0	0			0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.02	762 5	83	28.3	71	W	8	3.6		5k	0	W		0	0	Fair	
Keokuk, Iowa	29.56	750.8	30.18	766.6	59	15.0	59	E	5	2.2		1c	0	W		0	0	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	82	27.8	75	S	3	1.3		5cs	0	SE		0	0	Fair	
Kittyhawk, North Carolina	29.96	761.0	29.98	761.5	67	19.4	74	NE	26	11.6		8ck	0	NW		0.04	1.0	Fair	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	71.5	21.9	69	N	6	2.7		0	0			0	0	Clear	
La Crosse, Wisconsin	29.57	751.1	30.32	770.1	52	11.1	66	S	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	58	14.4	53	Calm	0	0		0	5ks		W	0	0	Fair	
Laredo, Texas	29.49	749.0	29.82	757.4	80	26.7	62	S	3	1.3		0	0			1.45	36.8	Clear	
Leavenworth, Kansas	29.29	744.0	30.12	765.0	61	16.1	82	NE	5	2.2		5k	1s	W	SE	0	0	Fair	
Little Rock, Kansas																			
Los Angeles, California	29.54	750.3	29.87	758.7	59.0	15.0	79	N	1	0.4			10s		Calm	0.01	0.3	Cloudy	
Louisville, Kentucky	29.56	750.8	30.11	764.8	58	14.4	70	N	7	3.1		0	5mc		Calm	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.36	745.7	30.02	762.5	70	21.1	57	NE	4	1.8			10s		W	0	0	Cloudy	
Madison, Wisconsin	29.29	744.0	30.30	769.6	47	8.3	70	E	7	3.1		0	0			0	0	Clear	
Marquette, Michigan	29.62	752.3	30.34	770.6	50	10.0	65	N	6	2.7		0	0			0	0	Clear	
Mason, Texas	28.34	719.8	30.02	762.5	78	25.6	73	SE	4	1.8		Haze	0	Calm		0	0	Hazy	
Memphis, Tennessee	29.77	756.1	30.10	764.5	68	20.0	74	N	5	2.2		9k	0	NW		0	0	Cloudy	
Milwaukee, Wisconsin	29.55	750 6	30.29	769.4	48	8.9	70	N	12	5.4		0	0			0	0	Clear	
Mobile, Alabama	29.95	760.7	30.09	762.0	80	26.7	85	N	5	2.2		1c	0	Calm		0.05	1.3	Clear	
Montgomery, Alabama	29.78	756.4	30.00	762.0	79	26.1	65	NW	4	1.8		5ck	0	N		0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.14	740.1	30.13	765.3	56	13.3	75	N	7	3.1			10ks		Calm	0.16	4.1	Cloudy	
Mt. Washington, N. H.	23.56	598.4	29.92	760.0	29	— 1.7	100	NW	27	12.1			Fog		NW	0.88	22.4	Foggy	
Nashville, Tennessee	29.57	751.1	30.09	764.3	69	20.6	70	N	6	2.7		0	0			0	0	Clear	
New Haven, Connecticut	29.79	756.7	29.90	759.4	63	17.2	37	NW	10	4.5		0	0			0.05	1.3	Clear	
New London, Connecticut	29.84	757.9	29.89	759.2	64	17.8	65	NW	8	3.6		0	0			0.02	0.5	Clear	
New Orleans, Louisiana	29.95	760.7	30.00	762.0	83	28.3	79	W	5	2.2		0	0			0	0	Clear	
Newport, Rhode Island	29.81	757.2	29.86	758.4	61	16.1	66	W	7	3.1		0	0			0.07	1.8	Clear	
New York, New York	29.78	756.4	29.95	760.7	63	17.2	57	NW	8	3.6		0	0			0	0	Clear	
Norfolk, Virginia	29.93	760.2	29.98	761.5	72	22.2	50	NE	9	4.0		2k	0	NE		0.02	0.5	Fair	
North Platte, Nebraska	29.08	738.6	29.56	750.8	61	16.1	88	SE	20	8.9		2k	2ks	SE	SE	1.02	25.9	Clearing	
Olympia, Washington Ter.	30.17	766.3	30.21	767.3	41.0	5.0	91	SW	2	0.9		0	0			0	0	Clear	
Omaha, Nebraska	29.00	736.6	30.08	764.0	61	16.1	71	E	4	1.8		2ck	2s	SW	Calm	0	0	Fair	
Oswego, New York	29.69	754.1	30.01	762.2	49	9.4	71	NW	8	3.6		0	0			0	0	Clear	
Pembina, Dakota	29.29	744.0	30.10	764.5	58	14.4	88	SE	3	1.3		0	0			0	0	Clear	
Philadelphia, Pa.	29.92	760.0	29.97	761.2	62	16.7	61	NW	12	5.4		0	Haze		Calm	0.20	5.1	Clear	
Phœnix, Arizona	28.59	726.2	30.31	769.9	71	21.7	13	NW	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.87	453.9	30.08	764.0	31	— 0.6	48	SW	20	8.9		0	0			0.05	1.3	Clear	
Pioche, Nevada					38	3.3	45	N	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.30	744.2	30.11	764.8	52	11.1	73	NW	8	3.6		5k	0	N		0.09	2.3	Fair	
Port Huron, Michigan	29.51	749.5	30.18	766.6	50	10.0	72	N	13	5.8		0	0			0	0	Clear	
Portland, Maine	29.75	755.6	29.80	756.9	53	11.7	93	W	5	2.2		10k	0	W		1.18	30.0	Cloudy	
Portland, Oregon	30.17	766.3	30.25	768.3	45.0	7.2	88	E	1	0.4		0	5s		N	0	0	Fair	
Prescott, Arizona	24.62	625.3	29.98	761.5	59	15.0	23	SW	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.32	744.7	30.10	764.5	96	35.6	78	SE	1	0.4		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	85	29.4	76	SW	4	1.8		5k	0	SW		0	0	Fair	
Red Bluff, California	29.66	753.4	30.01	762.2	58	14.4	32	NW	13	5.8		0	0			0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	81	27.2	83	E	8	3.6		2c	0	Calm		0	0	Clear	
Rochester, New York	29.42	747.3	30.03	762.7	52	11.1	60	NW	14	6.3		0	0			0	0	Clear	
Rossburg, Oregon	29.67	753.6	30.25	768.3	43	6.1	92	Calm	0	0		2ck	0	Calm		0	0	Clear	
Sacramento, California	29.85	758.2	29.93	760.2	61	16.1	50	NW	12	5.4		0	0			0	0	Clear	
St. Louis, Missouri	29.62	752.3	30.20	767.1	55	12.8	45	NE	10	4.5		0	0			Inap.	Inap.	Clear	
St. Marks, Florida	30.00	762.0	30.02	762.5	80	26.7	87	NW	8	3.6		0	1s		Calm	0.25	6.3	Clear	
St. Paul, Minnesota	29.43	747.5	30.26	768.6	52	11.1	53	E	7	3.1		2c	0	NW		0	0	Clear	
Salt Lake City, Utah	25.51	647.9	29.84	757.9	51	10.6	46	Calm	0	0			10ks		W	0	0	Cloudy	
San Antonio, Texas	29.28	743.7	29.83	757.7	80	26.7	78	E	4	1.8		5c	0	E		0	0	Fair	
San Diego, California	29.86	758.4	29.93	760.2	52	11.1	86	SE	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.52	749.8	30.19	766.8	57	13.9	58	N	17	7.6		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.90	759.4	29.93	760.2	60	15.6	65	NW	19	8.5		0	0			0	0	Clear	
San Francisco, California	29.90	759.4	29.97	761.2	54	12.2	80	Calm	0	0		0	0			0	0	Clear	
Santa Fé, New Mexico	23.29	591.6	29.83	757.7	53	11.7	11	NE	3	1.3		0	0			0	0	Clear	
Savannah, Georgia	29.89	759.2	29.98	761.5	84	28.9	71	SW	6	2.7		2ck	0	SW		0.06	1.5	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	80	26.7	74	SW	1	0.4		Haze	0	Calm		0	0	Clear	
Silver City, New Mexico	24.28	616.7	30.40	772.1	51	10.6	39	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	29.91	759.7	29.95	760.7	77	25.0	91	NE	6	2.7		5cs	0	W		0.92	23.4	Fair	
Socom																			
Springfield, Ill																			
Springfield, Massachusetts	29.76	755.9	29.88	758.9	62	16.7	50	W	8	3.6		0	0			0.01	0.3	Clear	
Stockton, Texas	29.92	683.8	29.92	760.0	75	23.9	56	SE	12	5.4		5c	0	Calm		0	0	Fair	
Thatcher's Island, Mass.	29.78	756.4	29.83	757.7	56	13.3	94	W	9	4.0		0	0			0.19	4.8	Clear	
Toledo, Ohio	29.50	749.3	30.18	766.6	53	11.7	61	NE	8	3.6		0	0			0	0	Clear	
Tucson, Arizona	27.42	696.5	29.97	761.2	69	20.6	35	E	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.72	754.9	30.22	767.6	52.0	11.1	73	SW	12	5.4		0	0			0	0	Clear	
Uvalde, Texas	29.03	737.3	29.82	757.4	78	25.6	82	SE	1	0.4			10s		SE	0	0	Cloudy	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	78	25.6	69	E	4	1.8		0	0			0.36	9.1	Clear	
Virginia City, Montana	24.11	612.4	29.59	751.6	45	7.2	84	Calm	0	0			10n		Calm	0.44	11.2	Light rain	
Visalia, California	29.52	749.8	29.90	759.4	49	9.4	57	E	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.89	759.2	30.00	762.0	64	17.8	68	NW	10	4.5		0	0			0	0	Clear	
Wickenburg, Arizona					60	15.7	55	E			1	Haze	Haze			0	0	Hazy	
Wilmington, N. Carolina	29.85	758.2	29.92	760.0	77	25.0	69	N	8	3.6		5ck	0	Calm		0.05	1.3	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	39	3.9	82	S	12	5.4		0	4s		SW	0.26	6.6	Fair	
Wood's Holl, Mass.	29.81	757.2	29.85	758.2	57	13.9	75	NW	12	5.4		0	5ks		NW	0	0	Fair	
Yankton, Dakota	28.83	732.3	30.10	764.5	56	13.3	63	SE	8	3.6		10ck	0	SW		0	0	Cloudy	
Yuma, Arizona	29.61	752.1	29.77	756.1	67	19.4	46	SW	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.95	760.7	30.00	762.0	79	26.1	78	Calm	0	0		0	0			1.80	48.0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.24	641.1			64.5	18.1	85	Calm			0	3cs	1ks			0.25	6.3		Thomas Herran.
Navassa, W. I.	29.96	761.0	30.04	763.0	75	23.9	95	E								2.11	53.6	Rainy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	83	28.3	79	SE			3	3c	5k	SE		0.200	5.08	Fair	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—*The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo.* The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.6 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,806 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,861 (?) ft., or 2,088 (?) m.; Silver City, 6,806 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: *Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde,* 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; *La Mesilla, 4.15 in., or 105.4 mm.; Mt.* Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.96‡	761.0‡			81	27.2	83	WSW	2	0.9			2		NE	1.20	30.5			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.87‡	758.7‡			72	22.2	92	Calm			0		7s		W	0	0			Lightly cov.	
Adams, Punta Arenas, Costa Rica	29.90‡	759.4‡			78	25.6	95	Calm			0		5							Fair	
Alaska, N. 56° 43′, W. 136° 21′	29.87‡	758.7‡			47	8.3	85	SSE			6		10			0.025	0.64	Mod'ate	S;E	Drizzling	
Alliance, Havre, France	29.62‡	752.8‡			64	17.8	68	W			1		5		S					Pleasant	
Ashuelot, Cheefoo, China	29.78‡	756.4‡			67	19.4	89	E			1		10		S;E	0	0			Overcast	
Colorado, New York, N. Y	29.94‡	760.5‡			61	16.1	55	NW	14	6.3			0			0	0			Clear	
Constellation, Chesapeake Bay, N. 38° 57′. W. 76° 25′	30.03‡	762.7‡			65	18.3	63	NW			2		0							Clear	
Constitution, League Island, Penn	29.86‡	758.4‡			63	17.2	62	NNW			2		0							Clear	
Despatch, N. 31° 25′, W. 62° 10′	30.25‡	768.3‡			75	23.9	95	WSW			3		1		Calm	0	0	Long	SW	Clear	
Enterprise, Antwerp, Holland	29.62‡	752.3‡			60	15.6	88	Calm			0		10							Cloudy	
Franklin, Norfolk, Va	29.99‡	761.7‡			72	22.2	62	N	8.4	3.8			8		N	0	0			Fair	
Hartford, Montevideo, Uruguay	29.91‡	759.7‡			57	13.9	87	SE	3	1.3			10		SE	0.05	1.3			Foggy	
Kearsarge, Portsmouth, N. H	29.51‡	757.2‡			58	14.4	82	NW			2		2		NW					Clear	
Marion, N. 27° 08′, W. 85° 10′	29.95‡	760.7‡			86	30.0	87	S;E			0-1		2		SE			Smooth		Clear	
Michigan, Erie, Pa	30.03‡	762.7‡			55	12.8	80	NNW			2		0							Clear	
Monocacy, Shanghai, China	29.65‡	753.1‡			76	24.4	95	SSE			2		10							Rainy	
Monongahela, Yokohama, Japan	29.86‡	758.4‡			76	24.4	77	Calm			0		n			0	0			Overcast	
New Hampshire, Port Royal, S. C	29.96‡	761.0‡			79	26.1	91	SSW	25	11.2			2		SW	0	0			Clear	
Onward, Callao, Peru †	30.19‡	766.8‡			65	18.3	74	Calm			0		2					Long	W	Misty	
Palos, Shanghai, China	29.67‡	753.6‡			75	23.9	100	SSE			3		10		SE					Rainy	
Passaic, Washington, D. C					68	20.0	84	NW			3		0							Clear	
Pensacola, S. 15° 23′, W. 75° 24′	29.99‡	761.7‡			65	18.3	78	SE	12	5.4			2			0	0	Mod'ate	SE	Clear	
Portsmouth, N. 41° 10′, W. 72° 20′	29.87‡	758.7‡			60	15.6	76	NW			4		2		NW	0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va	29.96‡	761.5‡			70	21.1	70	N			2		5		NNW	0	0			Fair	
Quinnebaug, Dardanelles, Turkey	29.88‡	758.9‡			80	26.7	70	SSW			3		0							Clear	
Ranger, Amoy, China	29.80‡	756.9‡			82	27.8	91	SSE			2-3		8		Calm			Smooth		D. clouds	
Richmond, Cheefoo, China	29.74‡	755.4‡			69	20.6	85	SE			1-2		10		SE	0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			78	25.6	95	Calm			0		2		Calm	0	0			Fair	
Santee, Annapolis, Md	29.99‡	761.7‡			65	18.3	68	NW			3		0			0	0			Clear	
Saratoga, N. 24° 44′, W. 39° 34′	30.26‡	768.6‡			80	26.7	82	ENE			4		8		SW	0	0	Mod'ate	NE	D. clouds	
St. Louis, League Island, Pa	29.96‡	761.0‡			64	17.8	68	NNW	11	4.9			0			0.66	16.8			Clear	
Trenton, N. 35° 37′, W. 12° 50′	30.20‡	767.1‡			69	20.6	75	N			2		0			0	0	Smooth		Clear	
Tuscarora, Pichilinque, Lower Cal.	29.86‡	758.4‡			68	20.0	95	S			3		2		Calm	0	0	Smooth		D. clouds	
Vandalia, Norfolk, Va	29.98‡	761.5‡			72	22.2	95	NNE			3		5		NNE					Fair	
Wabash, Boston, Mass	29.81‡	757.2‡			59	15.0	65	NE	8	3.6			0			0.03	0.8			Clear	
Wyoming, Venice, Italy	29.72‡	754.9‡			76	24.4	60	SE			1-2		2		SE			Smooth		Clear	
Wachusett, Navy Yard, Pensacola, Fla.	30.00‡	762.0‡			83	28.3	79	SW			2		2					Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		29.98‡	761.5‡	55	12.8	62	SW			1		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 38° 27′, W. 126° 04′		30.39‡	771.9‡				N			5		0				Rough	N	Fine	R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 27′, W. 21° 15′		29.84‡	757.9‡	64.0	17.8	73	S			4		2		S	0	Long	NW	Fair	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 40° 21′, W. 52° 56′		29.77‡	756.1‡	70.0	21.1	95	WSW			5		10		WSW	0	Long	WSW	Drizzling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.89‡	759.2‡				SW			4		10		SW				Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		29.95‡	760.7‡	65	18.3	89	WNW			5		2		W	0			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 40° 55′, W. 58° 12′		29.68‡	753.9‡				WSW	15	6.7			5		WSW		Heavy	SW	Cloudy?	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss		30.00‡	762.0‡	83	28.3	83	NW	4	1.8			0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 28° 20′, W. 64° 23′ †.		30.22‡	767.6‡				S			3		0			0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred, N. 26° 34′, W. 67° 56′		29.96‡	761.0‡				SSE	6	2.7			2		SE	0	Smooth	SE	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 46° 40′, W. 21° 32′ †.		29.80‡	756.9‡	62.5	16.9	86	WSW			3		10		SW		Mod'ate	WNW	Hazy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 57 †.		29.57‡	751.1‡				NNE			1						Hard	SE	Cloudy	L. Dunbar.
Schooner Henry Whitney, St. Simon's I'd, Ga., N. 31°08′ W. 81°23′		29.93‡	760.2‡	81	27.2		WSW			3				W				Cloudy	Capt. Wm. Shepherd.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 18, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.00	762.0	79.7	26.5	60	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			29.97	761.3	74.5	23.6	72	N			2		0			0	0	Clear	Tourilière.
La Calle			30.02	762.6	79.5	26.4	76	NNE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.7															Gau.
Saida			30.14	765.6	86.4	30.2	20	N			2		0			0	0	Clear	Herbin.
Tebessa			29.97	761.1	91.0	32.8	25	N			1		2			0	0	Fair	Watrin.
Geriville			30.09	764.2	84.2	29.0	71	NW			2		5			0	0	Cloudy	Brugnlaux.
Laghouat			29.94	760.4	101.8	38.8	23	S			3		0			0	0	Clear	Bertrand.
Biskra			29.93	760.2	100.0	37.8	26	NW			1		2			0	0	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Agram	29.28	743.6	29.80	756.9	76.5	24.7	55	SE			2		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.04	737.6	29.78	756.3	73.0	22.8	54	N			1		5			0.012	0.3		Dr. Wierzbiski.
Eperies	28.93	734.8	29.78	756.4	66.9	19.4	90	Calm			0		10ks			0.236	6.00		Julius Mikolik.
Gratz	28.61	726.7	29.81	757.1	72.2	22.2	59	WSW			3		4			0.039	1.0		Andreas Rospini.
Hermannstadt	28.39	721.1	29.76	755.9	71.4	21.9	79	SSE			2		10			0.053	1.35	Raining	Prof. A. Gottschling.
Kremsmünster	28.50	724.0	29.80	757.0	65.5	18.6		NNW			2		8			0.031	0.8		Prof. C. Wagner.
Lemberg	28.81	731.7	29.75	755.7	69.8	21.0	90	NW			2		10			0.051	1.3		Dr. T. Stanecki.
Pola	29.72	755.0	29.84	757.8	75.9	24.4	55	SW			1		0			0	0		I.R.HydrographicOffice.
Szathmar	29.35	745.5	29.79	756.7	75.2	24.0	64	N			3		5			0.272	6.9		Julius Csics, S. J.
Szegedin	29.49	749.0	29.76	755.8	75.2	24.0	62	S			2		6			0.083	2.10		Karl Stancel.
Trieste	29.74	755.5	29.85	758.1	75.2	24.0	66	W			1		2			0.552	13.5	Rainy	P. Busin.
Vienna	29.12	739.7	29.82	757.4	73.6	23.1	42	W			2		1			0	0		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.66	753.4	29.76	755.9	52.0	11.1		N	9	4.0			9			0	0	Overcast	W. Boswell.
Ardrossan	29.74	755.4	29.76	755.9	57	13.9		SSW			3		3					Blue sky	Wm McNeil &G.Carrick
Armagh, Observatory			29.80	756.9	62.6	17.0		SW	7	3.1			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.82	757.4	56.2	13.4		W	22	9.8			1					Blue sky	John Hartnup.
Bolton (Sharples)			29.80	756.9	56.3	13.5		WNW	12	5.4			6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.41	747.0	29.80	756.9	61.0	16.1		W			4		2			0.02	0.5	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.97	761.2	30.00	762.0	82	27.8		NE			4		6					Gloomy	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.69	754.1	29.79	756.7	58.0	14.4		NW			1		10					Overcast	H. Todd.
Cardington			29.79	756.7	64.4	18.0		W			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.68	753.9	29.81	757.2	61.7	16.5		N			1		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.77	756.1	29.82	757.4	57	13.9		S			3		5					D. clouds	J. Mac Gowan.
Dover	29.78	756.4	29.80	756.9	63	17.2		WNW			3		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.71	754.6	29.94	760.5	59.4	15.2		WSW			1		9					Gloomy	The Staff.
Fort Napier (Natal)	27.66	702.6	29.94	760.5	66.0	18.9		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	83	28.3		E			1		3					D. clouds	
Galway, Queen's College			29.73	755.1	64	17.8		S			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.90	759.4	29.95	760.7	73.6	23.1		W			4		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.54	750.3	29.75	755.6	62.3	17.8		SSW			2		0					Blue sky	D. G. Maclean.
Great Yarmouth	29.74	755.4	29.75	755.6	59	15.0		NW			2		6					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.65	753.1	29.81	757.2	65.5	18.6		WNW			2		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.71	754.6	29.92	760.0	61	16.1		WNW			3		3					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	30.00	762.0	30.12	765.0	64	17.8		SW			2	3c				0	0	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.87	758.7	59	15.0		SSW			3		5					D. clouds	John Tilston.
Jersey	29.69	754.1	29.98	761.5	58.2	14.6		W			4		4			Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	29.79	756.7	29.83	757.7	63.1	17.3		WNW	14	6.3			9					Misty	The Met'g'l Office.
Leicester, Museum	29.56	750.8	29.81	757.2	61.3	16.3		W			4		10					Overcast	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.80	756.9	29.88	758.9	85.0	29.4		NW			1		0					Blue sky	A. King.
Nairn	29.62	752.3	29.71	754.6	61	16.1		Calm			0		0					Clear	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	79.5	26.4		SE			1		10					Gloomy	C. S. Duncombe.
Nottingham, Observatory	29.61	752.1	29.79	756.7	67.9	19.9		WNW			4		3k		WNW	0.092	2.34	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.30	744.2	29.82	757.4	59.2	15.1		W			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.84	757.9	64	17.8		W			2		7					D. clouds	H. E. Bellamy.
Plymouth	29.82	757.4	29.89	759.2	66.1	18.9		W			2		5					D. clouds	John Merrifield.
Prince Town	28.42	721.9	29.87	758.7	57.9	14.4		NW			1		7					Fine	W. H. Tooker.
*Roche's Point	29.78	756.4	29.90	759.4	63	17.2		SW			3		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.72	754.9	29.88	758.9	58	14.4		NW			1		3					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.76	755.9	52.2	11.2		W	11	4.9			6					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.73	755.1	29.80	756.9	81.4	27.4		SW			1		1			0	0	Blue sky	Serg't W. H.Lyne.
Sheffield	29.51	749.5	29.79	756.7	63.7	17.6		WNW			4		1			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	29.76	755.9	29.79	756.7	62.7	17.1	64	W			3		0			0	0	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.43	747.5	29.83	757.7	57.0	13.9		SW			2		6					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.62	752.3	29.83	757.7	62.7	17.1		W			2		5					D. clouds	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.91	759.7	29.92	760.0	67	19.4		W			4		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.77	756.1	29.79	756.7	60.2	15.7		S	20	8.9			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.85	758.2	29.89	759.2	62.2	16.8	63	NNW	9	4.0		9	9			0	0	Dull	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.21	767.3	42.0	5.6	77	NW			1		6k			0.16	4.1	Starlight	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.77	756.1	63.0	17.2		W			2		9k			0	0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.94	760.5	30.13	765.2	73.4	23.0	66	ESE	12.5	5.6		0	4		ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.31	769.9	30.40	772.1	50.6	10.3	63	SE	8	3.6			10			0	0	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.73	755.1	58	14.4		SW			3	5	3	S		0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.68	753.9	52	11.1		NW			2	10	6	Calm		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			Blue sky	Capt.W.J.L.Wharton.
Barque Fedalma, N 42° 55′. W. 48° 55′	3	W	Drizzling	Capt. H. L. Fox.
S. S. Iron Cross, N. 51° 15′, W. 14° 15′	4	WSW	Misty	Capt. W. Randall.
Astarte, N. 7° 30′, W. 23° 55′ *			D. clouds	Capt. Parson.
British Peer, N. 25° 00′, W. 40° 36′			D. clouds	Capt. Greig.
Theophane, S. 24° 55′, E. 51° 05′			Overcast	Capt. Raymond.
Agnes Wilson				Capt. H. W. Dyke
S. S. Amanda				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
Barque Commewyne				Capt. A. Buchan.
S. S. Royal Alexandra				W. P. Hughes.
S. S. Algeria				Capt. Wm. Watson.
Brig Alliance.§				Capt. W. Scott.
S. S. Nizam				Capt. Barlow.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12, the distinction between upper and lower clouds is made as to direction but not as to amount, the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.23	666.2	29.95	760.7	68.4	20.2	92	SE			1	7cs	1d			0.6	15.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.54	750.2	29.58	751.4	61.2	16.2	68	S			6		7						
Fanöe	29.43	747.4	29.45	747.9	54.7	12.6	97	W			4		10					Raining	
Godthaab (Greenland)	29.72	754.9	29.76	756.0	38.1	3.4	90	WSW			2		10					Raining	
Stykkisholm (Iceland)	29.60	751.7	29.64	752.8	44.2	6.8	77	NE			9		8						
Thorshavn (Faröe)	29.63	752.7	29.67	753.6	54.7	12.6	67	SW			2		4						
Vestervig	29.17	741.0	29.34	745.3	60.8	16.0	85	NE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.43	747.6	29.98	761.6	63.0	17.2	78	WSW			3		8	W	NW	0.12	3.	Very cloudy	Collignon Director.
Amiens, Normal School	29.74	755.3	29.84	758.0	64.4	18	71	WNW			1		10			0.189	4.8	Covered	Gouvallet Director.
Arras, Engin'r School	29.60	751.7	29.85	758.1	56.8	13.8	84	W			4		10		W	0.559	14.2	Covered	Klein, Commandant.
Avignon, Normal School	29.89	759.2	29.97	761.2	76.1	24.5	53	N			1		5		NW	0	0	Cloudy	Giraud, Dir.
Bar-sur-Seine	29.37	746.0	29.92	759.9	63.5	17.5	60	W			2		10kn		WSW	0.331	8.4	Covered	G. Saillard, Director.
Beauvais, Normal School	29.60	751.9	29.86	758.5	62.2	16.8	72	W			2		8		W	0.43	11.	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.14	740.1	30.01	762.3	63.5	17.5	64	S			2				NE	0	0		A. Carré, Director.
Bourg-en-Bresse, N. School	29.18	741.1	30.11	764.8	64.4	18	63	SW			1		cn	SW	SW	0.08	2.		Marlot, Director.
Bourges, Normal School	29.42	747.2	29.96	761.0	61.7	16.5	76	W			2		10	W	W	0.12	3.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.70	754.4	29.95	760.6	65.8	18.8	67	W			1		8		W	0.020	0.50		Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.65	753.0	30.05	763.2	69.6	20.9	65	WNW			2		10	WNW	WNW	0.08	2.	Covered	September, Dir.
Caen, Normal School	29.86	758.4	29.93	760.2	64.8	18.2	63	WNW			3		2		NW	0.071	1.8	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.28	743.8	29.84	757.8	64.4	18	80	W			2		4		S	0.28	7.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.57	751.0	29.88	758.9	62.6	17.0	67	SW			1		8	W	W	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.66	728.0	29.99	761.7	64.6	18.1	53	W			2		8		W	0.016	0.4		Allnard, Director.
Commercy, Normal School	29.03	737.3	29.87	758.8	57.0	13.9	89	W			1		8n		W	0.51	13.	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.5	30.02	762.5	72.0	22.2	44	NW			2		5		W	0	0		L. Kina, Director.
Grenoble, Normal School	29.24	742.8	29.99	761.7	69.1	20.6	58	NW			4		2k	NE		0	0	Slightly cl'dy	Ablard, Director.
La Roche-sur-Yon, N. School	29.84	757.9	30.06	763.4	64.4	18.0	63	W			1		8		WSW	0.012	0.3	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.69	754.1	29.99	761.7	62.6	17	61	NW			3		8	NW	NW	0.130	3.3	Very cloudy	Courrier, Director.
Lons-Le-Saulnier, N.School	29.11	739.3	30.02	762.4	62.6	17	67	W			2		10n	W	W	0	0	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.93	760.1	30.02	762.6	65.1	18.4	60	WSW			1				W	0.016	0.4		Lt. T. Carré, Director.
Mâcon, Normal School																			Halzin Director.
Marseilles, Observatory	29.67	753.7	29.94	760.5	71.1	21.7	59	WSW			2		6			Inap.	Inap.	Partly clo'dy	E. Stephan, Director
Mirecourt, Normal School	28.89	733.7	29.91	759.8	61.2	16.2	85	NE			1		2		NE	0.35	9.	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.76	755.9	29.95	760.8	78.8	26	30	NW			3		5		NW	0	0	Cloudy	M. Boyer, Director.
Privas, Normal School	28.98	736.2	30.02	762.5	69.8	21	67	NE			1		cn	NE	NE	0	0		Cautier, Director.
Puy de Dome (Summit) Obs	25.17	639.2			41.0	5.0	97	WSW			8		10		WSW	0.169	4.3	Covered	Allnard, Director.
Rochefort, Naval Obs'y	30.03	762.7	30.07	763.5	66.2	19.0	64	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.82	757.4	29.91	759.6	62.2	16.8	73	W			1		8		W	0.331	8.4	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.95	760.7	29.98	761.4	63.8	17.4	72	WNW			3		5	WNW	WNW	0.017	0.43	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.74	755.5	29.91	759.7	63.3	17.4	73	W			3				W	0.059	1.5		E. Renou, Director.
Tarbes, Normal School	29.01	736.8	30.05	763.2	73.4	23	60	W			2		10			0	0	Covered	F. Huguet, Director.
Toulouse, Observatory	29.40	746.8	30.13	765.3	65.5	18.6	85	SSW			1		9			0	0	Almost cov'd	M. Julier Mercadier.
Versailles, Observatory	29.42	747.3	29.91	759.8	59.7	15.4	81	NW			4		9			0.277	7.02	Very cloudy	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.5	30.01	762.2	68.9	20.5	64	NW			1		8		SE	0.016	4.		Nicot, Director.
SUB SERIES.																			
Fort de France, Martinique	29.86	758.5	29.89	759.2	82.4	28										0	0		L'Abbé Marie Gal.
Lyons Obs'y (Park Station)	29.39	746.6	29.98	761.4	69.4	20.8	49	WSW			1		5		WSW	0.098	2.5	Cloudy	Ch. André, Director.
Mont-Louis	24.90	632.5	30.22	767.5	62.6	17.0	49	S	23.0	10.3			4		NW	0	0		M. Cave.
Nice			29.85	758.3	74.8	23.8	56	E			8		2			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.62	752.3			59.4	15.2	85	WNW			4		9		WNW	0.154	3.9	Raining	Marie Davy, Director.
Perpiguan	29.93	760.1	30.03	762.8	72.0	22.2	53	N	13.0	5.8			7		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.60	574.1			46.8	8.2		W			1		7			0.890	22.6	Threatening	Gen'l de Nansouty.
Tours	29.79	756.7	29.99	761.7	65.8	18.8	51	WNW			3		8		NW	0.059	1.5		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.72	754.8	29.74	755.4	73.4	23.0	93	S	6.5	2.9			10			0.823	20.9	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published. At Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 305 m., or 1,010 ft., Mont-Louis, 1,586.40 m., or 5,204.5 ft., Pic du Midi, (Summit) 2,877 m., or 9,438 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.96	735.6	29.80	756.8	63.3	17.4	70	SW			6		6	SW		0.256	6.5	Raining	Prof. Dr. Hoh.
Berlin	29.54	750.2	29.70	754.4	65.8	18.8		S			2		8			0.130	3.3		Prof. Dr. Arndt.
Breslau	29.29	743.9	29.82	757.3	74.1	23.4	42	S			3		4			Blank	Blank		Royal University Obs'ry.
Carlsruhe	29.40	746.8	29.82	757.4	59.9	15.5	82	SW			4		10	SW		1.425	36.2	Thunder-storm.	Albert Senz.
Cassel	29.13	739.9	29.73	755.2	67.3	19.6	66	SSW			4		7	SW		0.137	3.48		Dr. H. Möhl.
Crefeld	29.51	749.6	29.67	753.7	61.7	16.5	79	NW			2		10			0.35	9.	Raining	Director Lose.
Emden			29.56	750.8	59.2	15.1	85	W			2		10			0.461	11.7		Prof. Dr. Prestel.
Frankfort on the Main	29.38	746.2	29.74	755.3	59.9	15.5		SW			2		8			0.406	10.3		Physical Society.
Freienwalde on the Oder	29.81	757.1	29.85	758.1	72.5	22.5	60	WNW			4		5kc	W		0.457	11.6	Raining	Dr. Assmann.
Friedrichshafen	28.51	724.1	29.93	760.2	58.3	14.6	79	SW			5		8	SW		0.043	1.1		M. Wilhelm.
Hamburg	29.55	750.5	29.62	752.3	58.5	14.7	82	S			4		10n			3.366	86.5	Raining	Captain F. Hegemann.
Kiel	29.55	750.5	29.56	750.9	57.6	14.2	89	SW			3		10			1.813	46.04		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.69	754.0	29.76	756.0	68.5	20.3	65	SW			4		6			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.30	744.3	29.71	754.7	63.3	17.4	79	SSW			4		9	SW		0.418	10.5	Raining	Prof. Bruhns, Privy Counselor.
Memel	29.73	755.1	29.78	756.3	67.6	19.8	68	W			4		2cs						Skalweit.
Munich (München)	28.09	713.4	29.94	760.5	61.5	16.4	86	SW			7		10	SW		0.004	0.1		Dr. C. Larg.
Neufahrwasser	29.74	755.5	29.76	755.9	74.5	23.6	42	SSW			2		10			0.008	0.2		A. Lothes.
Posen	29.50	749.3	29.78	756.3	73.9	23.3	47	SSW			5		9			0.020	0.5		Dr. Magener.
Strassburg (in Alsace)	29.36	745.6	29.90	759.4	59.4	15.2	78	W			5		10			0.098	2.49	Raining	Imp. University Observatory.
Stuttgart	28.89	733.7	29.80	757.0	63.5	17.5	59	W			4		9	W		0.016	0.4		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.85	720.0	29.83	757.6	58.6	14.8	73	W	18	8			9ck		W	0.157	4.0		T. Hopfner.
Wustrow	29.61	752.0	29.63	752.6	61.7	16.5	77	S			5		9k			0.140	3.7		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,735.0 ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.1	29.83	757.6	86.4	30.2		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.51	749.6	29.56	750.9	87.3	30.7	71	WSW					1			0	0	D. clouds	
Deesa	29.09	738.9	29.55	750.4	98.8	37.1	31	SSW	13.7	6.1			2	SSW		0	0	D. clouds	
Bombay	29.62	752.3	29.66	753.3	80.5	27.1	86	W	15.0	6.7			10		SW	1.00	25.4	Raining	
Poona	27.80	706.2	29.64	752.9	80.1	26.7	67						6			0	0	D. clouds	
Lahore	28.80	731.6	29.52	749.9	92.1	33.4	56	Calm	2.5	1.1			4			0.27	6.9	Showery	
Belgaum	27.21	691.2	29.76	756.0	71.7	22.1	86	W	12.0	5.4			10	W	W	0.03	0.8	Showery	
Roorkee	28.63	727.3	29.50	749.3	91.6	33.1	52	SW	2.7	1.2			2			0.18	4.6	D. clouds	
Agra	28.93	734.9	29.47	748.5	102.6	39.2	32	SE					6		SE	0	0		
Nagpur	28.61	724.1	29.53	750.1	84.7	29.3	73	NW	3.9	1.7			9		E	0.44	11.2	Gloomy	
Lucknow	29.14	740.1	29.50	749.2	100.0	37.8	47	ENE	4.4	2.0						0	0	Blue sky	
Allahabad	29.19	741.5	29.49	749.1	99.3	37.4	38	ENE	5.3	2.4			3			0	0	D. clouds	
Patna	29.36	745.7	29.54	750.2	87.6	30.9	64	ENE	0.9	0.4			6	ENE	ENE	0	0	D. clouds	
Hazaribagh	27.57	700.2	29.56	750.7	79.6	26.4	79	SSW	8.4	3.8			10			0.49	12.4	Thunder-storm.	
Cuttack	29.52	749.7	29.60	751.8	83.4	28.6	82	S	1.0	0.4			6			0.96	24.4	Raining	
Calcutta (Alipore)	29.57	751.1	29.59	751.7	83.2	28.4	79	S	4.0	1.8			10	S		0	0	Overcast	
Goalpara	29.22	742.2	29.60	751.9	82.2	27.9	78	SSW	4.0	1.8			9			0	0	D. clouds	
Chittagong	29.59	751.6	29.68	753.9	80.2	26.8	93	Calm	2.6	1.2			5			0	0	Misty	
Sibsagar	29.28	743.6	29.61	752.1	83.6	28.7	85	WNW	2.6	1.2			5			0.50	12.7	D. clouds	
Jubbulpore	28.13	714.6	29.44	747.9	95.2	35.1	42	Calm	4.4	2.0			10		W	0.03	0.8	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,552.2 ft., or 564.5 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,370 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Udine	29.44	747.8	29.84	757.9	69.6	20.9	66	NW	9.8	4.4			10	W		0.118	3.0		Prof. Giovanni Clodig.
Milan	29.30	744.3	29.80	756.9	79.9	26.6	38	W			4		5	WSW		0.024	0.6		Prof. Schiaparelli.
Padua	29.73	755.1	29.84	757.8	69.6	20.9	64	NW	6.3	2.8			10	W		0.031	0.8		Prof. Dott. Lorenzoni.
Moncalieri	28.91	734.4	29.79	756.6	75.2	24.0	38	S	1.3	0.6			3			0	0		Prof. P. F. Denza.
Genoa	29.71	754.6	29.89	759.3	69.8	21.0	70	SE	13.0	5.8			4	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	27.95	709.9	29.80	756.9	73.8	23.2	32	N			4		0			0	0		Prof. D. C. Bruno.
Pesaro	29.79	756.7	29.84	757.9	73.6	23.1	49	NE	10.5	4.7			4	SW		0	0		Prof. Luigi Guidi.
Florence	29.69	754.0	29.93	760.3	74.3	23.5	44	W			6		6			0	0		Cav. F. Meucci.
Leghorn	29.84	757.9	29.92	760.0	72.0	22.2	63	WSW			8		3			0	0		Prof. P. Monte.
Rome	29.76	755.8	29.93	760.1	78.6	25.9	52	W	7.4	3.3			1			0	0		Prof. P. S. Ferrari.
Lecce	29.61	752.0	29.85	758.2	84.6	29.2	36	NNE	4.9	2.2			3			0	0		Prof. C. De Giorgi.
Cosenza	29.03	737.3	29.87	758.8	84.2	29.0	65	NW	3.1	1.4			3			0	0		Prof. D. Conti.
Cagliari	29.77	756.1	29.96	760.9	80.6	27.0	28	NW			4		3	W		0	0		Prof. A. Pacinotti.
Palermo	29.72	754.8	29.97	761.1	72.9	22.7	57	ENE	5.6	2.5			1			0	0		Prof. G. Cacciatore.
Syracuse	29.81	757.2	29.88	759.0	76.1	24.5	66	SE	1.3	0.6			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.1	29.97	761.2	75.2	24.0	55	SE	6.9	3.1			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.80	756.9	29.81	757.2	72.7	22.6	93	Calm	0	0			10s			1.357	34.47	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.63	752.6	29.82	757.4	77.5	25.3	84	SW	22.1	9.9			8s			1.520	38.61	Cloudy.	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.89	759.2	29.96	761.0	71.0	21.7	95	SE	7.3	3.3			10n			0.030	0.76	Rainy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	26.06	636.5	30.04	763.1	59.9	15.5	63	WSW			1	0	5		S	0	0	¾ clouded	Prof. L. Perez.
Leon	24.43	620.5	30.03	762.7	65.7	18.7	90	S			1	4c	6n	NE	SW	0.30	7.7	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.7	30.00	761.9	58.1	14.5	85	Calm	0	0			10p;k			0.03	0.7	Covered	The Staff.
Pabellon (Aguascalientes)					64.4	18.0	81	NE			1	2c	5k	SW	SW	0	0	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.84	757.9	29.85	758.2	80.2	26.8	86	SW			2	4	4	W	SW	0.08	2.1	Cloudy	Prof. M. M. Chàzaro.
San Luis Potosi	24.20	614.6	30.08	764.0	64.0	17.8	58	ENE			1		10		W	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.0	30.05	763.2	59.7	15.4	85	Calm			0	2cs	0			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	59.5	15.3	88	Calm	0	0			10		E	0.26	6.7	Covered	Prof. P. Spina.
Colima	28.37	720.7	30.00	762.1	78.1	25.6	73	NNE			1	0	8		NW	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.69	754.0	29.97	761.3	75.9	24.4	83	WNW			1	6	3	NW	Calm	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.77	756.2	29.77	756.2	60.3	15.7		WNW								0.098	2.5		
Groningen					58.3	14.6		W			1					0.169	4.3		
Helder	29.64	752.9	29.64	752.9	55.0	12.8		W			4					0.055	1.4		
Hellevoetsluis	29.70	754.4	29.70	754.4	58.3	14.6	77	WNW			4					0	0		
Utrecht	29.68	753.8	29.72	755.0	61.3	16.3	77	WNW			4		8			0.004	0.1	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.48	748.8	29.54	750.2	61.5	16.4	77	Calm	0	0			1			0	0		
Brönö	29.58	751.3	29.62	752.3	50.7	10.4	76	N	4	2			8			0	0		
Christiania	29.33	744.9	29.46	748.3	82.2	27.9	37	E	7	3			6			0.028	0.7		
Tromsö	29.64	752.8	29.68	753.9	45.7	7.6	59	NE	20	9			10			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	29.72	754.8	29.91	759.6	69.3	20.7	92	WSW	9.8	4.4			8			0.079	2.0		Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.04	763.0	77.0	25.0	42	WNW	3.1	1.4			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.09	764.3	30.18	766.5	69.4	20.8	77	SE	9.8	4.4			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.7	30.11	764.7	69.4	20.8	59	N	12.5	5.6			1			0	0		The Staff.
Ponta Delgada (Azores)	29.96	760 9	30.03	762.7	68.7	20.4	85	SW	26.2	11.7			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Direction from—		
Bartholomew Dias																		A. G. da Silva Costa. Com'd't.
D. Fernando																		A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 21′, E. 1° 28′			30.05	763.2	69.1	26.7		SSW			3		3		SSW	3	SW	D. clouds.	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			29.93	760.2	63.5	17.5		WSW			4		1		SE	1	WSW	D. clouds.	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands			30.02	762.4	78.8	26.0		NE			2		2		NE	1	NE	D. clouds.	P. de Vair[illegible]
Sá da Bandeira																			F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.84	758.0	84.2	29.0		S			2		4		S	1	S	D. clouds.	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	747.1	29.82	757.5	66.6	19.2	74	Calm	0	0			10ks					Lt. Solar Corona	Astronomical Obs.
Wilna	29.40	746.8	29.80	756.8	80.8	27.1	31	SE	2	1			1					Light clouds	Astronomical Obs.
Dorpat	29.61	752.0	29.84	757.8	77.2	25.1	56	SE	9	4			5k						Prof. Dr. Weihrauch.
St. Petersburg	29.86	758.5	29.88	758.9	76.5	24.7	52	SSW	4	2			8k						Central Physical Obs.
Kieff	29.19	741.5	29.79	756.7	79.0	26.1	36	ESE	7	3		1c						Light clouds	Physical Cabinet.
Nikolaiev	29.76	755.8	29.83	757.6	82.6	27.8	45	ENE	4	2			0						Kurdakof.
Kertch																			Lagorio.
Moscow	29.40	746.7	29.93	760.1	67.1	19.5	64	S	7	3			7ks						Meteorological Obs.
Lugan	29.55	750.5	29.74	755.5	80.8	27.1	26	E	9	4			3						Meteorological Obs.
Archangel	29.90	759.5	29.92	760.0	62.8	17.1	51	ESE	4	2			10						Capt. Sseliwerstow.
Tiflis	28.36	720.4	29.73	755.2	68.9	20.5	66	NW	22	10			10n					Thunder-storm.	Physical Observatory.
Astrakhan	29.85	758.2	29.77	756.1	69.6	20.9	58	ENE	4	2			10s			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.35	745.4	29.80	756.8	68.0	20.0	41	NW	0	0			4ks						Cand. Fatjanow.
Kasan	29.54	750.2	29.80	756.8	65.5	18.6	33	NW	4	2			0						Physical Cabinet.
Ekaterinburg	28.61	726.7	29.56	750.7	47.5	8.6	64	NW	27	12			10						Meteorological Obs.
Nukuss	29.47	748.5	29.69	754.1	86.5	30.3	29	NNE	11	5			1ks						
Tashkend	28.23	717.0	29.69	754.0	87.8	31.0	35	Calm	0	0			0						Teich, A. M.
Barnaul	29.13	740.0	29.61	752.0	71.8	22.1	55	NE	0	0			2					Light clouds	Meteorological Obs.
Yeniseisk	29.42	747.3	29.70	754.4	70.3	21.3	60	WNW	4	2			6						Marks.
Irkutsk																			
Peking (China)	29.57	751.1	29.71	754.7	62.2	16.8	92	NW	4	2			10n					Raining	Physical Observato ry.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.79	756.6	29.89	759.1	56.1	13.4	91	Calm	0	0			8k						
Nikolaievsk, on the Amoor.																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.93	760.3	30.04	762.9	70.2	21.2	63	E	5.2	2.31			1			0	0		Antonio Rave, Director
Bilbao, Met. Obs'y	29.88	759.0	29.94	760.4	70.9	21.6	71	NW	1.2	0.56			10			0.177	4.5	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.12	688.9			72.5	22.5	37	SW	6.5	2.90			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.82	706.6	29.92	760.0	84.6	29.2	35	SW	8.2	3.67			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.81	757.1	29.95	760.7	92.3	33.5	34	SE	3.6	1.61			2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.4	30.04	762.9	64.6	18.1	76	SW	9.4	4.2			8			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	79.1	26.2	84	Calm	0	0		1c	0			1.272	32.3	Clear	Benito Vinos, S. J.
Manilla, Philippine Islands.	29.76	756.1	29.82	757.4	83.3	28.5	78	E	2.7	1.2			8s		W	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.3	30.03	762.8	72.3	22.7	69	WNW	16.7	7.4		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.97	761.3	30.07	763.6	84.6	29.2	75	E	13.2	5.91		10kn	8k	E	E	0	0	Overcast	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.72	755.0	29.76	756.0	51.8	11.0	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.67	753.5	29.72	754.8	63.7	17.6	58	S	.....	.....	6	.....	5	.....	.....	0	0	.....	
Hernosand	29.61	752.2	29.67	753.5	61.5	16.4	79	SSW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.48	748.9	29.66	753.4	74.1	23.4	56	SSE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	29.61	752.2	29.67	753.7	66.6	19.2	66	SW	.....	.....	7	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.55	750.5	29.62	752.4	80.2	26.8	55	S	15.4	6.9	.....	.....	4	.....	SSE	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.34	719.9	29.95	760.8	62.6	17.0	64	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	758.0	82.2	27.9	39	NNE	7	3.0	.....	.....	2	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	104.0	40.0	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.5	84.0	28.9	.....	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.64	752.8	29.75	755.6	86.5	30.3	56	WSW	.....	.....	3	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

athurst, N. B	29.84	757.9	30.14	765.5	57	13.9	.....	NW	1	0.4	.....	0	2s	.....	W	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.90	759.4	29.96	761.0	46	7.8	94	NE	14	6.3	.....	.....	10n	.....	NE	0.58	14.7	Light rain	W. R. Bigg.
Chatham, N. B	29.79	756.7	29.84	757.9	48	8.9	92	NE	9	4.0	.....	.....	10n	.....	NE	0.370	9.40	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.92	760.0	30.11	764.8	56.0	13.3	82	NE	.....	.....	1	.....	10s	.....	.....	0.160	4.06	Cloudy	H J. Cundall, C. E.
Cornwall, Ontario	29.87	758.7	30.03	762.7	46	7.8	92	E	.....	.....	2	.....	10n	.....	.....	0.96	24.4	Light rain	James Smith, M. A.
Dalhousie, N. B																			H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	30.07	763.8	30.09	764.3	46	7.8	96	NE	15	6.7	.....	.....	10s	.....	Calm	0.43	10.9	Cloudy	J. McWilliams.
Fredericton, N. B	29.88	758.9	29.95	760.7	47.4	8.6	85	NE	6	2.7	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	Prof. Harrison.
*Fort Garry, Manitoba	29.37	746.0	30.18	766.6	62	16.7	83	S	11	4.9	.....	0	Haze	.....	S	0	0	Hazy	James Stewart.
Granton, Ontario	29.18	741.1	30.26	768.6	53	11.7	93	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.71	754.6	29.82	757.4	50	10.0	93	S	1	0.4	.....	.....	10n	.....	S	0.133	3.38	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.82	757.4	30.20	767.1	55.9	13.3	81	NW	.....	.....	1	10ck	0	NW	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.82	757.4	30.15	765.8	55	12.8	85	NE	5	2.2	.....	10ck	0	W	.....	0.42	10.7	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29 77	756.1	29.81	757.2	44.2	6.8	96	E	14	6.3	.....	.....	10n	.....	.....	0.27	6.9	Raining	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.92	760.0	30.12	765.0	53	11.7	78	NE	5	2.2	.....	.....	10ks	.....	E	0.11	2.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.56	750.8	30.25	768.3	56	13.3	78	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.19	766.8	59.7	15.4	71	W	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.56	750.8	30.25	768.3	55	12.8	81	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.76	755.9	29.81	757.2	45.6	7.6	.....	SE	3	1.3	.....	.....	.....	.....	.....	1.20	30.5	Raining	Peter Grant.
Port Stanley, Ontario	29.62	752.3	30.26	768.6	54	12.2	87	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.78	756.4	30.10	764.5	51	10.6	72	NE	.....	.....	1	0	5s	.....	NE	0.36	9.1	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.73	755.1	30.19	766.8	56	13.3	78	W	2	0.9	.....	0	5ks	.....	NW	0.12	3.0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.83	757.7	29.88	758.9	48	8.9	82	N	.....	.....	3	5k	5ks	E	N	0.36	9.1	Cloudy	Dr. Gove.
St. John, N. B	29.71	754.6	29.87	758.7	48	8.9	85	E	13	5.8	.....	0	8ks	.....	.....	0	0	Clearing	G. Murdock, C. E.
*Saugeen, Ontario	29.56	750.8	30.27	768.8	57	13.9	77	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.46	748.3	30.24	768.1	55	12.8	74	NW	10	4.5	.....	8k	0	NW	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.98	736.1	30.27	768.8	50.4	10.2	85	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.78	756.4	29.82	757.4	45	7.2	100	NE	5	2.2	.....	.....	10n	.....	NE	0.30	7.6	Light rain	T. C. Hill.
*Toronto, Ontario	29.87	758.7	30.25	768.3	56	13.3	69	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.69	754.1	29.79	756.7	48.0	8.9	96	NE	6	2.7	.....	.....	10n	.....	.....	0.21	5.3	Raining	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.71	754.6	29.96	761.0	45.0	7.2	76	NE	.....	.....	.....	.....	10s	.....	.....	0.03	0.8	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.90	759.4	30.13	765.3	55	12.8	74	N	6	2.7		8k	0	N		0	0	Fair	
Alpena, Michigan	29.68	753.9	30.33	770.4	54	12.2	67	NW	11	4.9		0	0			0	0	Clear	
Atcha, Aleutian Islands					39	3.9	100	W			1		10s		W	0	0	Cloudy	
Atlanta, Georgia	28.92	734.6	30.02	762.5	72	22.2	58	NE	13	5.8		2k:hz	0	Calm		0	0	Fair	
Atlantic City, New Jersey	30.11	764.8	30.12	765.0	60	15.6	60	N	11	4.9		0	0			0	0	Clear	
Augusta, Georgia	29.88	758.9	30.08	764.0	74	23.3	72	NE	10	4.5		0	5ks		NE	0.11	2.8	Fair	
Baltimore, Maryland	30.17	766.3	30.22	767.6	62	16.7	51	N	8	3.6		0	0			0	0	Clear	
Barnegat, New Jersey	30.10	764.5	30.13	765.3	60	15.6	60	NW	16	7.2		0	0			0	0	Clear	
Bismarck, Dakota	28.15	715.0	30.01	762.2	56	13.3	93	SE	16	7.2			10s		SE	0.06	1.5	Cloudy	
Boerne, Texas	28.57	725.7	29.84	757.9	74	23.3	90	Calm	0	0		5k	5ks	SE	SE	0	0	Cloudy	
Boise City, Idaho	27.24	691.9	30.20	767.1	50	10.0	93	SE	2	0.9			10s		W	0.06	1.5	Cloudy	
Boston, Massachusetts	29.89	759.2	30.05	763.3	56	13.3	63	NW	16	7.2		2k	0	N		0.01	0.3	Fair	
Brackettville, Texas	28.89	733.8	29.88	758.9	76	24.4	73	E	5	2.2		5k	0	E		0	0	Fair	
Breckenridge, Minnesota	29.20	741.7	30.19	766.8	58	14.4	76	SE	20	8.9		10cs	0	NW		0	0	Cloudy	
Brownsville, Texas	29.84	757.9	29.89	759.2	83	28.3	87	Calm	0	0		2cs	0	Calm		0	0	Clear	
Buffalo, New York	29.53	750.0	30.23	767.8	55	12.8	74	NW	7	3.1		5ck	0	NW		0	0	Fair	
Burkes, Arizona					72	22.2	23	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.82	757.4	30.11	764.8	50	10.0	79	N	6	2.7			10s		N	0.16	4.1	Cloudy	
Cairo, Illinois	29.85	758.2	30.24	768.1	66	18.9	69	NE	4	1.8		2ck	0	W		0	0	Fair	
Campo, California	27.36	694.9	29.93	760.2	38	3.3	72	E	3	1.3		Dust	0	Calm		0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.15	765.8	71	21.7	58	NE	4	1.8		5cs	Haze	NW		0	0	Fair	
Cape Henry, Virginia	30.17	766.3	30.18	766.6	66	18.9	50	NE	16	7.2		2c	0	W		0	0	Clear	
Cape Lookout, N. Carolina	30.12	765.0	30.13	765.3	72	22.2	50	NE	24	10.7		2c	0	W		0	0	Fair	
Cape May, New Jersey	30.10	764.5	30.12	765.0	60	15.6	60	N	20	8.9		0	0			0	0	Clear	
Castroville, Texas	29.21	741.9	29.88	758.9	81	27.2	74	E	4	1.8		0	2s		E	0	0	Fair	
Charleston, South Carolina	29.99	761.7	30.04	763.0	78	25.6	78	E	16	7.2			10s		E	1.40	35.6	Cloudy	
Charlotte, North Carolina	29.32	744.7	30.12	765.0	65	18.3	49	NE	12	5.4		5ck	5s	Calm	SW	0.02	0.5	Cloudy	
Chattanooga, Tennessee	29.31	744.5	30.10	764.5	67	19.4	50	N	11	4.9		1cs	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	53	11.7	42	NW	7	3.1		0	0			0	0	Clear	
Chicago, Illinois	29.65	753.1	30.36	771.1	53	11.7	73	NE	9	4.0		0	0			0	0	Clear	
Cincinnati, Ohio	29.65	753.1	30.30	769.6	60	15.6	55	E	6	2.7		1cs	0	Calm		0	0	Clear	
Cleveland, Ohio	29.57	751.1	30.30	769.6	58	14.4	64	N	10	4.5		2k	0	Calm		0	0	Clear	
Coleman City, Texas	28.21	716.5	29.80	756.9	75	23.9	77	Calm	0	0		5c	0	Calm		0	0	Fair	
Columbus, Ohio	29.45	748.0	30.29	769.4	59	15.0	54	NE	6	2.7		0	0			0	0	Clear	
Concho, Texas	28.10	713.7	29.69	754.1	79	26.1	70	SE	6	2.7		0	0			0	0	Clear	
Corsicana, Texas	29.57	751.1	30.02	762.5	76	24.4	85	SE	2	0.9		0	0			0	0	Clear	
Davenport, Iowa	29.70	754.4	30.34	770.6	56	13.3	57	E	8	3.6		0	0			0	0	Clear	
Deadwood, Dakota	25.39	644.9			56	13.3	81	S	2	0.9			10s		Calm	0.30	7.6	Cloudy	
Decatur, Texas	28.84	732.5	29.96	761.0	77	25.0	86	E	4	1.8		5c	0	Calm		0	0	Fair	
Denison, Texas	29.25	742.9	30.01	762.2	78	25.6	82	SE	6	2.7		5k	0	SE		Inap.	Inap.	Fair	
Denver, Colorado	24.71	627.6	29.93	760.2	59	15.0	43	E	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.39	746.5	30.27	768.8	58	14.4	64	SE	9	4.0		5cs	0	SW		0	0	Fair	
Detroit, Michigan	29.64	752.8	30.31	769.9	56	13.3	63	NW	4	1.8		2ck	0	W		0	0	Clear	
Dodge City, Kansas	27.45	697.2	29.63	752.6	72	22.2	67	S	12	5.4			10s		E	0	0	Cloudy	
Dubuque, Iowa	29.65	753.1	30.36	771.1	55	12.8	62	E	2	0.9		Haze	Haze	E	Calm	0	0	Hazy	
Duluth, Minnesota	29.66	753.4	30.35	770.9	52	11.1	66	N	2	0.9		0	0			0	0	Clear	
Eagle Pass, Texa	29.19	741.4	29.88	758.9	76	24.4	86	SE	6	2.7		0	2s		SE	0.08	2.0	Fair	
Eastport, Maine	29.83	757.7	29.90	759.4	48	8.9	78	N	14	6.3		10k	0	NW		0.25	6.3	Cloudy	
Edinburg, Texas					81	27.2	83	S			1	2ck	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.19	665.2			74	23.3	43	NW	6	2.7		0	8s		NW	0	0	Fair	
Erie, Pennsylvania	29.55	750.6	30.26	768.6	57	13.9	75	N	1	0.4		5k	0	N		0	0	Fair	
Escanaba, Michigan	29.74	755.4	30.40	772.1	57	13.9	58	NW	3	1.3		0	0			0	0	Clear	
Florence, Arizona	28.40	721.3	30.00	762.0	80	26.7	25	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.89	708.4			63	17.2	88	SE	6	2.7			10n		SE	Inap.	Inap.	Light rain	
Fort Craig, New Mexico	25.61	647.9	29.57	751.1	58	14.4	31	Calm	0	0		1c	0	Calm		0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	69	20.6	70	S	4	1.8		10c	0	Calm		0	0	Cloudy	
Fort Gibson, Indian Ter	29.55	750.6	30.07	763.8	74	23.3	55	E	11	4.9		5c	0	E		0	0	Fair	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	63	17.2	38	E	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.75	730.2	29.97	761.2	76	24.4	73	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.37	695.2			66	18.9	84	Calm	0	0		0	5s		Calm	0.08	2.0	Fair	
Fort McKavett, Texas	27.78	705.6	29.64	752.8	77	25.0	69	SE	4	1.8		5c	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	29.99	761.7	30.03	762.7	35	1.7	100	SW	6	2.7		0	0			0	0	Clear	
Fort Shaw																			
Fort Sill, Indian Territory	28.81	731.8	29.87	758.7	78	25.6	69	E	4	1.8		10ck	0	S		0	0	Cloudy	
Fort Stevenson, Dakota	28.06	712.7			58	14.4	87	NE	16	7.2			10n		NE	0.01	0.3	Light rain	
Fort Verde, Arizona					54	12.2	32	N			1	0	0			0	0	Clear	
Port Yates																			
Fredericksburg, Texas	28.26	718.3	29.77	756.1	75	23.9	77	S	3	1.3		0	5ks		Calm	0	0	Fair	
Galveston, Texas	29.98	761.5	30.02	762.5	82	27.8	79	SE	5	2.2		2k	2ks	W	SE	0	0	Fair	
Graham, Texas	28.93	734.8	29.93	760.2	80	26.7	74	Calm	0	0		4cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.70	754.4	30.35	770.9	60	15.6	60	NE	6	2.7		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.06	738.1	29.95	760.7	78	25.6	78	SE	6	2.7		5c	0	W		0	0	Fair	
Indianapolis, Indiana	29.50	749.3	30.28	769.1	60	15.6	65	Calm	0	0		0	0			0	0	Clear	
Indianola, Texas	29.98	761.5	30.00	762.0	83	28.3	75	SE	9	4.0		0	2ks		SE	0	0	Fair	
Jacksboro, Texas	28.85	732.8	29.93	760.2	75	23.9	77	SE				0	0			0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.02	762.5	81	27.2	74	SE	6	2.7		0	0			0.03	0.8	Clear	
Keokuk, Iowa	29.66	753.4	30.27	768.8	57	13.9	63	E	7	3.1		1c	0	W		0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	81	27.2	83	SE	3	1.3		2c	0	NW		0.64	16.3	Fair	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	67	19.4	74	NE	16	7.2		5cs	0	NE		0	0	Fair	
Knoxville, Tennessee	29.16	740.7	30.14	765.5	65	18.3	49	NE	9	4.0		5k	2ks	NW	Calm	0	0	Fair	
La Crosse, Wisconsin	29.61	752.1	30.37	771.4	51	10.6	86	SE	1	0.4		0	0			0	0	Clear	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	66	18.9	54	Calm	0	0		5c	0	Calm		0	0	Fair	
Laredo, Texas	29.55	750.6	29.88	758.9	81	27.2	55	SE	5	2.2		0	0			0	0	Clear	
Leavenworth, Kansas	29.32	744.7	30.16	766.1	61	16.1	71	E	5	2.2			10s			0.23	5.8	Cloudy	
Little Rock, Kansas																			
Los Angeles, California	29.57	751.1	29.90	759.4	56.5	13.6	87	N	3	1.3			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.70	754.4	30.25	768.3	60	15.6	49	NE	12	5.4		2c	0	Calm		0	0	Clear	
Lynchburg, Virginia	29.55	750.6	30.22	767.6	67	19.4	54	NE	5	2.2		1ck	0	W		0	0	Clear	
Madison, Wisconsin	29.37	746.0	30.36	771.1	55	12.8	68	E	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.66	753.4	30.37	771.4	51	10.6	72	W	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.40	721.3	30.08	764.0	76	24.4	77	SE	2	0.9		0	8s		SE	0	0	Fair	
Memphis, Tennessee	29.81	757.2	30.14	765.5	65	18.3	68	NE	6	2.7		5ck	0	NW		0	0	Fair	
Milwaukee, Wisconsin	29.63	752.6	30.37	771.4	56	13.3	57	N	9	4.0		0	0			0	0	Clear	
Mobile, Alabama	29.99	761.7	30.04	763.0	77	25.0	71	N	8	3.6		5k	0	N		0	0	Fair	
Montgomery, Alabama	29.82	757.4	30.04	763.0	75	23.9	59	N	6	2.7		2k	2ks	N	N	0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.28	743.7	30.28	769.1	53	11.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	27	— 2.8	100	NW	12	5.4	.....	.....	Fog	.....	NW	0.56	14.2	Foggy	
Nashville, Tennessee	29.63	752.6	30.16	766.1	68	20.0	51	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.98	761.5	30.09	764.3	62	16.7	61	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.04	763.0	30.08	764.0	61	16.1	60	NW	5	2.2	.....	1k	0	NW	.....	0	0	Clear	
New Orleans, Louisiana	29.97	761.2	30.02	762.5	83	28.3	71	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.01	762.2	30.06	763.5	58	14.4	58	NW	10	4.5	.....	2k	0	NW	.....	0	0	Clear	
New York, New York	29.96	761.0	30.14	765.5	61	16.1	66	NW	7	3.1	.....	1k	0	S	.....	0	0	Clear	
Norfolk, Virginia	30.13	765.3	30.19	766.8	67	19.4	46	NE	6	2.7	.....	2c	2s	W	Calm	0	0	Fair	
North Platte, Nebraska	27.10	688.3	29.58	751.3	63	17.2	86	SE	36	16.1	.....	0	2ks	.....	SE	0	0	Clear	
Olympia, Washington Ter.	30.14	765.5	30.18	766.6	45.0	7.2	96	NW	1	0.4	.....	8c	0	W	.....	0	0	Fair	
Omaha, Nebraska	29.04	737.6	30.12	765.0	62	16.7	67	E	7	3.1	.....	5c	2s	W	Calm	0	0	Fair	
Oswego, New York	29.87	758.7	30.19	766.8	50	10.0	93	N	6	2.7	.....	0	0	.....	.....	0.15	3.8	Clear	
Pembina, Dakota	29.30	744.2	30.11	764.8	55	12.8	87	SE	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Philadelphia, Pa.	30.12	765.0	30.17	766.3	58	14.4	70	NW	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.64	727.4	30.39	771.9	66	18.9	32	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.90	454.6	30.10	764.5	31	— 0.6	48	SW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	43	6.1	51	NW	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Pittsburg, Pennsylvania	29.45	748.0	30.26	768.5	54	12.2	74	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.64	752.8	30.31	769.9	55	12.8	74	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Portland, Maine	29.99	761.7	30.03	762.7	51	10.6	72	N	16	7.2	.....	5k	0	N	.....	0.51	13.0	Fair	
Portland, Oregon	30.15	765.8	30.22	767.6	49.0	9.4	89	SE	1	0.4	.....	8c	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.71	627.6	30.07	763.8	47	8.3	5	W	2	0.9	.....	0	0	.....	.....	0	0	Fair	
Pilot Point, Texas	29.17	740.9	29.96	761.0	85	29.4	61	SE	16	7.2	.....	8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.02	762.5	30.03	762.7	82	27.8	79	SE	6	2.7	.....	5c;k	0	Calm;SE	.....	0	0	Fair	
Red Bluff, California	29.62	752.3	29.97	761.2	66	18.9	36	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.75	755.6	29.96	761.0	78	25.6	86	E	6	2.7	.....	2c	0	Calm	.....	0.04	1.0	Clear	
Rochester, New York	29.59	751.6	30.21	767.3	56	13.3	63	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.64	752.8	30.22	767.6	46	7.8	84	N	1	0.4	.....	1c	0	Calm	.....	0	0	Clear.	
Sacramento, California	29.80	756.9	29.88	758.9	64	17.8	53	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.69	754.1	30.26	768.6	60	15.6	65	NE	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear	
St. Marks, Florida	30.00	762.0	30.02	762.5	76	24.4	95	NW	2	0.9	.....	0	0	.....	.....	1.40	30.6	Clear.	
St. Paul, Minnesota	29.47	748.5	30.30	769.6	55	12.8	68	SE	8	3.6	.....	1c	0	W	.....	0	0	Clear	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	48	8.9	43	N	6	2.7	.....	10cs	0	Calm	.....	0.06	1.5	Cloudy	
San Antonio, Texas	29.32	744.7	29.88	758.9	77	25.0	86	NE	2	0.9	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
San Diego, California	29.86	758.4	29.93	760.2	58	14.4	88	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.65	753.3	30.32	770.1	60	15.6	60	N	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Sandy Hook, New Jersey	30.09	764.3	30.12	765.0	58	14.4	70	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.86	758.4	29.93	760.2	55	12.8	81	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Santa Fé, New Mexico	23.31	592.1	29.85	758.2	58	14.4	22	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.95	760.7	30.04	763.0	80	26.7	82	NE	2	0.9	.....	.....	10s	.....	E	0.14	3.6	Cloudy	
Shreveport, Louisiana	29.87	758.7	30.08	764.0	79	26.1	66	E	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Silver City, New Mexico	24.31	617.5	30.38	771.6	55	12.8	27	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.09	764.3	30.12	765.0	75	23.9	72	NE	20	8.9	.....	8cs	1ks	W	NE	0	0	Cloudy	
Socorro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.96	761.0	30.09	764.3	61	16.1	55	N	6	2.7	.....	2k	0	N	.....	0	0	Fair	
Stockton, Texas	26.87	682.5	29.87	758.7	75	23.9	72	SE	12	5.4	.....	10cs	0	SE	.....	0	0	Cloudy	
Thatcher's Island, Mass.	30.00	762.0	30.06	763.5	53	11.7	86	N	11	4.9	.....	5k	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.63	752.6	30.31	769.9	61	16.1	66	N	3	1.3	.....	1ck	0	NE	.....	0	0	Clear	
Tucson, Arizona	27.47	697.7	30.02	762.5	64	17.8	29	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.60	751.8	30.18	766.6	57.0	13.9	69	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Uvalde, Texas	29.06	738.1	29.85	758.2	76	24.4	69	E	3	1.3	.....	0	0	.....	.....	0.01	0.3	Clear	
Vicksburg, Mississippi	29.87	758.7	30.12	765.0	76	24.4	60	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.29	617.0	29.77	756.1	43	6.1	75	Calm	0	0	.....	0	8s	.....	W	0.38	9.7	Fair	
Visalia, California	29.50	749.3	29.86	758.4	51.5	10.8	65	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.10	764.5	30.22	767.6	59	15.0	54	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	54	12.2	25	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	74	23.3	59	E	10	4.5	.....	2ck	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	41.0	5.0	82	SE	2	0.9	.....	4c	0	Calm	.....	0.01	0.3	Fair	
Wood's Holl, Mass.	30.00	762.0	30.04	763.0	55	12.8	68	NW	14	6.3	.....	0	5ks	.....	NW	0	0	Fair	
Yankton, Dakota	28.86	733.0	30.13	765.3	59	15.0	70	SE	17	7.6	.....	2ck	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.63	752.6	29.79	756.7	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.94	760.5	29.99	761.7	79	26.1	78	Calm	0	0	.....	0	0	.....	.....	1.41	35.8	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	68.0	20.0	80	NW	.....	.....	1	1k	2ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.89	759.2	29.97	761.2	80	26.7	82	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.00	762.0	30.01	762.2	83	28.3	75	NE	.....	.....	2	3c	6k	E	.....	0.110	2.79	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Grimm, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.01‡	762.2‡			80	26.7	96	N	1	0.4			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.94‡	760.5‡			73	22.8	92	Calm			0		9s		E	0	0			Cloudy	
Adams, N. 12° 00′, W. 86° 42′	29.87‡	758.7‡			80	26.7	96	WNW			3		10		NW			Smooth		Cloudy	
Alaska, N. 53° 53′ W. 134° 56′	30.05‡	763.3‡			46	7.8	92	SW			3		10					Long	SW	Drizzling	
Alliance. Havre, France	29.93‡	760.2‡			61	16.1	77	WNW			2		2							Pleasant	
Ashuelot, N. 37° 30′, E. 122° 12′	29.47‡	748.5‡			63	17.2	94	NNW			5		5		NW					Drizzling	
Colorado, New York, N. Y.	30.13‡	765.3‡			60	15.6	65	WNW	20	8.9			2			0	0			Clear	
Constellation, Chesapeake Bay, N. 38° 57′. W. 76° 25′	30.25‡	768.3‡			58	14.4	61	NNW			2		0							Clear	
Constitution, League Island, Penn	30.06‡	763.5‡			61	16.1	66	NNW			2		1		Calm					Clear	
Despatch, St. George's, Bermuda	30.12‡	765.0‡			77	25.0	86	SW			4		8		SW	4 h'rs	4 h'rs	Smooth		Cloudy	
Enterprise, N. 53° 12′, E. 5° 12′	29.62‡	752.3‡			54	12.2	100	NNW			5–6		10		NNW					Raining	
Franklin, Norfolk, Va.	30.21‡	767.3‡			68	20.0	56	NE	8.4	3.8			5		NE	0	0			Fair	
Hartford Montevideo, Uruguay	30.15‡	754.9‡			55	12.8	74	ESE	3	1.3			8		ESE	0.10	2.5			Cloudy	
Kearsarge, Portsmouth, N. H.	30.02‡	760.2‡			57	13.9	63	NNW			1		1		NNW					Clear	
Marion, N. 25° 00′, W. 83° 40′	30.03‡	762.5‡			84	28.9	91	SE			1–2		2		SE			Smooth		Clear	
Michigan, Erie, Pa	30.21‡	767.3‡			58	14.4	76	N			2		5		N					Fair	
Monocacy, Shanghai, China	29.72‡	754.9‡			74	23.3	95	SW			2		10							Cloudy	
Mongongahela, Yokohama, Japan	29.93‡	760.2‡			74	23.3	81	S			1–2		kn			0	0			Overcast	
New Hampshire. Port Royal, S. C.	30.02‡	762.5‡			77	25.0	95	ENE	22	9.8			10		E	2.03	51.6			Heavy rain	
Onward, Callao, Peru †	30.21‡	767.3‡			61	16.1	88	ENE			1		10					Long	W	Foggy	
Palos, Shanghai, China	29.74‡	755.4‡			73	22.8	95	SW			2		10							Cloudy	
Passaic, Washington, D. C.					58	14.4	88	NW			2		0							Clear	
Pensacola, S. 16° 14′, W. 74° 00′	30.05‡	763.3‡			65	18.3	78	ESE	10	4.5			2		ESE	0	0	Smooth	SE	Clear	
Portsmouth. Gardner's Bay, Long Island, N.Y.	30.07‡	763.5‡			55	12.8	74	NW			4		0			0	0	Smooth		Clear	
Powhatan, Hampton Roads, Va.	30.16‡	766.1‡			66	18.9	59	NE			2		5		N	0	0			Fair	
Quinnebaug, Dardanelles, Turkey	29.83‡	757.7‡			82	27.8	71	WSW			2		0							Clear	
Ranger, Amoy, China	29.84‡	757.9‡			83	28.3	87	SSE			1–2		5		Calm			Smooth		Cloudy	
Richmond, N. 37° 30′, E. 122° 50′	29.32‡	744.7‡			63	17.2	94	NW			6		10		NW			Rough	ENE	Cloudy	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			83	28.3	83	E			1		2		Calm	0.52	13.2			Fair	
Santee, Annapolis, Md.	30.21‡	767.3‡			60	15.6	65	NW			2		0			0	0			Clear	
Saratoga, N. 24° 52′, W. 42° 36′	30.23‡	767.8‡			81	27.2	78	E			3		2		SW	0	0	Smooth	E	D. clouds	
St. Louis, League Island, Pa	30.14‡	765.5‡			61	16.1	50	NNW	11	4.9			0			0	0			Clear	
Trenton, N. 35° 27′, W. 14° 34′	30.20‡	767.1‡			67	19.4	100	N			1		10		N	0	0	Smooth		Foggy	
Tuscarora, N. 23° 43′, W. 109° 29′	29.89‡	759.2‡			75	23.9	100	SSE			4		8		Calm			Smooth		Hazy	
Vandalia, Norfolk, Va.	30.18‡	766.6‡			68	20.0	65	NNE			3		2		NNE	0	0			Fair	
Wabash, Boston, Mass.	30.03‡	762.7‡			54	12.2	67	NW	12	5.4			2			0	0			Fair	
Wyoming, Venice, Italy	29.82‡	757.4‡			73	22.8	67	SE			1		2		SE			Smooth		Clear	
Wachusett, Navy Yard, Pensacola, Fla.	30.00‡	762.0‡			82	27.8	83	NW			1		0					Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whitebur
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal. †		29.93‡	760.2‡	55	12.8	68	SW			1		0						Clear.	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic,																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 45′, W. 14° 08′		29.70‡	754.4‡	60.0	15.6	88	S			6		10			0		SW	Misty	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 41° 21′, W. 45° 41′		29.83‡	757.7‡	65.0	18.3	94	Calm			0		10			7 h'rs	Smooth	W	Drizzling	S. Risius, 3rd Officer.
S. S. Nuruberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.87‡	758.7‡				SW			6		10		SW				Raining	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.16‡	766.1‡	63	17.2	83	NW			3		2		NW	0			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 41° 29′, W. 51° 44′		29.72‡	754.9‡				W	18	8.0			10		WNW		Long	WSW	Misty	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss		30.03‡	762.7‡	81	27.2	70	N	7	3.1			2k		E	0			Clear	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", N. 28° 02′, W. 64° 27′ †		30.22‡	767.6‡				S			3		10		S	0	Smooth		Cloudy	N. B. Foss.
Schooner Harry and Fred, N. 28° 18′, W. 67° 54′		29.93‡	760.2‡				S	3	1.3			5		S	0	Smooth	S	Fair	Capt. George Gardner.
Nordenskiold of Sundsvall, Sweden, N. 47° 54′, W. 17° 29′ †		29.50‡	749.3‡	60	15.6	94	S			6		10		SW		Long	SW	Light rain	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 57′ †		29.86‡	758.4‡				NNW			6				NW		Long	SE	Cloudy	L. Dunbar.
Schooner Henry Whitney, N. 31° 35′, W. 80° 19′ †		29.98‡	761.5‡	81	27.2		Var.			1						Large	NE	Squally	Capt. Wm. Shepherd.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

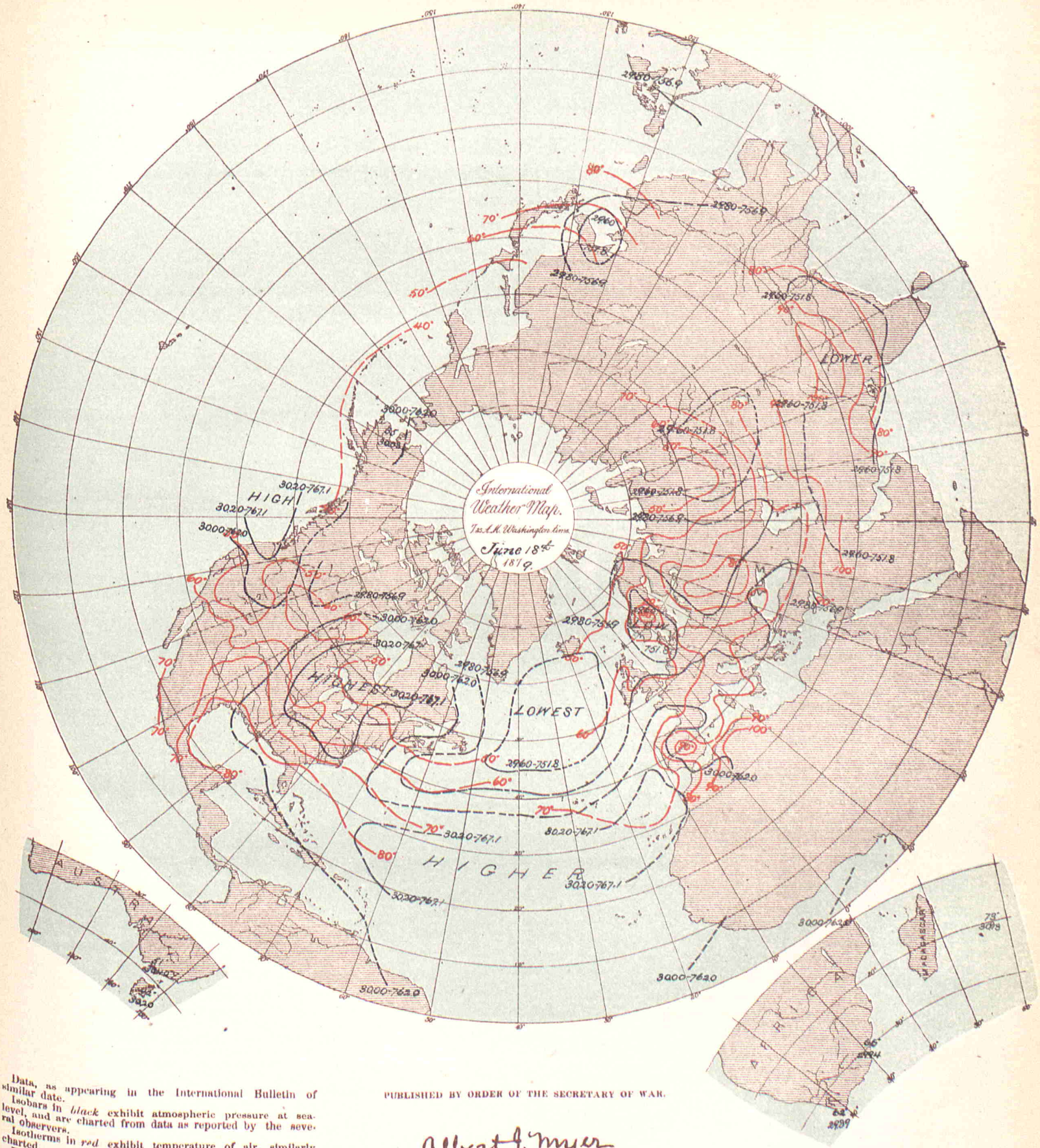
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 19, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco																			
Nemours			30.06	763.5	77.0	25.0	79	NW			1		5			0	0	Cloudy	Kesxuche.
Algiers			29.99	761.8	75.2	24.0	70	NNE			3		0			0	0	Clear	Tourilliere.
La Calle			30.03	762.7	78.1	25.6	73	NNE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.13	765.2															Gau.
Saida			30.15	765.9	93.2	34.0	15	NNW			2		0			0	0	Clear	Herbin.
Tebessa			29.99	761.8	94.5	34.7	24	W			2		2			0	0	Fair	Watrin.
Geriville			30.13	765.3	86.2	30.1	45	WNW			2		2			0	0	Fair	Brugniaux.
Laghouat			29.96	760.9	100.8	38.2	26	E			4		0			0	0	Clear	Bertrand.
Biskra			29.99	761.7	99.0	37.2	37	SE			1		0			0	0	Clear	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.45	747.9	29.98	761.4	72.1	22.3	50	SE			2		6			0.031	0.8		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.9	29.91	759.6	72.7	22.6	65	NW			1		10			0	0		Dr. Wierzbiski.
Eperies	29.03	737.3	29.89	759.1	63.7	17.6	90	N			1		10ns		S	0.482	12.25		Julius Mikolik.
Gratz	28.76	730.6	29.98	761.4	68.7	20.4	61	NE			8		3			0.346	8.8		Andreas Rospini.
Hermannstadt	28.42	721.9	29.80	756.9	68.9	20.5	77	N			1		10			0.6.8	15.45	Raining	Prof. A. Gottschling.
Kremsmünster	28.71	729.1	30.2	762.4	64.4	18.0		WNW			2		5			0	0		Prof. C. Wagner.
Lemberg	28.88	733.6	29.83	757.7	70.2	21.2	82	NW			1		9			1.268	32.2		Dr. T. Stanecki.
Pola	29.87	758.6	29.97	761.3	72.2	22.2	67	E			3		3			0.551	14.0		I.R.HydrographicOffice.
Szathmar	29.45	748.7	29.93	760.2	66.9	19.4	89	N			1		10			0.386	9.8		Julius Csics, S. J.
Szegedin	29.60	751.7	29.87	758.6	65.8	18.8	80	E			3		10			0	0		Karl Stancel.
Trieste	29.91	759.7	30.01	762.3	71.4	21.9	49	ENE			1		1			0.059	1.5	Almost clear	P. Busin.
Vienna	29.39	744.3	30.00	762.1	68.7	20.4	50	WNW			3		3			0	0		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 478 meters, or 1,571 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maes eyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.70	754.4	29.79	756.7	53.4	11.9		SSE	19	8.5			7			0	0	D. clouds	W. Boswell.
Ardrossan	29.68	753.9	29.70	754.4	60	15.6		S			4		8					Overcast	Wm McNeil &G.Carrick
Armagh, Observatory			29.68	751.3	58.4	14.7		SE	22	9.8			8					Squally	S. Call.
Bidston (Liverpool Obs)			29.75	755.6	66.2	19.0		SE	19	8.5			6					D. clouds	John Hartnup.
Bolton (Sharples)			29.78	756.4	64.3	17.9		S	18	8.0			8					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.38	746.2	29.78	756.4	67.6	19.8		SW			4		6			0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	85	29.4		NE			3		3					D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.79	756.7	29.88	758.9	68.0	20.0		SW			1		7k					D. clouds	H. Todd.
Cardington			29.88	758.9	68.0	20.0		W			1		6					D. clouds	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	61.4	16.3		SW			3		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.64	752.8	29.68	753.9	55	12.8		SSW			4		10					Overcast	J. Mac Gowan.
Dover	29.91	759.7	29.94	760.5	60	15.6		SW			2		4					½ clouded	J. Costello.
Falmouth, Observatory	29.57	751.1	29.79	756.7	56.0	13.3		S			4		10					Foggy	The Staff.
Fort Napier (Natal)	27.74	704.6	30.02	762.5	60.2	15.7		E			1		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.95	761.0	87	30.6		SW			1		4					D. clouds	
Galway, Queen's College			29.38	746.2	60	15.6		SSE			5		10					Raining	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.95	760.7	30.00	762.0	74.6	23.7		E			1		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.50	749.3	29.70	754.4	63.8	17.7		SSE			3		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.88	758.9	29.89	759.2	61	16.1		S			3		3					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.75	755.6	29.92	760.0	65.9	18.8		SSW			2		8					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.88	758.9	61	16.1		SSE			1		7					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.79	756.7	29.91	759.7	60	15.6		SW			7		10n			0.3	8.	Misty	M. P. Moyle.
Holyhead	29.70	754.4	29.71	754.6	61	16.1		SSE			5		10					Misty	John Tilston.
Jersey	29.66	753.4	29.95	760.7	59.0	15.0		S			3		10					Overcast	J. Fisher.
Kew, Observatory	29.87	758.7	29.91	759.7	64.0	17.8		S	16	7.2			7					Threatening	The Met'g'l Office.
Leicester, Museum	29.49	749.0	29.74	755.4	65.1	18.4		SW			1		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.89	759.2	29.96	761.0	86.0	30.0		NW			1		0					Blue sky	A. King.
Nairn	29.57	751.1	29.66	753.4	72	22.2		Calm			0		0					Clear	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	84.0	28.9		SW			2		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.66	753.4	29.84	757.9	67.6	19.8		S			5	c	7k;ck		S	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.30	744.2	29.81	757.2	64.5	18.1		S			4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.88	758.9	63	17.2		SW			4		10					Gloomy	H. E. Bellamy.
Plymouth	29.76	755.9	29.83	757.7	60.0	15.6		SE			4		10					Overcast	John Merrifield.
Prince Town	28.59	721.1	29.85	758.2	52.7	11.5		SE			2		10					Foggy	W. H. Tooker.
*Roche's Point	29.46	748.3	29.57	751.1	58	14.4		S			7		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.9	55	12.8		SE			5		10					Overcast	John C. Walker.
Sandwick Manse (Orkneys)			29.74	755.4	55	12.8		SE	37	16.5			0					Blue sky	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.70	754.4	29.76	755.9	85.2	29.6		NE			2		1			0	0	Blue sky	Serg't W. H.Lyne.
Sheffield	29.55	750.6	29.82	757.4	66.9	19.4		SW			2		6			0.07	1.8	D. clouds	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	66.2	19.0	65	W			1		7			0.027	0.69	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.40	746.7	29.80	756.9	63.9	17.7		SSE			3		8					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.70	754.4	29.91	759.7	62.9	17.2		S			3-4		10					Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.81	757.2	29.83	757.7	58	14.4		S			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.40	746.7	29.42	747.3	56.1	13.4		SW	24	10.7			10					Raining	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.03	762.7	30.07	763.8	57.2	14.0	89	N	9	4.0		8	8			0.450	11.43	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.38	771.6	44.0	6.7		NW			1		10k			0	0	Covered	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.75	755.6	62.5	16.9		NE			2		8ck	SW		0.04	1.0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.2	73.3	22.9	61	SSE	13.0	5.8		0	2		ESE	0.01	0.3	Fine	C. Meldrum.
Melbourne, Observatory	30.38	771.6	30.47	775.9	49.7	9.8	69	SE	6	2.7			10			0	0	Dull	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.48	748.8	58	14.4		SE			6		10			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.79	756.7	51	10.6		E			4	8	2	SE		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9. a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m

British Marine Series.

Vessels.

	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.77‡	756.1‡	83.8	28.8		NE			2		1					Blue sky	Capt. W. J. L. Wharton.
Barque Fedalma, N 44° 20′, W. 46° 35′			29.74	755.4	54	12.2		W			6		9			5	WSW; NE	Overcast	Capt. H. L. Fox.
S. S. Iron Cross, N. 51° 25′, W. 11° 25′			29.41	747.0	58	14.4		SW			3		5			8	SW	Misty	Capt. W. Randall.
Astarte, N. 7° 55′, W. 25° 00′ *			30.00‡	762.0‡	79	26.1		NNE			3		5					D. clouds	Capt. Parson.
British Peer, N. 26° 40′, W. 45° 15′			30.24‡	768.1‡	78.2	25.7		NE			4		2					Blue sky	Capt. Greig.
Theophane, S. 26° 10′, E. 48° 50′			30.14‡	765.5‡	71	21.7		ENE			6		5					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria																			Capt. Wm. Watson.
Brig Alliance.§																			Capt. W. Scott.
S. S. Nizam																			Capt. Barlow.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.18	665.0	29.90	759.4	66.6	19.2	92	SE			2	10s				Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	57.2	14.0	88	S			4		10					Raining	
Fanöe	29.67	753.7	29.69	754.2	58.5	14.7	89	WNW			4		9						
Godthaab (Greenland)	29.62	752.4	29.67	753.5	37.9	3.3	87	S			2		8						
Stykkisholm (Iceland)	29.48	748.8	29.52	749.9	45.2	7.4	70	NE			7		5						
Thorshavn (Faröe)	29.73	755.2	29.77	756.1	53.4	11.9	81	SE			4		5						
Vestervig	29.52	749.7	29.69	754.0	62.2	16.8	61	E			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.9	30.04	762.9	68.4	20.2	81	SW			1		8	SW	S	0	0	Very cloudy	Collignon Director.
Amiens, Normal School	29.86	758.4	29.97	761.1	76.6	24.8	45	SSE			1		5		NW	0.08	2.	Cloudy	Carvallier Director.
Arras, Engin'r School	29.74	755.3	29.99	761.7	66.9	19.4	58	WSW			2				NW	Inap.	Inap.		Klein, Commandant.
Avignon, Normal School	29.95	760.6	30.02	762.6	77.7	25.4	39	N			1		0			0	0	Very clear	Giraud, [illegible]
Bar-sur-Seine	29.52	749.8	30.07	763.6	68.5	20.3	50	S			1		5kn		SW	0.142	3 6	Cloudy	J. Saillard, Director.
Beauvais, Normal School	29.72	755.0	29.98	761.5	71.4	21.9	53	S			2		10		SSW	0.010	0.25	Covered	Frere Eugene Marie.
Besançon, Normal School	29.18	741.1	30.04	763.1	70 9	21.6	51	SE			1		2		S	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.3	30.12	765.0	71.6	22	54	W			1					0	0		Marlot, Director.
Bourges, Normal School	29.43	747.4	29.96	761.0	69.4	20.8	72	S			1		5	S	S	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.58	751.3	29.82	757.5	65.8	18.8	73	SW			3		10		SW	0.010	0.25		Ch. de Kerimerec, Dir.
Carcassonne, Normal School	29.63	752.6	30.02	762.6	81.7	27.6	51	NW			2		0			0	0	Clear	September, Dir.
Caen, Normal School	29.89	759.1	29.96	760.9	64 4	18	76	S			3		8		SSW	0.008	0.2	Very cloudy	Lair, Director.
Chartres, Normal School	29.40	746.8	29.95	760.6	72.7	22.6	71	S			2		7		S	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.72	755.0	30.03	762.8	71.1	21.7	50	SSW			2		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.65	727.8	29.95	760.8	73.6	23.1	43	W			1		2			0	0		Allnard, Director.
Commercy, Normal School	29.19	741.5	30.03	762.7	67.5	19.9	55	WSW			1		8k		WSW	0.303	7.7	Very cloudy	Dr. Coulier, Director.
Commune de Gréasque*	28.96	735.6	30.10	764.6	77.0	25.0	29	NW			1		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.30	744.2	30.04	763.1	71.2	21.8	53	NW			1	2c				0	0	Partly cl'dy	Ablard, Director
La Roche-sur-Yon, N. School	29 80	756.8	30.01	762.2	67.3	19.6	72	S			3		8		S	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.72	754.8	30.02	762.4	66.9	19.4	67	S			3		8	SW	WSW	0	0	Very cloudy	Pourrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.3	30.05	763.2	70.0	21.1	46	NNE			2	2c				0	0	Partly cl'dy.	A. Bandry, Director.
Lorient, Naval Observatory	29.86	758.4	29.96	761.0	64.4	18.0	80	S			3				S	0.004	0.1		Lt. P. Carré, Director.
Mâcon, Normal School																			Galzin Director.
Marseilles, Observatory	29.74	755.3	30.00	762.0	77.9	25.5	32	W			1-2		0			0	0		E. Stephan, Director
Mirecourt, Normal School	28.98	736.1	30.00	762.0	66.6	19.2	67	N			1		2		NE	0.16	4.	Slightly cl'dy	Barnier, Director
Nismes, Normal School	29.80	757.0	30.00	761.9	82.8	28.[illegible]	43	SW			1		0			0	0	Clear	M. Boyer, Director.
Privas, Normal School	29.07	738.3	30.10	764.5	73.4	23	54	SE			1				SE	0	0	Clear.	Cantier, Director.
Puy de Dome (Summit) Obs	25.25	641.4			51.3	10.7	67	S			1		5			0	0	Cloudy	Allnard, Director.
Rochefort, Naval Obs'y	29.98	761.4	30.01	762.2	76.3	24.6	61	SSW			1		5	SW	SW	0.24	6.	½ covered	Lt. E. Decaute, Director.
Rouen, Normal School	29.90	759.4	29.98	761.6	67.6	19.8	57	SSE			1		5	W	SSE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.89	759.2	29.92	760.0	62.8	17.1	74	S			3		8	SW	SW	0	0	Very cloudy.	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.85	758.2	30.02	762.4	68.5	20.3	60	SW			1				SSW	0	0		E. Reaou, Director.
Tarbes, Normal School	28.97	735.7	30.00	761.9	77.0	25.	61	W			2		0			0	0	Clear	T. Huguet Director.
Toulouse, Observatory	29.33	745.0	30.06	763.4	73.8	23.2	64	E			1		0			0.134	3.4		M. Julier Mercadier.
Versailles, Observatory	29.52	749.7	30.01	762.2	69.8	21.0	50	SW			2					0.007	0.18		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.33	745.0	30.02	762.4	74.3	23.5	54	N			1		2		NW	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.84	758.0	29.87	758.7	82.4	28.										0	0		L'Abbé M[illegible] 6sl.
Lyons Obs'y (Park Station)	29.13	747.5	30.03	762.8	70.2	21.2	45	NNE			1	c				0	0		Ch. André, Director.
Mont-Louis	24.94	633.4	30.25	768.4	68.9	20.5	44	WSW	15.0	6.7			0			0	0		M. Cave.
Nice			30.03	762.7	76.5	24.7	65	SW			4		2			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.73	755.2			66.4	19.1	61	S			3		6		SW	0.020	0.5		Marie Davy, Director.
Perpignan	29.93	760.2	30.04	762.9	72.5	22.5	58	SE	11.2	5.0			0			0	0		Dr. Fines.
Pic du Midi (Summit) H. P																			M. Bayhac.
Pic du Midi (Plantade) H. P	22.65	575.4			53.6	12.0		W			1		1			0	0	Clear	Gen'l de Nansouty.
Tours	29.81	757.2	30.01	762.2	69 8	21.0	55	NNW			2		7		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.82	757.4	29.84	758.0	75.2	24.0	94	Calm	0	0			4k			0	0	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0–1	Clouds. Amount. Up'er 0–10	Low'r 0–10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	29.13	739.9	29.97	761.2	65.1	18.4	71	W			4		4	W		0.020	0.5	Rain & fog.	Prof. Dr. Hoh.
Berlin	29.76	755.9	29.93	760.2	62.6	17.0		SW			3		10			0.118	3.0	Raining	Prof. Dr. Arndt.
Breslau	29.48	748.7	30.01	762.2	70.7	21.5	45	W			2		2			0	0		Royal University Obs'ty.
Carlsruhe	29.60	751.9	30.02	762.5	68.0	20.0	63	SW			2		1	SW		0	0		Albert Senz.
Cassel	29.39	746.6	30.00	762.0	65.8	18.8	72	W			2		6	WSW		0	0		Dr. H. Möhl.
Crefeld	29.78	756.4	29.94	760.5	70.7	21.5	54	W			4		8k			0.20	5.		Director Lose.
Emden			29.85	758.1	57.9	14.4	84	W			2		6			0.929	23.6		Prof. Dr. Prestel.
Frankfort on the Main	29.65	753.1	30.01	762.3	67.6	19.8		SSW			4		8			0.142	3.6		Physical Society.
Freienwalde on the Oder	29.91	759.6	29.95	760.6	60.8	16.0	76	SW			5		10ks	SW		0.075	1.9		Dr. Assmann.
Friedrichshafen	28.63	727.3	30.04	763.0	64.6	18.1	59	SW			2		1	SW		0	0		M. Wilhelm.
Hamburg	29.76	755.9	29.83	757.7	54.3	12.4	94	WSW			6		10n			0.386	9.8	Rainy	Captain F. Hegemann.
Kiel	29.72	754.9	29.74	755.3	56.8	13.8	93	SW			4		10			0.695	17.66		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.85	758.2	29.93	760.2	79.5	26.4	48	S			4		4			0.031	0.8		Prof. E. Luther
Köslin																			H. Müller.
Leipsic Observatory	29.60	751.8	30.01	762.3	64.8	18.2	69	SW			2		9	WSW		0.232	5.9	Raining	Prof. Bruhns, Privy Counsellor.
Memel	29.89	759.1	29.93	760.3	73.4	23.0	55	SW			1–2		3ks						Skalweit.
Munich (München)	28.26	717.7	30.12	765.1	64.9	18.3	80	Calm			0		9	W		0	0		Dr. C. Larg.
Neufahrwasser	29.89	759.2	29.91	759.6	77.7	25.4	43	SSW			3		7			0	0		A. Lothes.
Posen	29.71	754.5	29.98	761.5	73.4	23.0	45	SW			6		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.52	749.8	30.06	763.4	68.4	20.2	59	SW			2		3			0.299	7.61		Imp. University Observatory.
Stuttgart	29.09	738.8	30.01	762.2	65.3	18.5	62	N			1		4	W		0.016	0.4		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.54	724.8	30.02	762.5	61.3	16.3	64	Calm	0	0			7ck		W	0.020	0.5	Hazy	T. Hopfner.
Wustrow	29.79	756.6	29.81	757.2	55.9	13.3	90	S			5		10s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.40	746.7	29.77	756.1	88.3	31.3		S			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.9	29.57	751.2	87.3	30.7	68	WSW	9.0	4.0			2			0	0	D. clouds	
Deesa	29.06	738.1	29.51	749.6	101.3	38.5	32	NW	12.2	5.4			7	NW	S	0	0	D. clouds	
Bombay	29.58	751.2	29.62	752.2	82.6	28.1	85	WSW	7.0	3.1			10		SSW	2.07	52.6	Overcast	
Poona	27.78	705.7	29.63	752.5	79.3	26.3	66						10	Calm		0.02	0.5	Overcast	
Lahore	28.80	731.5	29.52	749.7	93.1	33.9	48	ENE	1.2	0.5			8			0	0	D. clouds	
Belgaum	27.17	690.2	29.70	754.5	74.1	23.4	87	SW	14.0	6.3			10	N	W	0.01	0.3	D. clouds	
Roorkee	28.64	727.3	29.50	749.4	90.8	32.7	58	E	3.8	1.7			5			0	0	D. clouds	
Agra	28.92	734.6	29.46	748.2	99.6	37.6	39	S					5		S	0	0		
Nagpur	28.53	724.7	29.56	750.8	82.7	28.2	78	W	4.1	1.8			9		ESE	0.16	4.1	Gloomy	
Lucknow	29.17	741.0	29.54	750.2	96.1	35.6	56	Calm	3.6	1.6						0	0	Blue sky	
Allahabad	29.19	741.3	29.48	748.9	100.0	37.8	39	NE	4.3	1.9			3			0	0	D. clouds	
Patna	29.36	745.6	29.53	750.1	89.7	32.1	61	ESE	0.8	0.4			8	ESE	SE	0	0	D. clouds	
Hazaribagh	27.58	700.6	29.55	750.6	84.3	29.1	69	WSW	6.4	2.9			7		SE			Thunder-storm.	
Cuttack	29.50	749.4	29.59	751.5	83.8	28.8	83	Calm	1.0	0.4			2			0.10	2.5	Drizzling?	
Calcutta (Alipore)	29.59	751.5	29.61	752.1	85.6	29.8	74	SSE	5.0	2.2			7	S		0.03	0.8	Showery	
Goalpara	29.24	742.6	29.62	752.3	81.5	27.5	87	Calm	1.2	0.5			3			0.64	16.3	D. clouds	
Chittagong	29.61	752.1	29.70	754.4	82.6	28.1	84	SW	4.3	1.9			4			0	0	Misty	
Sibsagar	29.31	744.5	29.64	752.9	85.2	29.6	79	SW	1.0	0.4			7			0.20	5.1	D. clouds	
Jubbulpore	28.19	716.0	29.52	749.9	85.5	29.7	64	SW	3.3	1.5			10		W	0.39	9.9	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.2 ft., or 564.5 m.; Nagpur is 1,026 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,765 ft., or 537 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.0	30.00	762.1	73.2	22.9	45	E	0.7	0.3			1			0.579	14.7		Prof. Giovanni Clodig.
Milan	29.50	749.4	30.01	762.2	75.7	24.3	42	SE			2		1	W		0	0		Prof. Schiaparelli.
Padua	29.91	759.8	30.02	62.5	70.7	21.5	49	W	3.6	1.7			2	W		0.484	12.3		Prof. Dott. Lorenzoni.
Moncalieri	29.10	739.1	29.97	761.3	75.2	24.0	21	ESE	3.1	1.4			2	NW		0	0		Prof. P. F. Denza.
Genoa	29.83	757.7	30.02	762.4	73.9	23.3	50	SW	5.6	2.5			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.4	29.97	761.3	71.[illegible]	22.1	33	NE			4		2	NW		0	0		Prof. D. C. Bruno.
Pesaro	29.95	760.7	30.00	761.9	69.1	20.6	63	NW	23.0	10.3			2			0	0		Prof. Luigi Guidi.
Florence	29.76	755.8	30.00	762.1	76.1	24.5	38	N			4		0			0	0		Cav. F. Meucci.
Leghorn	29.91	759.8	30.00	761.9	71.8	22.1	67	WSW			4		2			0	0		Prof. P. Monte.
Rome	29.80	756.9	29.9	761.2	80.4	26.9	57	W	5.6	2.5			1			0	0		Prof. P. S. Ferrari.
Lecce	29.68	753.9	29.93	760.2	76.3	24.6	43	E	8.7	3.9			2			0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.4	29.96	760.9	79.9	26.6	68	SW	3.1	1.4			0			0	0		Prof. D. Conti.
Cagliari	29.80	756.8	29.99	761.7	82.2	27.9	34	NW			4		0			0	0		Prof. A. Pacinotti.
Palermo	29.78	756.3	30.02	762.6	77.4	25.2	34	ENE	4.3	1.9			0			0	0		Prof. G. Cacciatore.
Syracuse	29.91	759.6	29.98	761.4	74.7	23.7	63	SSW	3.8	1.7			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.6	30.03	762.7	74.8	23.8	61	WSW	8.7	3.9			2			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 478.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.85	758.2	71.2	21.8	90	Calm	0	0			4s			0.015	0.38	Foggy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.68	753.9	29.88	758.9	71.7	22.1	95	SW	5.2	2.3			10u			0.330	8.89	Light rain	S. Takehayashi.
Tokei (Yeddo) Observatory	29.67	753.6	29.74	755.4	74.4	23.6	90	SSW	5.8	2.6			10u			0.050	1.27	Light rain	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.04	635.9	30.02	762.6	59.4	15.2	66	Calm			0	6	0	Calm		0	0	Cloudy	Prof. L. Perez.
Leon	24.39	619.5	30.00	761.9	64.0	17.8	86	NW			1	5c	4s	NW		0.59	15.0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.1	29.97	761.3	57.2	14.0	90	W	1.1	0.5			10k		NW	0.22	5.6	Covered	The Staff.
Pabellon (Aguascalientes)					64.6	18.1	81	W			1	7cs	0	W		Inap	Inap.	Cloudy	M. V. de Leon, M. E.
Tlacotalpam	29.85	758.2	29.86	758.5	76.3	24.6	89	SW			1	5	4	NE	SW	0.69	17.5	Very cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.14	613.1	30.00	762.1	64.0	17.8	59	NE			2	3	7	W	E	0.52	13.3	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.1	30.04	762.9	61.0	16.1	79	Calm			0	3c	1s			0	0	Fair	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	59.0	15.0	83	Calm	0	0			10		SW	1.57	31.9	Covered	Prof. P. Spina.
Colima	28.37	720.6	29.99	761.8	79.3	26.3	77	NE			1	0	4		NW	0	0	Fair	R. Bandera, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.66	753.4	29.95	760.7	76.5	24.7	85	WSW			1	2	6		SW	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,555.5 m., or 5,100.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft., Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.3	29.97	761.3	63.1	17.3		W								0	0		
Groningen	29.84	758.0	29.90	759.4				WNW			2					0.594	15.1		
Helder	29.91	759.6	29.91	759.6	59.2	15.1		WSW			1					0	0		
Hellevoetsluis	29.94	760.5	29.94	760.5	63.3	17.4	72	WSW			4					0	0		
Utrecht	29.90	759.4	29.95	760.6	69.3	20.7	67	W			4		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 4; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.74	755.4	29.80	756.8	65.8	18.8	62	NW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	
Brönö	29.79	756.7	29.83	757.7	50.7	10.4	74	N	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.65	753.2	29.80	756.8	71.2	21.8	43	SSW	9	4	.....	.....	3	.....	.....	0.012	0.3	.....	
Tromsö	29.81	757.1	29.85	758.2	45.3	7.4	53	N	9	4	.....	.....	6	.....	.....	0.146	3.7	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.86	758.4	30.05	763.2	68.7	20.4	85	W	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.03	737.3	30.00	761.9	85.5	29.7	31	WSW	8.7	3.9	.....	.....	3	WSW	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	72.1	22.5	68	SW	3.1	1.4	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.8	30.11	764.8	69.1	20.6	67	SW	15.0	6.7	.....	.....	3	WSW	.....	0	0	.....	The Staff.
Ponta Delgada (Azores)	30.01	762.3	30.08	764.1	75.0	23.9	70	W	6.9	3.1	.....	.....	4	.....	.....	0.220	5.6	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 04′, E. 2° 14′	.....	.....	30.05	763.2	77.9	25.5	.....	SSW	.....	.....	3	.....	8	.....	SSW	3	SW	D. clouds. rained 1 hour.	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.05	763.3	62.2	16.8	.....	W	.....	.....	4	.....	1	.....	SE	1	W	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima, Capt. S. C. da Silva Costa. Port Praya, Cape Verd Islands	.....	.....	30.06	763.5	75.9	24.4	.....	ENE	.....	.....	3	.....	0	.....	.....	2	NE	Blue sky	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.89	759.1	80.6	27.0	.....	S	.....	.....	4	.....	6	.....	S	2	S	Raining 4 hours	J.G. Felgo 2nd Lieut.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sà da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.54	750.2	29.94	760.5	72.0	22.2	66	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.52	749.9	29.92	759.9	83.7	28.7	36	SSE	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.71	754.6	29.94	760.4	81.0	27.2	43	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.92	759.9	29.93	760.3	85.6	29.8	39	SSW	4	2	.....	.....	4kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.26	743.1	29.85	758.2	83.1	28.4	29	NE	7	3	.....	.....	6k;ks; c;ck]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.82	757.4	29.89	759.2	81.9	27.7	36	ESE	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.52	749.8	29.65	753.2	71.8	22.1	46	SW	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.58	751.2	29.77	756.2	80.6	27.0	34	N	22	10	.....	.....	7	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.84	757.8	29.85	758.3	65.3	18.5	69	ESE	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.35	720.0	29.68	753.9	81.1	27.3	36	NW	13	6	.....	.....	1ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.86	758.5	29.78	756.4	76.1	24.5	48	SSW	2	1	.....	.....	7ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.41	746.9	29.86	758.5	65.8	18.8	29	N	20	9	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.58	751.4	29.84	758.0	66.2	19.0	29	NNW	4	2	.....	.....	1	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.72	729.4	29.67	753.6	48.4	9.1	68	WNW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.34	745.2	29.56	750.7	91.2	32.9	25	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	
Tashkend	28.08	713.2	29.53	750.0	88.5	31.4	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.21	741.9	29.69	754.0	70.7	21.5	43	NW	9	4	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.6	29.75	755.6	71.1	21.7	68	S	2	1	.....	.....	3	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.66	753.3	29.80	756.9	72.3	22.4	73	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	
Vladivostock	29.83	757.7	29.93	760.2	51.4	10.8	95	SW	7.6	3.4	.....	.....	10n	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	71.8	22.1	62	SE	3.2	1.44	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.86	758.4	29.91	759.8	86.3	29.6	52	NW	1.8	0.81	.....	.....	0	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	687.9	.....	.....	79.9	26.6	39	SW	4.9	2.19	.....	.....	1	.....	.....	0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Oservatory	27.82	706.5	29.90	759.4	90.0	32.2	23	SW	11.9	5.34	.....	.....	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.04	763.0	84.6	29.2	42	ENE	5.8	2.58	.....	.....	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.06	738.2	29.95	760.6	62.5	17.1	86	SW	17.4	7.8	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.9	29.98	761.5	78.5	25.8	83	ESE	6.5	2.9	.....	2c	1k	NNW	.....	0.390	9.9	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	756.0	29.81	757.3	83.3	28.5	74	ENE	2.2	1.0	.....	.....	3s	.....	E	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.96	760.9	30.05	763.3	73.2	22.9	70	WSW	7.3	3.3	.....	0	5	.....	SW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.98	761.5	30.07	763.8	84.6	29.2	74	E	6.2	2.75	.....	2c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.74	755.3	29.78	756.3	56.1	13.4	.....	S	.....	.....	2	.....	7	.....	.....	0.787	20.0	.....	
Umea	29.75	755.6	29.80	756.9	58.6	14.8	81	SW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Hernosand	29.67	753.5	29.72	754.8	68.4	20.2	74	S	.....	.....	6	.....	2	.....	.....	0	0	.....	
Stockholm	29.73	755.2	29.91	759.7	64.9	18.3	74	S	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.78	756.3	29.84	757.8	73.4	23.0	58	SSE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.78	756.5	29.86	758.4	74.5	23.6	44	S	13.4	6.0	.....	.....	1	S	SSW	0.130	3.30	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.44	722.4	30.03	762.7	69.8	20.7	50	W	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Counbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.81	757.1	78.4	25.8	54	N	13	6.0	.....	.....	1	.....	W	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	104.0	40.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	763.0	75.6	24.2	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	Misty	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.5	87.8	31.0	62	SW	.....	.....	3	.....	3s	.....	SW	0	0	D. Clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.00	762.0	30.30	769.6	63	17.2	.....	Calm	0	0	.....	0	0	.....	.....	0.17	4.3	Clear	W. R. Bigg.
Chatham, N. B	30.08	764.0	30.14	765.5	58	14.4	65	NE	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.07	763.8	30.11	764.8	54	12.2	73	N	8	3.6	.....	0	2s	.....	.....	0.055	1.40	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	30.08	764.0	30.27	768.8	53.0	11.7	96	NW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	29.98	761.5	30.14	765.5	60	15.6	60	W	.....	.....	1	1cs	0	.....	.....	0.02	0.5	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.17	766.3	30.19	766.8	49	9.4	85	SW	18	8.0	.....	5c	5s	NE	W	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.18	765.3	30.19	766.8	56.6	13.9	67	SE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.11	739.4	29.91	759.7	60	15.6	85	S	9	4.0	.....	5k	5n	S	S	0.210	5.33	Cloudy	James Stewart.
Granton, Ontario	29.23	742.4	30.33	770.4	56	13.3	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.03	762.7	30.15	765.8	54	12.2	63	NW	8	3.6	.....	0	0	.....	.....	0.359	9.12	Clear	F. Allison, M. A.
Hamilton, Ontario	29.95	760.7	30.32	770.1	55.7	13.2	84	NW	.....	.....	1	0	0	.....	.....	0.11	2.8	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.95	760.7	30.28	769.1	58	14.4	83	E	5	2.2	.....	0	0	.....	.....	0.24	6.1	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	50.3	10.2	82	E	6	2.7	.....	2k	0	W	.....	0.15	3.8	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.08	764.0	30.28	769.1	58	14.4	82	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.64	752.8	30.33	770.4	60	15.6	76	NE	3	1.3	.....	0	0	.....	.....	0.12	3.0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.56	750.8	30.29	769.4	63.2	17.3	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.62	752.3	30.32	770.1	54	12.2	87	N	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	H. Morgan.
Port Hastings, N. S	30.05	763.3	30.10	764.5	48.6	9.2	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.66	753.4	30.30	769.6	55	12.8	84	N	4	1.8	.....	2ck	0	N	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.94	760.5	30.26	768.6	53	11.7	83	NW	.....	.....	1	0	0	.....	.....	0.06	1.5	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.77	756.1	30.23	767.8	55	12.8	80	NW	4	1.8	.....	5c	0	NE	.....	0.06	1.5	Fair	W. H. McIntyre.
St. Andrews, N. B	30.12	765.0	30.17	766.3	52	11.1	71	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.02	762.5	30.18	766.6	53	11.7	70	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.61	752.1	30.32	770.1	60	15.6	66	SE	1	0.4	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.54	750.3	30.31	769.9	58	14.4	58	N	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	R. J. Cole.
Stratford, Ontario	29.02	737.1	30.30	769.6	55.1	12.8	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.02	762.5	30.06	763.5	51	10.6	66	N	3	1.3	.....	0	2ks	.....	N	0.21	5.3	Clear	T. C. Hill.
*Toronto, Ontario	29.94	760.5	30.32	770.1	60	15.6	72	N	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.04	763.0	30.14	765.5	50.5	10.3	79	W	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.72	754.9	29.97	761.2	45.0	7.2	68	NE	.....	.....	.....	.....	10s?	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,075 feet, or 809 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.07	763.8	30.30	769.6	55	12.8	74	N	3	1.3		8cs	0	N		0.09	2.3	Fair	
Alpena, Michigan	29.68	753.9	30.32	770.1	61	16.1	55	NW	4	1.8		0	0			0	0	Clear	
Atcha, Aleutian Islands					42	5.6	100	Calm			0		10s		Calm	0	0	Cloudy	
Atlanta, Georgia	28.97	735.8	30.09	764.3	65	18.3	68	NE	12	5.4		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	30.23	767.8	30.25	768.3	63	17.2	72	E	5	2.2		0	0			0	0	Clear	
Augusta, Georgia	29.96	761.0	30.16	766.1	67	19.4	74	NE	8	3.6		0	8s		NE	Inap.	Inap.	Fair	
Baltimore, Maryland	30.20	767.1	30.25	768.3	65	18.3	58	NE	9	4.0		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.20	767.1	30.23	767.8	65	18.3	73	NE	10	4.5		2k	0	Calm		0	0	Clear	
Bismarck, Dakota	28.02	711.7	29.88	758.9	64	17.8	100	SE	4	1.8			10n		SE	0.32	8.1	Light rain	
Boerne, Texas	28.54	724.9	29.81	757.2	73	22.8	72	E	4	1.8		5k	5ks	SE	SE	0	0	Cloudy	
Boise City, Idaho	27.25	692.1	30.21	767.3	52	11.1	79	SE	1	0.4		5c	2s	W	W	0.06	1.5	Fair	
Boston, Massachusetts	30.12	765.0	30.28	769.1	58	14.4	70	NE	9	4.0		2k	0	NE		Inap	Inap	Fair	
Brackettville, Texas	28.83	732.3	29.82	757.4	75	23.9	86	E	4	1.8		5k	2ks	Calm	E	0.09	2.3	Fair	
Breckenridge, Minnesota	28.98	736.1	29.94	760.5	63	17.2	67	SE	24	10.7		8cs	0	SW		0	0	Cloudy	
Brownsville, Texas	29.85	758.2	29.89	759.2	79	26.1	87	Calm	0	0		8ck	0	Calm		0.44	11.2	Fair	
Buffalo, New York	29.60	751.8	30.31	769.9	54	12.2	87	Calm	0	0		Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Burkes, Arizona					73	22.8	35	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.99	761.7	30.28	769.1	56	13.3	75	N	3	1.3		0	0			0.02	0.5	Clear	
Cairo, Illinois	29.57	758.7	30.26	768.6	65	18.3	58	NE	5	2.2		2c	0	NW		0	0	Fair	
Campo, California	27.35	694.7	29.92	760.0	38	3.3	72	E	3	1.3		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	66	18.9	69	NE	20	8.9			10s		NE	0	0	Cloudy	
Cape Henry, Virginia	30.17	766.3	30.19	766.8	67	19.4	64	NE	10	4.5		5ck	2ks	NE	NE	0	0	Cloudy	
Cape Lookout, N. Carolina	30.08	764.0	30.10	764.5	66	18.9	59	NE	28	12.5		5ck	0	W		0.03	0.8	Fair	
Cape May, New Jersey	30.16	766.1	30.19	766.8	65	18.3	73	SE	6	2.7		8k	0	N		0	0	Cloudy	
Castroville, Texas	29.18	741.1	29.85	758.2	78	25.6	82	SE	4	1.8		0	5s		SE	Inap.	Inap.	Fair	
Charleston, South Carolina	30.01	762.2	30.07	763.8	70	21.1	75	NE	14	6.3		8ck	0	NE		0.24	6.1	Cloudy	
Charlotte, North Carolina	29.33	745.0	30.13	765.3	63	17.2	67	NE	8	3.6		2ck	0	N		Inap.	Inap.	Fair	
Chattanooga, Tennessee	29.38	746.2	30.17	766.3	64	17.8	48	NE	14	6.3		1cs	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	50	10.0	58	Calm	0	0		0	0			0.03	0.8	Cear	
Chicago, Illinois	29.60	751.8	30.30	769.6	59	15.0	59	NE	4	1.8		2cs	0	Calm		0	0	Clear	
Cincinnati, Ohio	29.66	753.4	30.31	769.9	62	16.7	58	E	5	2.2		1c	0	Calm		0	0	Clear	
Cleveland, Ohio	29.59	751.6	30.31	769.9	61	16.1	61	N	6	2.7		0	0			0	0	Clear	
Coleman City, Texas	28.19	716.0	29.77	756.1	78	25.6	78	SE	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.47	748.5	30.31	769.9	62	16.7	56	N	3	1.3		2k	0	NW		0	0	Fair	
Concho, Texas	28.07	713.0	29.66	753.4	78	25.6	65	SE	9	4.0		8k	0	SE		0	0	Fair	
Corsicana, Texas	29.57	751.1	30.02	762.5	75	23.9	77	S	6	2.7			10s		S	0	0	Cloudy	
Davenport, Iowa	29.63	752.6	30.28	769.1	56	13.3	63	E	4	1.8		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.33	643.4			54	12.2	80	Calm	0	0			10s		SW	0.06	1.5	Cloudy	
Decatur, Texas	28.83	732.3	29.95	760.7	75	23.9	81	E	6	2.7		0	5s		S	0	0	Fair	
Denison, Texas	29.25	742.9	30.01	762.2	73	22.8	72	E	8	3.6		5cs	0	SE		0.01	0.3	Fair	
Denver, Colorado	24.76	628.9	29.98	761.5	55	12.8	68	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.29	744.0	30.16	766.1	60	15.6	71	SE	4	1.8		5c	0	NW		0	0	Fair	
Detroit, Michigan	29.65	753.1	30.32	770.1	57	13.9	63	N	4	1.8		0	0			0	0	Clear	
Dodge City, Kansas	27.38	695.4	29.58	751.3	67	19.4	54	S	20	8.9		8c	2ks	S	S	0	0	Cloudy	
Dubuque, Iowa	29.57	751.1	30.27	768.8	57	13.9	58	E	4	1.8		8cs;k	Haze	sw;se	Calm	0	0	Fair	
Duluth, Minnesota	29.48	748.8	30.16	766.1	56	13.3	69	NE	2	0.9		5k	0	Calm		0	0	Fair	
Eagle Pass, Texa	29.17	740.9	29.86	758.4	77	25.0	82	SE	3	1.3		2ck	2s	Calm	SE	0	0	Fair	
Eastport, Maine	30.12	765.0	30.18	766.6	53	11.7	67	NW	8	3.6		0	0			0.01	0.3	Clear	
Edinburg, Texas					78	25.6	86	Calm			0	0	2s		Calm	0.20	5.1	Fair	
El Paso, Texas	26.19	665.2			68	20.0	64	Calm	0	0		2c	8s	W	W	0.02	0.5	Cloudy	
Erie, Pennsylvania	29.60	751.7	30.31	769.9	58	14.4	82	N	3	1.3		2k	0	Calm		0.29	7.4	Fair	
Escanaba, Michigan	29.66	753.4	30.31	769.9	65	18.3	54	S	7	3.1		0	0			0	0	Clear	
Florence, Arizona	28.40	721.3	30.00	762.0	85	29.4	18	S	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.81	706.4			61	16.1	94	SW	1	0.4			10n		Calm	0.40	10.2	Light rain	
Fort Craig, New Mexico	25.50	647.7	29.56	750.8	58	14.4	47	W	2	0.9		8c	0	Calm		0	0	Cloudy	
Fort Davis, Texas	25.20	640.1	30.16	766.1	66	18.9	79	SW	3	1.3		0	0			1.83	46.5	Clear	
Fort Gibson, Indian Ter	29.55	750.6	30.07	763.8	73	22.8	50	SE	16	7.2		2c	0	S		0	0	Fair	
Fort Grant, Arizona	25.21	640.3	30.01	762.2	65	18.3	31	N	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.73	729.7	29.94	760.5	76	24.4	73	SE	6	2.7			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.30	693.4			60	15.6	100	Calm	0	0			10n		Calm	0.21	5.3	Light rain	
Fort McKavett, Texas	27.75	704.8	29.58	751.3	75	23.9	68	S	8	3.6		5ck	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	30.08	764.0	30.11	764.8	35	1.7	100	SW	12	5.4			10s		Calm	0	0	Cloudy	
Fort Shaw																			
Fort Sill, Indian Territory	28.80	731.5	29.87	758.7	69	20.6	95	NE	4	1.8			10s		Calm	1.75	44.5	Cloudy	
Fort Stevenson, Dakota	28.00	711.2			62	16.7	88	W	3	1.3			10n		W	0.40	10.2	Light rain	
Fort Verde, Arizona					55	12.8	33	NW			1	5cs	0	W		0	0	Fair	
Port Yates																			
Fredericksburg, Texas	28.24	717.3	29.73	755.1	76	24.4	73	S	1	0.4		0	5ks		S	0.30	7.6	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	80	26.7	87	NE	4	1.8		5k	5ks	W	SE	0	0	Threatening	
Graham, Texas	28.90	734.0	29.90	759.4	79	26.1	74	SE	3	1.3		0	8s		SW	0	0	Fair	
Grand Haven, Michigan	29.66	753.4	30.30	769.6	65	18.3	54	SE	5	2.2		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	29.04	737.6	29.93	760.0	75	23.9	86	NE	10	4.5		0	5ks		W	0	0	Threatening	
Indianapolis, Indiana	29.49	749.0	30.26	768.6	65	18.3	54	Calm	0	0		8c	0	Calm		0	0	Fair	
Indianola, Texas	29.95	760.7	29.98	761.5	82	27.8	83	E	6	2.7		0	5ks		E	Inap.	Inap.	Fair	
Jacksboro, Texas	28.87	733.3	29.95	760.7	77	25.0	73	SE	8	3.6		8cs	0			0	0	Fair	
Jacksonville, Florida	29.98	761.5	30.00	762.0	79	26.1	74	NE	10	4.5		5k	0	NE		0.18	4.6	Fair	
Keokuk, Iowa	29.60	751.8	30.21	767.3	55	12.8	74	SE	9	4.0		4c	0	W		0	0	Fair	
Key West, Florida	29.95	760.7	29.98	761.5	83	28.3	71	S	4	1.8		1k	0	S		Inap.	Inap.	Clear	
Kittyhawk, North Carolina	30.11	761.8	30.14	765.5	65	18.3	68	NE	24	10.7		5cs	0	NW		0	0	Fair	
Knoxville, Tennessee	29.22	742.2	30.22	767.6	61	16.1	55	E	8	3.6		2cs	Haze	Calm		0	0	Fair	
La Crosse, Wisconsin	29.50	749.3	30.24	768.1	59	15.0	70	S	4	1.8		2k	0	NW		0	0	Clear	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	64	17.8	68	Calm	0	0		8cs	0	Calm		0	0	Cloudy	
Laredo, Texas	29.48	748.8	29.81	757.2	77	25.0	61	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.27	743.4	30.09	764.3	66	18.9	64	SE	18	8.0		8ck	0	SW		0	0	Fair	
Little Rock, Kansas																			
Los Angeles, California	29.57	751.1	29.90	759.4	60.5	15.8	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.70	754.4	30.25	768.3	62	16.7	56	NE	10	4.5		5c	0	Calm		0	0	Fair	
Lynchburg, Virginia	29.57	751.1	30.24	768.1	66	18.9	50	E	4	1.8		5ck	0	N		0	0	Fair	
Madison, Wisconsin	29.30	744.2	30.28	769.1	57	13.9	75	S	2	0.9		8c	0	NW		0	0	Fair	
Marquette, Michigan	29.55	750.6	30.24	768.1	65	18.3	68	W	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.37	720.8	30.01	763.0	76	24.4	73	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.81	757.2	30.15	765.8	65	18.3	49	NE	8	3.6		Haze	0	Calm		0	0	Clear	
Milwaukee, Wisconsin	29.56	750.8	30.28	769.1	58	14.4	58	NE	3	1.3		2cs	0	Calm		0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	76	24.4	73	NE	8	3.6		8c	0	NW		0	0	Fair	
Montgomery, Alabama	29.56	758.4	30.09	764.3	75	23.9	79	NE	8	3.6		1c	0	NE		0	0	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.28	743.7	30.27	768.8	58	14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Mt. Washington, N. H.	23.98	609.1	30.34	770.6	33	0.6	79	E	10	4.5	.....	5k	0	E	.....	0	0	Fair.....	
Nashville, Tennessee	29.68	753.9	30.20	767.1	69	20.6	48	NE	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear.....	
New Haven, Connecticut	30.14	765.5	30.25	768.3	61	16.1	61	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
New London, Connecticut	30.22	767.6	29.27	768.8	61	16.1	61	N	5	2.2	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear.....	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	80	26.7	55	NE	12	5.4	.....	5c	0	Calm	.....	0	0	Fair.....	
Newport, Rhode Island	30.21	767.3	30.26	768.6	61	16.1	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
New York, New York	30.09	764.3	30.27	768.8	63	17.2	72	NE	10	4.5	.....	0	Haze	.....	Calm	0.02	0.5	Clear.....	
Norfolk, Virginia	30.13	765.3	30.10	766.8	67	19.4	55	NE	4	1.8	.....	0	8s	.....	E	0	0	Cloudy.....	
North Platte, Nebraska	26.99	685.5	29.44	747.8	66	18.9	89	S	20	8.9	.....	.....	10s	.....	S	0.46	11.7	Cloudy.....	
Olympia, Washington Ter.	30.17	766.3	30.21	767.3	52.0	11.1	93	SW	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Omaha, Nebraska	28.92	734.6	29.98	761.5	68	20.0	60	SE	10	4.5	.....	5c	2s	S	Calm	0	0	Fair.....	
Oswego, New York	29.99	761.7	30.32	770.1	53	11.7	93	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Pembina, Dakota	29.04	737.6	29.84	757.9	61	16.1	77	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Philadelphia, Pa	30.19	766.8	30.24	768.1	62	16.7	77	NE	8	3.6	.....	0	Sm'e	.....	Calm	0.02	0.5	Clear.....	
Phœnix, Arizona	28.65	727.7	30.38	771.6	71	21.7	25	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.88	454.1	30.09	764.3	28	— 2.2	22	SW	28	12.5	.....	5ck	0	SW	.....	0	0	Fair.....	
Pioche, Nevada	.....	.....	.....	.....	45	7.2	53	NW	4	1.8	.....	1c	0	NW	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.47	748.5	30.29	769.4	51	10.6	79	NW	3	1.3	.....	0	Fog	.....	Calm.	0	0	Clear.....	
Port Huron, Michigan	29.66	753.4	30.32	770.1	56	13.3	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	30.23	767.8	30.28	769.1	55	12.8	68	NE	1	0.4	.....	0	0	.....	.....	0.13	3.3	Clear.....	
Portland, Oregon	30.17	766.3	30.24	768.1	58.0	14.4	82	NW	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy.....	
Prescott, Arizona	24.75	628.6	30.11	764.8	47	8.3	28	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	29.96	761.0	29.98	761.5	87	30.6	65	SW	7	3.1	.....	2k	0	SW	.....	0	0	Clear.....	
Red Bluff, California	29.57	751.1	29.92	760.0	74	23.3	32	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	78	25.6	86	E	4	1.8	.....	0	5s	.....	E	0	0	Fair.....	
Rochester, New York	29.69	754.1	30.30	769.6	57	13.9	69	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Roseburg, Oregon	29.66	753.4	30.28	767.8	57	13.9	81	N	8	3.6	.....	2k	2s	NE	NE	0	0	Fair.....	
Sacramento, California	29.77	756.1	29.85	758.2	72	22.2	50	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.68	753.9	30.25	768.3	62	16.7	36	E	8	3.6	.....	5cs	Sm'e	Calm	.....	0	0	Fair.....	
St. Marks, Florida	30.00	762.0	30.02	762.5	75	23.9	81	NE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy.....	
St. Paul, Minnesota	29.30	744.2	30.12	765.0	58	14.4	58	SE	17	7.6	.....	8c	0	W	.....	0	0	Fair.....	
Salt Lake City, Utah	25.70	652.8	30.03	762.7	50	10.0	52	E	4	1.8	.....	1k	0	NW	.....	0.05	1.3	Clear.....	
San Antonio, Texas	29.30	744.2	29.85	758.2	79	26.1	78	E	4	1.8	.....	0	0	.....	.....	0.26	6.6	Clear.....	
San Diego, California	29.87	758.7	29.94	760.5	56	13.3	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.67	753.6	30.34	770.6	61	16.1	71	N	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey	30.21	767.3	30.25	768.3	59	15.0	76	NE	9	4.0	.....	0	0	.....	.....	0.10	2.5	Clear.....	
San Francisco, California	29.81	757.2	29.88	758.9	59.5	15.3	73	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	50	10.0	72	NE	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy.....	
Savannah, Georgia	29.99	761.7	30.08	764.0	71	21.7	80	NE	10	4.5	.....	5ck	5s	NE	NE	0.07	1.8	Cloudy.....	
Shreveport, Louisiana	29.87	758.7	30.08	764.0	72	22.2	62	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair.....	
Silver City, New Mexico	24.30	617.2	30.35	770.9	57	13.9	10	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.09	765.3	30.13	765.3	66	18.9	74	N	12	5.4	.....	0	0	.....	.....	0.31	7.9	Clear.....	
Socom	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	30.15	765.8	30.28	769.1	59	15.0	65	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	26.96	684.8	29.96	761.0	74	23.3	51	SE	8	3.6	.....	8cs	0	E	.....	Inap.	Inap.	Cloudy.....	
Thatcher's Island, Mass	30.24	768.1	30.29	769.4	55	12.8	81	E	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.62	752.3	30.31	769.9	60	15.6	65	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.47	697.7	30.02	762.5	65	18.3	26	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.74	755.4	30.23	767.8	59.0	15.0	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.04	737.6	29.83	757.7	75	23.9	86	Calm	0	0	.....	5ck	2s	SE	E	0	0	Fair.....	
Vicksburg, Mississippi	29.83	757.7	30.08	764.0	70	21.1	66	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.28	616.7	29.76	755.9	43	6.1	75	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear.....	
Visalia, California	29.48	748.8	29.85	758.2	56	13.3	48	SE	2	0.9	.....	2c	0	Calm	.....	0	0	Fair.....	
Washington, D. C.	30.11	764.8	30.23	767.8	63	17.2	67	NE	12	5.4	.....	2ck	5s	N	N	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	57	13.9	41	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	30.03	762.7	30.11	764.8	65	18.3	68	NE	8	3.6	.....	0	0	.....	.....	0.86	21.8	Clear.....	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	45.0	7.2	76	NE	2	0.9	.....	0	4s	.....	N	0	0	Fair.....	
Wood's Holl, Mass	30.20	767.1	30.24	768.1	61	16.1	60	E	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota	28.71	629.2	29.96	761.0	63	17.2	72	SE	14	6.3	.....	5c	0	SW	.....	0	0	Fair.....	
Yuma, Arizona	29.64	752.8	29.80	756.9	68	20.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	79	26.1	78	SE	1.2	0.5	.....	8c	0	Calm	.....	0.82	20.8	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	64.0	17.8	82	Calm	.....	.....	0	.....	10n	.....	.....	0.02	0.5	.....	Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	82	27.8	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.99	761.7	82	27.8	79	SE	.....	.....	2	3c	5k	SE	.....	0.020	0.51	Fair.....	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,100. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft. or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,060 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.485 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm., Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.. Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.. Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.. Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.01‡	762.2‡			80	26.7	82	NE	5	2.2			2		NE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.75‡	755.6‡			74	23.3	90	SW			5		10nks		SW	Slight	Slight			Light rain	
Adams, La Union, San Salvador.	29.87‡	758.7‡			80	26.7	96	NE			2		8		NE					Fair	
Alaska, N. 51° 22′, W. 132° 39′	30.14‡	765.5‡			50	10.0	100	SW			5		10			0.125	3.0	Mod'ate	Long	Raining	
Alliance, Havre, France	29.99‡	761.7‡			65	18.3	68	W			1		6		S					Pleasant	
Ashuelot, N. 36° 17′, E. 123° 37′	29.77‡	756.1‡			67	19.4	89	SW			3		2		SW	0	0			Fair	
Colorado, New York, N. Y.	30.27‡	768.8‡			60	15.6	65	NE	6	2.7			0			0	0			Hazy	
Constellation, N. 38° 26′, W. 76° 23′	30.26‡	768.6‡			63	17.2	78	NNE			5		2		Calm					Fair	
Constitution, League Island, Penn	30.15‡	765.8‡			64	17.8	73	N E			1		1		Calm					Clear	
Despatch, St. George's, Bermuda	30.11‡	764.8‡			74	23.3	86	SSW			2		6		SW	3hr's	3hr's	Smooth		Fair	
Enterprise, Jahde river, Germany	29.85‡	758.2‡			57	13.9	87	NNW			6		10		W					Raining	
Franklin, Norfolk, Va.	30.21‡	767.3‡			69	20.6	65	NE	6	2.7			5		N	0	0			Fair	
Hartford, Montevideo, Uruguay	29.61‡	752.1‡			60	15.6	100	NNE	4	1.8			10		NE	0	0			Cloudy	
Kearsarge, Portsmouth, N. H.	30.27‡	768.8‡			58	14.4	70	ESE			1		0?		ESE					Clear	
Marion, N. 25° 10′, W. 80° 05′	30.00‡	762.0‡			82	27.8	91	N;W			1		2		N			Smooth		Clear	
Michigan, Erie, Pa	30.29‡	69.4‡			63	17.2	78	N			2		5		N					Fair	
Monocacy, Shanghai, China	29.83‡	757.7‡			74	23.3	95	WSW			0–1		0							Clear	
Monongahela, Yokohama, Japan	29.7:‡	754.9‡			76	24.4	86	SW			1–2		kn			Very light	Very light			D. clouds	
New Hampshire, Port Royal, S. C.	30.05‡	763.3‡			73	22.8	81	NE	20	8.9			5		NE	0.57	14 5			Fair	
Onward, Callao, Peru †	30.15‡	766.6‡			62	16.7	94	Calm			0		10					Long	W	Foggy	
Palos, Shanghai, China	29.81‡	757.2‡			76	24.4	95	NW			1		2							Fair	
Passaic, Washington, D. C.					65	18.3	94	NE			2		8							Cloudy	
Pensacola, S. 17° 31′, W. 71° 44′	30.06‡	763.5‡			65	18.3	73	E	6	2.7			5		E	0	0	Long	S	Fair	
Portsmouth, Gardner's Bay, Long Island, N.Y.	30.25‡	768.3‡			60	15.6	65	NE			2		0			0	0	Smooth		Clear	
Powhatan, Off Cape May, N. J.	30.19‡	766.8‡			65	18.3	73	NNE			1		2		Calm	0	0			Clear	
Quinnebaug, Gallipoli, Turkey	29.77‡	756.1‡			79	26.1	57	ENE			5		0							Clear	
Ranger, Amoy, China	29.89‡	759.2‡			84	28.9	87	SSE			1		5		Calm			Smooth		D. clouds	
Richmond, N. 34 09′, E. 124° 58′	29.78‡	756.4‡			70	21.1	90	S			2		0?		S			Long	SSW	Clear	
Rio Bravo, Brownsville, Texas	29.89‡	759.2‡			79	26.1	95	SE			1		5		E	0.96	24.4			Fair	
Santee, Annapolis, Md.	30.22‡	767.6‡			64	17.8	73	NE			4		2		NE	0	0			Fair	
Saratoga, N. 24° 46′, W. 45° 08′	30.20‡	767.1‡			81	27.2	78	ENE			3		2		Calm	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa	30.20‡	767.1‡			64	17.8	73	NE	6	2.7			0			0	0			Clear	
Trenton, N. 38° 30′, W. 16° 01′	30.07‡	763.8‡			67	19.4	77	WSW			3		10		W			Mod'ate	W	Drizzling	
Tuscarora, N. 23° 26′, W. 110° 39′	29.92‡	760.0‡			68	20.0	95	NW			2		8		Calm	0	0	Smooth		D. clouds	
Vandalia, N. 39° 15′, W. 74° 04′	30.22‡	767.6‡			65	18.3	73	ENE			1		2		ENE	0	0			Clear	
Wabash, Boston, Mass	30.25‡	768.3‡			55	12.8	87	NE	5	2.2			5			0	0			Fair	
Wyoming, Venice, Italy	30.00‡	762.0‡			71	21.7	57	ENE			2		2		E			Smooth		Clear	
Wachusett, Navy Yard, Pensacola, Fla.	29.99‡	761.7‡			80	26.7	78	NE			6		2					Smooth		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whiteburn.
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse. San Francisco, Cal.....†		29.90‡	759.4‡	57	13.9	75	Calm			0		0						Clear	W H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic																			Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 47′, W. 9° 46′		29.56‡	750.8‡	58.0	14.4	94	SSW			7		10			12h'rs	Cross	SW	Misty	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peifler, N. 42° 22′, W. 42° 46′		29.79‡	756.7‡	61.0	16.1	77	W			6		5			0	Long	W	Clear†	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.89‡	759.2‡				SW			5		10		SW				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.24‡	768.1‡	68	20.0	84	N			2		2		NNW	Light			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 42° 36′, W. 45° 21′		*9.82‡	757.4‡				WNW	15	6.7			2		WNW		Long	NW	Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss		30.03‡	762.7‡	77	25.0	61	SW	9	4.0		5c		SW		0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 27° 50′ W 64° 15′ †		30.19‡	766.8‡				S			3		8			0	Smooth		Cloudy	N. B. Foss.
Schooner Harry and Fred, N 29° 15′, W. 68° 00′		29.87‡	758.7‡				S	9	4.0			10		S	0	Smooth	S	Hazy	Capt. George Gardner.
W. D. Hilton, New London, Conn. †		30.24‡	768.1‡	61	16.1		N			3		1		N	Blank			Clear	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, N. 48° 24′ W 12° 53′ †		29.36‡	745.7‡	60.5	15.8	98	SSW			4		0				Long	SW	Clear	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′ W 66° 57′ †		30.19‡	766.8‡				NNE			4		0				None		Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 31° 35′, W. 79° 49′ †		30.00‡	762.0‡	79	26.1		NNE			6				NE		Rough		Squally	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 20, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.07	763.7	80.1	26.7	64	WNW			1		0			0	0	Clear	Kesxuche.
Algiers			30.02	762.6	83.5	28.6	39	W			4		0			0	0	Clear	Tourliiere.
La Calle			30.04	763.0	83.5	28.6	68	N			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.13	765.3															Gau.
Saida			30.10	764.6	91.4	33.0	12	N			3		0			0	0	Clear	Herbin.
Tebessa			30.03	762.7	84.7	29.3	32	N			1		8			0.280	7.1	Very cloudy	Watrin.
Geriville			30.11	764.7	88.7	31.5	45	NNW			1		5			0	0	Cloudy	Brugniaux.
Laghouat			30.01	762.3	103.3	39.6	23	SSW			6		2			0	0	Fair	Bertrand.
Biskra			29.98	761.4	100.9	38.3	37	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.43	747.5	29.95	760.8	75.6	24.2	39	SE			3		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.24	742.8	29.98	761.6	73.0	22.8	66	NE			1		4			0	0		Dr. Wierzbiski.
Eperies	29.08	738.6	29.92	760 0	73.6	23.1	68	Calm			0		5ks;cs		S	0.049	1.25		Julius Mikolik.
Gratz	28.76	730.4	29.96	761.0	72.3	22.4	51	S			2		2			0	0		Andreas Rospini.
Hermannstadt	28.52	724.4	29.90	759.5	70.5	21.4	78	NW			1		10			0.055	1.40	Raining	Prof. A. Gottschling.
Kremsmünster	28.63	727.3	29.92	759.9	72.7	22.6		ENE			2		2			0	0		Prof. C. Wagner.
Lemberg	28.98	736.0	29.92	760 0	73.9	23.3	66	NE			1		5			0.039	1.0		Dr. T. Stanecki.
Pola	29.89	759.3	30.00	762.1	75.2	24.0	52	WNW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.50	749.2	29.94	760.4	79.5	26.4	56	N			2		4			0.008	0.2		Julius Osics, S. J.
Szegedin	29.65	753.0	29.91	759.8	71.6	22.0	72	E			1		3			0	0		Karl Stancel.
Trieste	29.92	760.0	30.02	762.6	76.5	24.7	66	SW			1		1			0	0	Fair	P. Busin.
Vienna	29.29	744.0	29.99	761.7	75.6	24.2	46	NE			1		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.51	749.5	29.66	751.8	67.9	14.4		S	8	3.6			9			0	0	Misty	W. Boswell.
Ardrossan	29.58	751.3	29.60	751.8	59	15.0		SSW			4		7					D. clouds	Wm. McNeil & G. Carrick
Armagh, Observatory			29.61	752.1	60.0	15.6		SSW	14	6.3			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.71	754.6	64.8	18.2		SW	22	9.8			4					D. clouds	John Hartnup.
Bolton (Sharples)			29.70	754.4	63.0	17.2		SW	18	8.0			6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.71	754.6	65.0	18.3		W			2		8			0.03	3.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.98	761.5	30.01	762.2	85	29.4		E			2		3					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.69	754.1	29.78	756.4	65.0	18.3		SW			1		10			Blank	Blank	Overcast	H. Todd.
Cardington			29.77	756.1	67.0	19.4		SW			1		9					Overcast	John McLaren.
Chatham, School M. E.	29.70	754.4	29.82	757.4	65.5	18.6		Calm			0		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.59	751.6	29.63	752.6	63	17.2		SSW			6		5					D. clouds	J. Mac Gowan.
Dover	29.83	757.7	29.85	758.2	61	16.1		WSW			4		7					Misty	J. Costello.
Falmouth, Observatory	29.64	752.8	29.87	758.7	62.0	16.7		WSW			4		8					Overcast	The Staff.
Fort Napier (Natal)	27.64	702.0	29.93	760.2	66.2	19.0		E			2		9					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.72	754.9	29.95	760.7	84	28.9		SW			1		4					D. clouds	
Galway, Queen's College			29.57	751.1	59	15.0		SW			5		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.99	761.7	30.04	763.0	78.2	25.7		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.41	747.0	29.61	752.1	63.7	17.6		WSW			5		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.77	756.1	64	17.8		WSW			2		7					Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.65	753.1	29.82	757.4	65.8	18.8		SW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.70	754.4	29.92	760.0	62	16.7		WSW			3		5					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.91	759.7	30.03	762.7	65	18.3		SW			2	3c				0.20	5.1	Fine	M. P. Moyle.
Holyhead	29.73	755.1	29.73	755.1	60	15.6		SSW			6		1					Blue sky	John Tilston.
Jersey	29.67	753.6	29.96	761.0	60.7	15.9		W			5		4					D. clouds	J. Fisher.
Kew, Observatory	29.78	756.4	29.82	757.4	65.5	18.6		WSW	13	5.8			9					Threatening	The Met'g'l Office.
Leicester, Museum	29.51	749.5	29.76	755.9	64.0	17.8		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	76.0	24.4		E			2		0					Blue sky	A. King.
Nairn	29.44	747.8	29.52	749.8	67	19.4		Calm			0		0					Clear	W. D. Penny.
Nassau (Bahamas)			30.01	762.2	75.8	24.3		SE			1		10					Raining	C. S. Duncombe.
Nottingham, Observatory	29.58	751.3	29.77	756.1	66.1	18.9		W			2		10k;ks		SW	0.142	3.61	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.24	742.7	29.75	755.6	64.3	17.9		SW			5		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.79	756.7	65	18.3		SW			2		7					D. clouds	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	63.8	17.7		WSW			5		5					D. clouds	John Merrifield.
Prince Town	28.42	721.9	29.88	758.9	53.8	12.1		W			3		10					Gloomy	W. H. Tooker.
*Roche's Point	29.65	753.1	29.77	756.1	61	16.1		WSW			5		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.62	752.3	29.78	756.4	57	13.9		SW			4		6					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.56	750.8	57	13.9		SSE	22	9.8			10					Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.69	754.1	29.75	755.6	67.6	30.9		NE			2		7			0	0	D. clouds	Serg't W. H. Lyne.
Sheffield	29.46	748.3	29.73	755.1	68.4	20.2		WSW			3		5			0.03	0.8	D. clouds	W. F. Cooper.
Silloth Rectory	29.65	753.1	29.68	753.9	63.7	18.6	72	W			5		0			0.076	1.93	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.34	745.2	29.74	755.4	62.3	16.8		SW			2		7					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.61	752.1	29.82	757.4	64.4	18.0		SW			4–5		10					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.87	758.7	29.88	758.9	64	17.8		SW			4		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.66	753.4	29.68	753.9	59.0	15.0		SW	31	13.9			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.17	766.3	30.21	767.3	60.4	15.8	99	NW	2	0.9		6	10			0.005	0.13	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.36	771.1	45.0	7.2	80	NW			1		10k			0.01	0.3	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.64	752.8	65.0	18.3		SW			3	8k				0.08	2.0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.8	73.1	22.8	68	SSE	24.0	10.7		1	3		SE;	0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.33	770.4	30.42	772.6	44.5	6.9	80	ESE	3	1.3			7			0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.46	748.3	57	13.9		S			4	3	3	S		0.3	8.		J. Youngclaue.
North Unst (Shetland Is.)			29.62	752.3	52	11.1		SE			6	10	10			0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series.

Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.77‡	756.1‡	79	26.1		NE			3		6					D. clouds	Capt. W. J. L. Wharton.
Barque Fedalma, N. 45° 40′, W. 42° 40′			30.05	763.3	55	12.8		NNW			6		7			4	Var.	D. clouds	Capt. H. L. Fox.
S. S. Iron Cross, N. 51° 55′, W. 6° 45′			29.76	755.9	59	15.0		SSW			4		2			3	SW	Misty	Capt. W. Randall.
S. S. Nizam, N. 37° 22′, E. 9° 16′			30.09‡	764.3‡	73	22.8		NE			3		1					Blue sky	Capt. Barlow.
Astarte, N. 9° 05′, W. 26° 05′ *			30.01‡	762.2‡	80	26.7		NE			4		9					Drizzling	Capt. Parson.
British Peer, N. 28° 25′, W. 41° 30′			30.87‡	771.4‡	79.5	26.5		ENE			2		3					D. clouds	Capt. Greig.
Theophane, S. 26° 50′, E. 46° 50′			30.14‡	765.5‡	75	23.9		NNW			2		5					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
S. S. Algeria,																			Capt. Wm. Watson.
Brig Alliance.§																			Capt. W. Scott.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.18	665.0	29.90	759.4	68.0	20.0	92	Calm			0		10n			Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.1	29.89	759.3	60.3	15.7	78	SW			2		10						
Fanöe	29.85	758.1	29.87	758.6	62.6	17.0	78	SW			4		9						
Godthaab (Greenland)	29.36	745.8	29.41	746.9	40.6	4.8	84	NE			4		10						
Stykkisholm (Iceland)	29.21	742.0	29.26	743.1	54.0	12.2	82	SE			4		8					Raining	
Thorshavn (Faröe)	29.52	749.7	29.55	750.6	48.9	9.4	98	SE			2		10					Foggy	
Vestervig	29.69	754.1	29.86	758.4	57.9	14.4	81	Calm			0		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.45	747.9	30.00	761.9	64.8	18.2	69	NW			3		5	NW	WNW	0.04	1.	Cloudy	Collignon, Director.
Amiens, Normal School	29.79	756.7	29.90	759.4	59.0	15	89	NW			1		10			0.213	5.4	Covered	Bonvallet, Director.
Arras, Engin'r School	29.65	753.2	29.91	759.6	57.6	14.2	86	NW			4		10		NW	Inap	Inap.	Raining	Klein, Commandant.
Avignon, Normal School	29.97	761.3	30.05	763.3	68.0	20	87	NNE			1		10		SW			Rainy	Giraud, Director.
Bar-sur-Seine	29.41	747.1	29.95	760.7	69.4	20.8	61	WSW			1		10		W	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.67	753.6	29.93	760.2	58.6	14.8	88	WNW			1		8		WNW	0.008	0.20	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.10	739.0	29.95	760.6	76.8	24.9	55	SW			3		2		SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.11	764.7	77.4	25.2	54	SW			3	0		SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.41	747.0	29.95	760.7	64.8	18.2	92	W			1		10	W	W	0.43	11.	Covered	M. Gence, Director.
Brest, Naval Observatory	29.69	754.0	29.93	760.2	66.2	19.0	75	WSW			3		6		W	0.217	5.50		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.63	752.5	30.02	762.5	80.2	26.8	53	NW			2		5	NW	NW	0.071	1.8	Cloudy	September, Dir.
Caen, Normal School	29.84	757.9	29.91	759.7	66.9	19.4	81	W			2		2		SSW	0.12	3.	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.36	745.8	29.91	759.8	66.2	19	94	NW			2		9		W	0.374	9.5		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.7	29.95	760.6	63.1	17.3	83	SW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.67	728.2	30.00	762.0	63.3	17 4	76	NW			1		10		SW	0	0		Alluard, Director.
Commercy, Normal School	29.06	738.2	29.88	759.0	74.5	23.6	53	WSW			1		8kn		WSW	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.7	30.11	764.7	69.8	21	75	SW			2		8		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.24	742.6	29.98	761.5	70.5	21.4	59	NW			3		10n		W			Raining	Ablard, Director.
La Roche-sur-Yon, N. School	29.87	758.6	30.08	763.9	66.2	19.0	68	W			3		5		W	0.020	0.5	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.68	753.8	29.98	761.4	66.2	19	63	NW			3		8	W	NW	0.098	2.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.1	29.99	761.8	79.0	26.1	48	W			2		kn	W	W	0	0		A. Baudry, Director.
Lorient, Naval Observatory	29.39	759.2	29.99	761.7	64.8	18.2	71	SW			4			W	SW	0.319	8.1		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.72	754.8	29.98	761.6	75.6	24.2	48	E			1		8			Inap.	Inap.		E. Stephan, Director
Mirecourt, Normal School	28.88	733.4	29.87	758.7	74.7	23.7	69	N			3		2		NE	0	0	Slightly cld'y	Barbier, Director.
Nismes, Normal School	29.83	757.6	30.02	762.6	74.1	23.4	72	E			1		5		SW	0.059	1.50	Cloudy	M. Boyer, Director.
Privas, Normal School	28.90	734.0	29.94	760.4	65.3	18.5	90	S			4		n	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.20	640.2			48.2	9.0	100	WNW			8		10					Rain & fog	Alluard, Director.
Rochefort, Naval Obs'y	30.06	763.6	30.10	764.4	70.2	21.2	67	W			2		8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.85	758.3	29.94	760.5	64.9	18.3	59	WSW			1		5		W	0.031	0.8	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.91	759.8	29.94	760.5	64.2	17.9	81	N			2		1	W	W	0.142	3.60	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.77	756.1	29.93	760.3	64.0	17.8	98	WSW			1-2		10		WSW	0.220	5.6	Raining	E. Renou, Director.
Tarbes, Normal School	28.98	736.1	30.02	762.6	72.1	22.3	81	WSW			3		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.41	747.0	30.13	765.4	70.2	21.2	75	NW			4		9			0	0		M. Julier Mercadier.
Versailles, Observatory	29.43	747.6	29.93	760.1	66.2	19.0	84	W			2					0.221	5.62		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.1	29.98	761.5	75.6	24.2	61	ENE			1		8		SW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort-de France, Martinique	29.89	759.1	29.91	759.8	81.0	27.2										0.08	2.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.33	745.0	29.93	760.2	72.7	22.6	63	SSW			1		10		SSW			Rainy	Ch. André, Director.
Mont-Louis	24.97	634.3	30.29	769.3	64.4	18.0	55	SE	15.0	6.7			7		N	0.091	2.3	Raining	M. Cave.
Nice			30.05	763.2	75.2	24.0	67	S			1		10						Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.65	753.0			64.0	17.8	98	SW			3		10		SW	0.236	6.0	Sprinkling	Marié Davy, Director.
Perpignan	29.94	760.4	30.04	763.1	72.3	22.4	69	SE	7.4	3.3			5		W	0.031	0.8	Raining	Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.67	575.9			49.5	9.7		SW			1		9			0.480	12.2	Threatening	Gen'l de Nansouty.
Tours	29.78	756.3	29.97	761.3	70.0	21.1	51	W			3		5		W	0.161	4.1		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.90	759.4	29.92	760.0	69.1	20.6	96	Calm	0	0			10			1.004	25.5	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.1	29.98	761.5	72.5	22.5	49	W			2		1	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.81	757.2	29.98	761.4	75.4	24.1		SW			4		5			0.028	0.7		Prof. Dr. Arndt.
Breslau	29.51	749.6	30.04	763.1	74.5	23.6	46	ESE			1		1			0	0		Royal University Obs'ry.
Carlsruhe	29.50	749.4	29.91	759.8	75.6	24.2	52	S			0		5	SW		0.437	11.1	Thunder-storm.	Albert Senz.
Cassel	29.32	744.8	29.93	760.2	76.3	24.6	44	SW			2		4	SW		0.017	0.42		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	79.7	26.5	46	S			5		9			0	0		Director Lose.
Emden			29.84	758.0	73.4	23.0	65	S			1		1	W		0.417	10.6		Prof. Dr. Prestel.
Frankfort on the Main	29.56	750.9	29.93	760.1	77.5	25.3		S			2		7			0	0		Physical Society.
Freienwalde on the Oder	29.92	760.0	29.96	761.0	77.4	25.2	48	W			4		4k	W		0	0		Dr. Assmann.
Friedrichshafen	28.56	725.4	29.95	760.7	68.7	20.4	68	S			3		2	W		0	0		M. Wilhelm.
Hamburg	29.83	757.7	29.90	759.4	70.5	21.3	63	SW			4		5k			0.004	0.1	Fair	Captain F. Hegemann.
Kiel	29.88	758.9	29.89	759.3	68.4	20.2	68	SW			2		10			0.046	1.17		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.90	759.5	29.98	761.5	73.9	23.3	51	SW			2		2			0.083	2.1		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.67	751.0	29.97	761.3	75.0	24.0	49	SE			1		7	SSW		0.055	1.4		Prof. Bruhns, Privy Counselor.
Memel	29.94	760.4	29.98	761.6	68.0	20.0	60	SW			2		4cs					Hazy	Skalweit.
Munich (München)	28.17	715.6	30.04	762.9	73.5	22.9	41	N			3		4	SW		0	0		Dr. C. Larg.
Neufahrwasser	29.96	761.0	29.98	761.4	72.0	22.2	51	WSW			2		10			0	0		A. Lothes.
Posen	29.73	755.1	30.00	762.1	77.5	25.5	43	SW			2		8			0	0		Dr. Magener.
Strassburg (in Alsace)	29.40	746.7	29.92	760.0	76.6	24.8	47	SE			1		9			0	0		Imp. University Observatory.
Stuttgart	28.98	736.2	29.88	758.9	77.9	25.5	39	SE			1		3	W		0.051	1.3		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.5	29.63	760.3	72.1	22.5	33	W	1.1	0.5			3ck			0	0		T. Hopfner.
Wustrow	29.91	759.7	29.93	760.3	64.9	18.3	66	SW			3		8s			0	0		E. Schulz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.44	747.7	29.81	757.2	87.4	30.8		N			1.5		k					Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.45	748.1	29.50	749.3	86.8	30.4	72	WSW	13.0	5.8			4			0	0	D. clouds	
Deesa	29.08	738.5	29.53	750.1	94.3	34.6	45	Calm	14.3	6.4			9	E		0	0	D. clouds	
Bombay	29.55	750.7	29.59	751.6	81.3	27.4	87	S	14.0	6.3			10		S	0.13	3.3	Overcast	
Poona	27.77	705.4	29.62	752.4	77.7	25.4	81	W					10	Calm	W	0.56	14.2	Overcast	
Lahore	28.75	730.1	29.45	748.0	102.2	39.0	35	E	1.5	0.7			0			0	0	Blue sky	
Belgaum	27.14	689.3	29.66	753.2	76.8	24.9	79	SW	11.0	4.9			10	SW	SW	0	0	D. clouds	
Roorkee	28.65	727.8	29.52	749.9	91.0	32.8	62	S	3.9	1.7			5			0	0	D. clouds	
Agra	29.01	736.8	29.56	750.9	86.7	30.4	62	E					10		E	0	0		
Nagpur	28.51	724.2	29.52	749.9	90.7	32.6	55	S	2.8	1.2			7	NE		0.12	3.0	D. clouds	
Lucknow	29.15	740.5	29.52	749.7	96.1	35.6	62		5.4	2.4						0	0	Blue sky	
Allahabad	29.24	742.6	29.54	750.2	91.0	32.8	71	Calm	2.4	1.1			10			0.52	13.2	Overcast	
Patna	29.41	746.9	29.58	751.4	91.3	32.9	52	ENE	0.4	0.2			6	ENE	ENE	0	0	D. clouds	
Hazaribagh	27.61	701.2	29.57	751.2	86.0	30.0	62	SSE	8.4	3.8			10			0	0		
Cuttack	29.54	750.2	29.62	752.3	85.2	29.6	79	S	1.0	0.4			2			0.20	5.1	Drizzling	
Calcutta (Alipore)	29.62	752.2	29.64	752.8	85.9	29.9	72	SSE	6.0	2.7			8	E		0	0	D. clouds	
Goalpara	29.25	743.0	29.64	752.9	78.3	25.7	89	Calm	2.1	0.9			7			0.22	5.6	D. clouds	
Chittagong	29.63	752.7	29.72	755.0	83.1	28.4	89	SW	5.2	2.3			4			0	0		
Sibsagar	29.33	744.9	29.66	753.3	84.7	29.3	81	SW	1.4	0.6			10			0.06	1.5	D. clouds	
Jubbulpore	28.17	715.6	29.49	749.0	93.7	34.3	47	SE	3.8	1.7			10		W	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.0	30.00	762.1	77.0	25.0	45	S	2.5	1.1			3			0	0		Prof. Giovanni Clodig.
Milan	29.50	749.3	30.00	762.0	79.9	26.6	40	SW			2		6	WSW		0	0		Prof. Schiaparelli.
Padua	29.90	759.4	30.00	762.1	75.7	24.3	46	SW	3.1	1.4			1	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.13	739.8	30.00	762.0	75.2	24.0	39	E	1.8	0.8			8	NNW		0	0		Prof. P. F. Denza.
Genoa	29.85	758.3	30.04	763.0	72.1	22.3	71	SW	5.6	2.5			6	S		0	0		Prof. G. M. Garibaldi.
Mondovi	28.14	714.7	29.98	761.6	74.8	23.8	42	NNW			2		8			0	0		Prof. D. C. Bruno.
Pesaro	29.97	761.1	30.01	762.3	71.6	22.0	69	N	10.5	4.7			0			0	0		Prof. Luigi Guidi.
Florence	29.76	756.0	30.01	762.3	79.7	26.5	37	W			2		1			0	0		Cav. F. Meucci.
Leghorn	29.95	760.8	30.04	762.9	72.0	22.2	74	WSW			4		2			0	0		Prof. P. Monte.
Rome	29.84	757.8	30.00	762.1	80.2	26.8	48	WSW	11.2	5.0			1			0	0		Prof. P. S. Ferrari.
Lecce	29.73	755.2	29.98	761.4	78.9	23.3	52	NNE	15.0	6.7			1			0	0		Prof. C. De Giorgi.
Cosenza	29.11	739.3	29.95	760.8	82.4	28.0	66	NNW	3.8	1.7			1			0	0		Prof. D. Conti.
Cagliari	29.83	757.6	30.02	762.4	77.2	25.1	62	S			2		3	W		0	0		Prof. A. Facinotti.
Palermo	29.79	756.6	30.04	762.9	74.3	23.5	67	ENE	7.4	3.3			0			0	0		Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.8	79.5	26.4	59	W	4.9	2.2			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.49	749.0	30.04	763.1	76.1	24.5	71	SW	0.7	0.3			2			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.92	759.9	29.93	760.2	78.7	23.2	86	WSW	2.9	1.3			10n			1.057	26.85	Rainy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.95	760.7	72.4	22.4	91	W	0.7	0.3			9s			0.250	6.35	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.82	757.4	29.89	759.2	73.1	22.8	87	E	8.2	3.7			10s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	24.99	634.7	29.99	761.8	57.2	14.0	65	Calm			0	0	9		NE	0	0	Cloudy	Prof. L. Perez.
Leon	24.35	618.6	29.90	759.5	64.8	18.2	88	SW			1		10n		NW	0.09	2.4	Raining	Prof. M. Leal.
Mexico, Central Obs'y	23.00	584.2	29.93	760.3	57.2	14.0	92	Calm	0	0			10n			0.40	10.2	Light rain	The Staff.
Pabellon (Aguascalientes)					65.3	18.5	89	Calm			0		10n		E	Inap.	Inap.	Raining	M. V. de Leon, M. E
Tlacotalpam	29.82	757.4	29.83	757.7	76.3	24.6	92	NW			2	6	1	NE	W	0	0	Cloudy	Prof. M. M. Chásaro.
San Luis Potosi	24.14	613.1	30.03	762.8	62.1	16.7	34	NE			2		10		NE	0.04	1.0	Covered	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.52	572.0	30.06	763.4	58.8	14.9	86	NE			1	7c	3k	NE	NE	0.16	4.0	Raining	J. C. Castrillon.
Puebla (Catholic Institute)	23.34	592.9	30.11	764.7	55.2	12.9	54	SE	0.4	0.2		1c	2k	Calm	Calm	0.39	10.0	Clear	Prof. P. Spina.
Colima	28.32	719.4	29.95	760.6	79.5	26.4	82	E			1	0	10			0	0	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.59	751.5	29.87	758.8	73.9	23.3	91	E			1	2	7		SE	0	0	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft., Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.3	29.85	758.3	66.6	19.2		W								0	0		
Groningen	29.79	756.6	29.84	758.0	70.2	21.2		S			0					0	0		
Helder	29.82	757.3	29.82	757.3	66.2	19.0		S			4					0	0		
Hellevoetsluis	29.82	757.3	29.82	757.3	66.4	19.1	77	WSW			3					0	0		
Utrecht	29.79	756.7	29.80	756.9	74.8	23.8	62	SW			3		8			0.020	0.5	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.69	754.1	29.74	755.5	63.0	17.2	74	W	5.4	2.4	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.74	755.1	29.78	756.5	53.6	12.0	69	N	7	3	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.58	751.4	29.72	755.0	67.1	19.5	68	SSW	11	5	.....	.....	9	.....	.....	0.012	0.3	Thunder-storm.	
Tromsö	29.93	760.3	29.98	761.4	45.3	7.4	58	NW	20	9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	29.96	760.9	30.15	765.7	71.8	22.1	84	W	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	30.15	740.5	30.15	765.7	77.0	25.0	56	W	6.9	3.1	.....	.....	4	W	.....	0	0	.....	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.17	766.2	30.25	768.4	73.0	22.8	69	SW	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.85	758.2	30.20	767.1	73.4	23.0	52	NW	7.4	3.3	.....	.....	0	.....	.....	0.008	0.2	.....	The Staff.
Ponta Delgada (Azores)	30.15	765.8	30.22	767.6	72.2	22.2	84	WSW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0—9	Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa. Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. S. 6° 07′, E. 3° 26′	.....	.....	29.97	761.1	78.6	25.9	.....	SSW	.....	.....	3	.....	10	.....	SSW	2	SW	Overcast	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea	.....	.....	30.05	763.3	62.6	17.0	.....	NW	.....	.....	2	.....	1	.....	SE	1	NW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Lima. Capt. S. C. da Silva Costa. N. 16° 32′, W. 24° 52	.....	.....	30.05	763.2	72.7	22.6	.....	NE	.....	.....	4	.....	0	.....	.....	4	NE	Blue sky	P. de Faria. F. Teixeira da Silva, Com'd't.
Sá da Bandeira	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Capt. J. M. T. Guimaraes. Macao, China	.....	.....	29.93	760.1	81.5	27.5	.....	E	.....	.....	1	.....	2	.....	E	0	.....	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.61	752.1	30.02	762.4	74.1	23.4	53	SW	2	1	.....	.....	9ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.56	750.7	29.95	760.7	81.7	27.6	40	SW	2	1	.....	.....	6	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.67	753.5	29.89	759.3	77.0	25.0	59	WNW	7	3	.....	.....	10n	.....	.....	.....	.....	Thunder-storm.	Prof. Dr. Weihrauch.
St. Petersburg	29.82	757.5	29.84	757.9	77.0	25.0	60	NW	7	3	.....	.....	6ks;cks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.31	744.5	29.91	759.7	81.3	27.4	34	ENE	4	2	.....	.....	3k;ks; c;ck]	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.87	758.7	29.94	760.5	84.0	28.9	34	ENE	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.47	748.4	29.98	761.6	77.9	25.5	45	S	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.68	753.8	29.87	758.8	77.5	25.3	27	ENE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.72	755.0	29.74	755.5	59.2	15.1	76	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.44	722.4	29.80	756.9	72.9	22.7	60	SE	9	4	.....	.....	5n	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.92	759.9	29.84	757.8	76.5	24.7	22	N	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.37	746.0	29.82	757.5	70.5	21.4		NNW	9	4	.....	.....	6	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750.2	29.79	756.7				NNW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.72	729.4	29.65	753.1	61.0	16.1		W	4	2	.....	.....	9n;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.48	748.7	29.70	754.4	73.8	23.2	36	NNW	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.08	713.1	29.52	749.7	91.0	32.8	40	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.02	737.2	29.49	749.0	79.3	26.3	31	SE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.46	748.3	29.74	755.3	75.6	24.2	45	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Peking (China)	29.64	752.8	29.78	756.4	79.	26.6	47	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.87	758.8	29.97	761.3	55.4	13.0	72	E	2	1	.....	.....	6k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.92	759.9	30.02	762.5	75.2	24	72	ESE	3.3	1.47	.....	1c	1	W	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.12	765.0	30.17	766.4	68.5	20.3	71	N	2.8	1.24	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.6	.....	.....	74.3	23.5	49	SW	10.0	4.02	.....	.....	3	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.88	708.2	29.98	761.4	84.2	29.0	35	W	14.0	6.25	.....	1	1	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.84	758.0	29.98	761.6	97.5	36.4	27	S	5.0	2.22	.....	.....	2	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.24	742.6	30.12	765.0	65.8	18.8	77	SW	10.5	4.7	.....	.....	9	.....	.....	0.091	2.3	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.4	29.97	761.1	77.3	25.2	85	ESE	1.1	0.5	.....	3c;cs	0	W.	.....	1.457	37.0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.78	756.5	29.83	757.8	84.1	29.1	72	ENE	0	0	.....	.....	5s	.....	E	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	762.9	30.13	765.4	76.6	24.8	63	WNW	13.2	5.9	.....	0	1	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.93	760.3	30.02	762.6	83.8	28.8	72	E	10.3	4.61	.....	3cks	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.72	755.0	29.76	756.0	53.6	12.0	....	N			4		7			0	0		
Umea	29.83	757.6	29.88	758.9	50.4	10.2	90	NE			4		10			0.161	4.1		
Hernosand	29.80	757.0	29.85	758.3	50.7	10.4	95	NE			6		10			0	0		
Stockholm	29.64	752.9	29.82	757.4	64.0	17.8	65	S			6		5			0.142	3.6		
Wisby	29.75	755.6	29.81	757.1	63.7	17.6	68	SSW			7		7			0	0		
Sub-Series.																			
Uusala	29.69	754.1	29.76	756.0	63.3	17.4	75	SSE	12.8	5.7			9	SSE	S	0.005	0.13		Nils Ekholm.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.37	720.7	29.94	760.4	77.0	25.0	45	W			2		3			0.205	5.2	Fair	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.82	757.3	75.0	23.9	62	ENE	18	8.0			6		NE	0	0		The Observatory.
Fao, Persian Gulf			29.92?	760.0?	100.4	38.0		NW			1		0						
Valona			30.06	763.5	73.8	23.2		NW			2		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.71	754.7	88.5	31.4	62	SW			2		7s		SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.92	760.0	30.22	767.6	65	18.3		SW	6	2.7		0	0			0	0	Clear	W. R. Bigg.
Chatham, N. B	29.96	761.0	30.02	762.5	63	17.2	62	SW	7	3.1		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.05	763.3	30.10	764.5	60	15.6	70	SW	10	4.5		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.95	760.7	30.14	765.5	62.2	16.8	71	W			2	0	0			0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.80	756.9	29.96	761.0	68.2	17.3	63	W			1	5cs	0			0	0	Fair	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.98	760.2	54	12.2	77	SW	20	8.9		5k	5s	N	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.08	764.6	30.14	765.5	56.0	13.3	75	E	1	0.4		3ck	0	W		0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba	28.82	732.0	29.60	751.8	60	15.6	88	SW	14	6.3		5k	5ks	SW	SW	0.090	2.29	Cloudy	James Stewart.
Granton, Ontario	29.14	740.1	30.22	767.6	62	16.7	100	Calm			0	0	0			0	0	Clear	James Grant.
*Halifax, N. S	30.08	764.0	30.20	767.1	58	14.4	78	S	4	1.8		0	0			0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.94	760.5	30.31	769.9	61.7	16.5	80	SW			1	0	0			0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.92	760.0	30.25	768.3	58	14.4	77	W	4	1.8		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.07	763.8	30.11	764.8	64.6	18.1	60	W	8	3.6		0	0			0	0	Clear	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.96	761.0	30.15	765.8	62	16.7	73	SW	15	6.7		2ck	0	N		0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.53	750.0	30.21	767.3	61	16.1	76	S	7	3.1		0	0			0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.49	749.0	30.23	767.8	63.2	17.3	75	E			1	0	0			0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.56	750.8	30.25	768.3	56	13.3	87	Calm	0	0		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S	30.13	765.3	30.18	766.6	54.0	12.2		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.59	751.6	30.23	767.8	59	15.0	82	NW	1	0.4		0	0			0	0	Clear	M. Payne.
*Quebec, Quebec	29.82	757.4	30.14	765.5	58	14.4	76	NW			3	0	2s		NW	0	0	Fair	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.73	755.1	30.18	766.6	59	15.0	62	W	4	1.8		0	0			0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.09	764.3	30.14	765.5	55	12.8	80	W			1	0	0			0	0	Clear	Dr. Gove.
St. John, N. B	30.00	762.0	30.17	766.3	53	11.7	83	S	12	5.4		0	0			0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.60	749.3	30.20	767.1	65	18.3	63	SW	7	3.1		0	0			0	0	Clear	K. Stewart.
Stayner, Ontario	29.42	747.3	30.17	766.3	66	18.9	54	N	1	0.4		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	28.98	736.1	30.25	768.3	55.1	12.8	85	Calm	0	0		0	0			0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.09	764.3	30.12	765.0	64	17.8	64	SW	10	4.5		0	0			0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.88	758.9	30.26	768.6	60	15.6	79	S	4	1.8		0	Sm'e			0	0	Smoky	Magnetic Observatory.
Windsor, N. S	30.05	763.3	30.15	765.8	60.0	15.6	71	SW	2	0.9		0	0			0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.94	760.5	30.18	766.6	58.0	14.4	64	SW				0?	0?			0	0	Fair?	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.05	763.3	30.28	769.1	61	16.1	71	S	4	1.8		0	0			Inap.	Inap.	Clear	
Alpena, Michigan	29.54	750.3	30.17	766.3	60	15.6	65	SW	4	1.8		0	0			0	0	Cloudy	
Atcha, Aleutian Islands					40	4.4	100	E			1		10s		SE	0	0	Clear	
Atlanta, Georgia	29.10	739.1	30.23	767.8	65	18.3	48	NE	12	5.4		0	0			0	0	Clear	
Atlantic City, New Jersey	30.27	768.8	30.28	769.1	63	17.2	67	NE	7	3.1		0	0			0	0	Clear	
Augusta, Georgia	30.09	764.3	30.29	769.4	66	18.9	54	NE	4	1.8		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	30.26	768.6	30.31	769.9	66	18.9	51	NE	3	1.3		Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Barnegat, New Jersey	30.26	768.6	30.28	769.1	64	17.8	58	N	7	3.1		0	0			0	0	Clear	
Bismarck, Dakota	28.04	712.2	29.90	759.4	60	15.6	82	W	12	5.4		0	0			0.01	0.3	Clear	
Boerne, Texas	28.53	724.6	29.79	756.7	74	23.3	81	S	4	1.8			10ks		S	0.95	24.1	Cloudy	
Boise City, Idaho	27.18	690.4	30.14	765.5	53	11.7	80	SE	3	1.3		0	0			0	0	Clear	
Boston, Massachusetts	30.10	764.5	30.25	768.3	61	16.1	71	W	6	2.7		0	0			0	0	Clear	
Brackettville, Texas	28.79	731.3	29.75	756.4	75	23.9	95	SE	6	2.7			10s		SE	0.13	3.3	Cloudy	
Breckenridge, Minnesota	28.78	731.0	29.73	755.1	63	17.2	94	S	6	2.7		5cs	5ks	Calm	SW	0.13	3.3	Cloudy	
Brownsville, Texas	29.84	757.9	29.88	758.9	82	27.8	83	E	2	0.9		2k	0	Calm		0.51	13.0	Clear	
Buffalo, New York	29.56	750.8	30.25	768.3	59	15.0	65	SE	2	0.9		0	Haze		Calm	0	0	Clear	
Burkes, Arizona					70	21.1	28	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.94	760.5	30.23	767.8	60	15.6	71	SW	6	2.7		0	0			0	0	Clear	
Cairo, Illinois	29.79	756.7	30.17	766.3	70	21.1	53	SE	1	0.4		5ck	0	W		0	0	Fair	
Campo, California	27.29	693.2	29.86	758.4	41	5.0	41	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.17	766.3	30.18	766.6	65	18.3	58	NE	32	14.3		0	1s		NE	Inap.	Inap.	Clear	
Cape Henry, Virginia	30.23	767.8	30.25	768.3	64	17.8	68	N	16	7.2		2k	0	N		0	0	Clear	
Cape Lookout, N. Carolina	30.14	765.5	30.16	766.1	65	18.3	68	NE	34	15.2		0	0			Inap.	Inap.	Clear	
Cape May, New Jersey	30.21	767.3	30.24	768.1	61	16.1	66	N	10	4.5		0	0			0.02	0.5	Clear	
Castroville, Texas	29.16	740.7	29.83	757.7	78	25.6	86	SE	4	1.8			10s		SE	0.64	16.3	Threatening	
Charleston, South Carolina	30.16	766.1	30.22	767.6	64	17.8	63	NE	13	5.8		0	0			0	0	Clear	
Charlotte, North Carolina	29.45	748.0	30.25	768.3	65	18.3	68	E	5	2.2		0	0			0	0	Clear	
Chattanooga, Tennessee	29.45	748.0	30.24	768.1	70	21.1	44	S	14	6.3		0	0			0	0	Clear	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	45	7.2	76	N	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.46	748.3	30.13	765.3	66	18.9	59	S	5	2.2		2c	0	NW		0	0	Clear	
Cincinnati, Ohio	29.59	751.6	30.24	768.1	62	16.7	67	SE	3	1.3		1c	0	W		0	0	Clear	
Cleveland, Ohio	29.52	749.8	30.24	768.1	60	15.6	65	SE	8	3.6		0	0			0	0	Clear	
Coleman City, Texas	28.15	715.0	29.74	755.4	74	23.3	86	SE	4	1.8		0	8s		SE	0.07	1.8	Cloudy	
Columbus, Ohio	29.40	746.7	30.21	767.3	69	20.6	65	E	1	0.4		0	0			0	0	Clear	
Concho, Texas	28.05	712.5	29.65	753.1	73	22.8	85	SE	6	2.7			10s		S	0.04	1.0	Cloudy	
Corsicana, Texas	29.50	749.3	29.94	760.5	78	25.6	73	S	4	1.8			10s		SE	0	0	Cloudy	
Davenport, Iowa	29.45	748.0	30.08	764.0	63	17.2	67	S	8	3.6		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.43	645.9			52	11.1	73	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.78	731.0	29.90	759.4	73	22.8	85	E	6	2.7			10s		S	0	0	Cloudy	
Denison, Texas	29.18	741.1	29.94	760.5	73	22.8	67	E	4	1.8		2ck	5s	S	S	0	0	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	54	12.2	74	SW	2	0.9		0	0			0.03	0.8	Clear	
Des Moines, Iowa	29.09	738.9	29.94	760.5	65	18.3	73	S	5	2.2		0	8s		SW	0.04	1.0	Cloudy	
Detroit, Michigan	29.56	750.8	30.22	767.6	60	15.6	71	SW	2	0.9		5cs	0	Calm		0	0	Fair	
Dodge City, Kansas	27.35	694.7	29.52	749.8	71	21.7	80	S	12	5.4			8ks		SW	0	0	Cloudy	
Dubuque, Iowa	29.37	746.0	30.05	763.3	62	16.7	67	S	6	2.7			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.22	742.2	29.87	758.7	60	15.6	88	Calm	0	0			10n		Calm	0.08	2.0	Light rain	
Eagle Pass, Texa	29.16	740.7	29.85	758.2	75	23.9	86	SE	8	3.6			10s		SE	0.10	2.5	Cloudy	
Eastport, Maine	30.10	764.5	30.16	766.1	56	13.3	75	S	5	2.2		0	0			0	0	Clear	
Edinburg, Texas					78	25.6	95	Calm			0	2c	5ks	Calm	S	0.62	15.7	Fair	
El Paso, Texas	26.14	663.9			66	18.9	64	E	2	0.9		2c	5s	W	W	0	0	Fair	
Erie, Pennsylvania	29.55	750.6	30.26	768.6	63	17.2	67	SE	3	1.3		0	Haze		Calm	0	0	Clear	
Escanaba, Michigan	29.44	747.8	30.07	763.8	64	17.8	68	SW	11	4.9		5cs	0	W		0	0	Fair	
Florence, Arizona	28.36	720.1	29.95	760.7	85	29.4	21	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.86	707.6			56	13.3	87	W	7	3.1		8ck	0	NW		0.36	9.1	Cloudy	
Fort Craig, New Mexico	25.47	646.9	29.54	750.3	60	15.6	28	Calm	0	0		5c	2s	S	S	0	0	Cloudy	
Fort Davis, Texas	25.17	639.3	30.13	765.3	70	21.1	80	Calm	0	0		0	0			0.35	8.9	Clear	
Fort Gibson, Indian Ter	29.47	748.5	29.98	761.5	74	23.3	55	E	4	1.8		8c	0	S		0	0	Fair	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	64	17.8	39	S	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.92	760.0	73	22.8	90	S	4	1.8			10n		Calm	0.50	12.7	Light rain	
Fort Keogh, Montana	27.40	696.0			57	13.9	75	Calm	0	0		0	0			1.13	28.7	Clear	
Fort McKavett, Texas	27.70	703.6	29.54	750.3	72	22.2	85	S	8	3.6			10s		S	0.28	7.1	Cloudy	
Fort St. Michael, Alaska	30.25	768.3	30.29	769.4	34	1.1	100	SW	15	6.7			10s		Calm	0	0	Cloudy	
Fort Shaw																			
Fort Sill, Indian Territory	28.73	729.7	29.79	756.7	74	23.3	81	SE	8	3.6			10s		SE	0.38	9.7	Cloudy	
Fort Stevenson, Dakota	27.99	710.9			59	15.0	81	W	13	5.8		1k	0	W		0.27	6.9	Fair	
Fort Verde, Arizona					58	14.4	27	W			1	0	0			0	0	Clear	
Port Yates																			
Fredericksburg, Texas	28.22	716.8	29.72	754.9	73	22.8	100	S	4	1.8			10n		Calm	0.05	1.3	Light rain	
Galveston, Texas	29.94	760.5	29.98	761.5	83	28.3	71	SE	8	3.6		0	2ks		SE	Inap.	Inap.	Clear	
Graham, Texas	28.86	733.0	29.86	758.4	75	23.9	90	SE	4	1.8			10s		SE	1.00	25.4	Cloudy	
Grand Haven, Michigan	29.53	750.0	30.16	766.1	67	19.4	55	S	8	3.6		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.99	736.3	29.88	758.9	73	22.8	95	SE	6	2.7			10s		Calm	0.43	10.9	Cloudy	
Indianapolis, Indiana	29.41	747.0	30.18	766.6	66	18.9	61	SE	1	0.4		8cs	0	Calm		0	0	Fair	
Indianola, Texas	29.95	760.7	29.98	761.5	79	26.1	82	SE	6	2.7		1c	2ks	Calm	SE	0.02	0.5	Fair	
Jacksboro, Texas	28.84	732.5	29.91	759.7	78	25.6	82	SE	6	2.7			10s		S	0.35	8.9	Cloudy	
Jacksonville, Florida	30.13	765.3	30.16	766.1	75	23.9	48	NE	16	7.2		0	0			Inap.	Inap.	Clear	
Keokuk, Iowa	29.43	747.5	30.03	762.7	64	17.8	68	S	7	3.1			10s		SW	0	0	Cloudy	
Key West, Florida	29.93	760.2	29.96	761.0	78	25.6	82	S	8	3.6		0	8s		S	0.31	7.9	Cloudy	
Kittyhawk, North Carolina	30.18	766.6	30.21	767.3	64	17.8	68	NE	37	16.5		0	2s		NE	0	0	Fair	
Knoxville, Tennessee	29.26	743.2	30.26	768.6	64	17.8	60	NE	4	1.8		1k	Haze	Calm		0	0	Clear	
La Crosse, Wisconsin	29.28	743.7	29.99	761.7	66	18.9	69	S	12	5.4			10n		Calm	0.10	2.5	Light rain	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	67	19.4	60	Calm	0	0		8ck	0	SW		0	0	Cloudy	
Laredo, Texas	29.50	749.3	29.83	757.7	74	23.3	72	Calm	0	0			10s		Calm	0.55	14.0	Cloudy	
Leavenworth, Kansas	29.13	739.9	29.95	760.7	66	18.9	64	S	11	4.9			10s		SW	0	0	Cloudy	
Little Rock, Kansas																			
Los Angeles, California	29.56	750.8	29.89	759.2	57.5	14.2	87	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.64	752.8	30.20	767.1	63	17.2	67	N	3	1.3		5c	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.62	752.3	30.30	769.6	66	18.9	73	NW	4	1.8		0	0			0.01	0.3	Clear	
Madison, Wisconsin	29.10	739.1	30.06	763.5	61	16.1	71	SE	8	3.6		8cs	0	W		0	0	Fair	
Marquette, Michigan	29.30	744.2	29.98	761.5	65	18.3	58	SW	12	5.4		5c	0	SW		0	0	Fair	
Mason, Texas	28.33	719.6	30.02	762.5	73	22.8	90	SE	2	0.9		10cs	0	S		0.07	1.8	Cloudy	
Memphis, Tennessee	29.76	755.9	30.10	764.5	71	21.7	58	E	4	1.8		5c	0	Calm		0	0	Fair	
Milwaukee, Wisconsin	29.40	746.7	30.12	765.0	61	16.1	71	SE	6	2.7		6c;cs	0	Calm		0	0	Fair	
Mobile, Alabama	30.08	764.0	30.12	765.0	77.5	25.3	61	SE	15	6.7		8c	0	Calm		0	0	Fair	
Montgomery, Alabama	29.98	761.5	30.20	767.1	75	23.9	56	SE	8	3.6		5c	0	N		0	0	Fair	

UNITED STATES SERIES—CONTINUED.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
Morgantown, West Virginia	29.28	743.7	30.27	768.8	61	16.1	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.03	610.4	30.39	771.9	39	3.9	81	N	1	0.4	.....	2k	0	N	.....	0	0	Clear	
Nashville, Tennessee	29.66	753.4	30.18	766.6	70	21.1	57	E	5	2.2	.....	1cs	Sm'e	NW	.....	0	0	Clear	
New Haven, Connecticut	30.16	766.1	30.27	768.8	64	17.8	73	NW	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear	
New London, Connecticut	30.23	767.8	30.28	769.1	60	15.6	71	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	84	28.9	64	E	8	3.6	.....	1c	1ks	Calm	Calm	0	0	Clear	
Newport, Rhode Island	30.22	767.6	30.27	768.8	59	15.0	65	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.12	765.0	30.30	769.6	60	15.6	88	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.20	767.1	30.28	768.6	65	18.3	54	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.09	688.1	29.58	751.3	61	16.1	85	S	12	5.4	.....	2c	0	Calm	.....	0.07	1.8	Clear	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	51.5	10.8	93	S	2	0.9	.....	0	8s	.....	W	0	0	Cloudy	
Omaha, Nebraska	28.81	731.8	29.86	758.4	64	17.8	89	W	4	1.8	.....	.....	10s	.....	SW	0.61	15.5	Threatening	
Oswego, New York	29.96	761.0	30.28	769.1	59	15.0	76	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.79	731.3	29.58	751.3	60	15.6	88	SW	10	4.5	.....	0	2s	.....	Calm	0	0	Clear	
Philadelphia, Pa	30.25	768.3	30.30	769.6	63	17.2	72	E	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Phœnix, Arizona	28.60	726.4	30.32	770.1	72	22.2	27	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.90	454.6	30.11	764.8	23	— 5.0	100	S	6	2.7	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Picche, Nevada	.....	.....	.....	.....	52	11.1	54	NW	2	0.9	.....	2c	0	NW	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.46	748.3	30.28	769.1	50	10.0	86	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.56	750.8	30.21	767.3	60	15.6	65	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.17	766.3	30.22	767.6	58	14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.09	764.3	30.16	766.1	55.0	12.8	87	E	1	0.4	.....	0	2s	.....	N	0	0	Clear	
Prescott, Arizona	24.72	627.9	30.08	764.0	50	10.0	32	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	76	24.4	73	NE	20	8.9	.....	5k	0	NE	.....	0	0	Fair	
Red Bluff, California	29.46	748.3	29.80	756.9	77	25.0	35	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.92	760.0	77	25.0	86	SE	7	3.1	.....	0	5s	.....	SE	0.38	9.7	Fair	
Rochester, New York	29.65	753.1	30.26	768.6	59	15.0	65	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.58	751.3	30.15	765.8	51	10.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.69	754.1	29.77	756.1	69	20.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.55	750.6	30.12	765.0	62	16.7	67	S	8	3.6	.....	8ck	2ks	W	W	0	0	Cloudy	
St. Marks, Florida	30.16	766.7	30.18	766.6	69	20.6	70	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.07	738.4	29.87	758.7	60	15.6	83	SE	12	5.4	.....	.....	10n	.....	Calm	0.16	4.1	Light rain	
Salt Lake City, Utah	25.70	652.8	30.02	762.5	55	12.8	45	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.27	743.4	29.82	757.4	78	25.6	82	SE	4	1.8	.....	.....	10s	.....	SE	0.96	24.4	Cloudy	
San Diego, California	29.83	757.7	29.91	759.7	60	15.6	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.58	751.3	30.25	768.8	61	16.1	71	SW	9	4.0	.....	Haze	0	Calm	.....	0	0	Clear	
Sandy Hook, New Jersey	30.26	768.6	30.29	769.4	60	15.6	77	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.75	755.6	29.81	757.2	61	16.1	71	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	28.30	591.8	29.84	757.9	51	10.6	34	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Savannah, Georgia	30.14	765.5	30.23	767.8	69	20.6	52	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	76	24.4	73	E	1	0.4	.....	2cs	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	24.25	616.7	30.34	770.6	55	12.8	48	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.18	766.6	30.21	767.3	63	17.2	72	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Socom	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	30.15	765.8	30.29	769.4	52	11.1	93	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Stockton, Texas	26.92	683.8	29.92	760.0	72	22.2	67	SE	8	3.6	.....	.....	10ks	.....	SE	0.15	3.8	Cloudy	
Thatcher's Island, Mass	30.19	766.8	30.25	768.3	60	15.6	88	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.54	750.3	30.21	767.3	65	18.3	58	SE	4	1.8	.....	2c	Sm'e	.....	.....	0	0	Clear	
Tucson, Arizona	27.42	696.5	29.96	761.0	70	21.1	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.65	753.1	30.13	765.3	60.0	15.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.02	737.1	29.81	757.2	76	24.4	82	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	29.83	757.7	30.08	764.0	75	23.9	68	SE	10	4.5	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.31	617.5	29.79	756.7	46	7.8	77	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Visalia, California	29.40	746.7	29.76	755.9	60	15.6	57	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.18	766.6	30.29	769.4	64	17.8	73	NE	1	0.4	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	56	13.3	40	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.13	765.3	30.21	767.3	61	16.1	71	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	52.0	11.1	66	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.22	767.6	30.26	768.6	59	15.0	64	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.63	727.2	29.87	758.7	61	16.1	87	NE	1	0.4	.....	.....	10s	.....	Calm	0.54	13.7	Cloudy	
Yuma, Arizona	29.58	751.3	29.74	755.4	69	20.6	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.88	758.9	29.93	760.2	78	25.6	82	SE	1.2	0.5	.....	8c	0	Calm	.....	1.10	27.9	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.19	639.8	.....	.....	65.5	18.6	85	Calm	.....	.....	0	8cs;k	0	.....	.....	0.09	2.3	.....	Thomas Herran.
Navassa, W. I	29.86	758.4	29.94	760.5	81	27.2	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	87	NE	.....	.....	3	3c	5k	E	.....	0.160	4.06	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,642 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.12‡	765.0‡			78	25.6	65	ENE	20	8.9			d		W	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.86‡	758.4‡			74	23.3	86	Calm			0		4ks		SW	Light	Light			Fair	
Adams, La Union, San Salvador.	29.82‡	757.4‡			81	27.2	91	WNW			2		10		NW					Cloudy	
Alaska, N. 49° 01,′ W. 130° 34′	30.18‡	766.6‡			50	10.0	86	NW			3		10			0	0	Long	NW	Overcast	
Alliance. Havre, France	29.94‡	760.5‡			62	16.7	77	SW			1		4		S					Pleasant	
Ashuelot, N. 33° 40′, E. 126° 22′	29.90‡	759.4‡			68	20.0	95	ENE			2		10		S;E			Mod'ate	NE	Foggy	
Colorado. New York, N. Y.	30.31‡	769.9‡			60	15.6	76	SW	3	1.3			0			0	0			Hazy	
Constellation, N. 37° 05′, W. 76° 06′	30.31‡	769.9‡			62	16.7	72	N			5		2		N					Fair	
Constitution, League Island, Penn	30.21‡	767.3‡			67	19.4	89	E			1		0							Clear	
Despatch, St. George's, Bermuda	30.02‡	762.5‡			77	25.0	91	SSW			2		9		SW	4 h'rs	4 h'rs	Smooth		Cloudy	
Enterprise, Wilhelm's Haven, Germany.	29.90‡	759.4‡			68	20.0	74	SW			2–3		7?		SSW					Clear?	
Franklin. Norfolk, Va.	30.25‡	768.3‡			66	18.9	64	NE	14.4	6.5			2		NE	0	0			Clear	
Hartford. Montevideo, Uruguay	29.90‡	759.4‡			51	10.6	65	SW	8	3.6			0			0	0			Clear	
Kearsarge, Portsmouth, N. H.	30.22	767.6‡			59	15.0	82	Calm			0		0							Clear	
Marion, N. 28° 40′, W. 80° 00′	30.09‡	764.3‡			78	25.6	73	NNE			4		5		NNE			Rough	N	Fair	
Michigan, Erie, Pa	30.20‡	767.1‡			69	20.6	61	Calm			0		0							Clear	
Monocacy. Shanghai, China	29.88‡	758.9‡			71	21.7	95	SE			1		10							Cloudy	
Monongahela, Yokohama, Japan	29.57‡	758.7‡			74	23.3	95	SW			0–1		ck			0	0			D. clouds	
New Hampshire. Port Royal, S. C.	30.20‡	767.1‡			73	22.8	63	ENE	34	15.2			0			0	0			Clear	
Onward, Callao, Peru	30.18‡	766.6‡			63	17.2	83	N			3		10					Long	W	Misty	
Palos, Shanghai, China	29.91‡	759.7‡			69	20.6	100	N			1		10		NW					Overcast	
Passaic, Washington, D. C.					57	13.9	94	NE			2		2		W					Clear	
Pensacola, S. 18° 20′, W. 70° 18′	30.10‡	764.5‡			61	16.1	82	ENE	6	2.7			10			0	0	Mod'ate	S	Overcast	
Portsmouth. Gardner's Bay, Long Island, N.Y.	30.23‡	767.8‡			58	14.4	70	NW			2		0			0	0	Smooth		Clear	
Powhatan, New York, N. Y.	30.26‡	768.6‡			61	16.1	82	NW			1		2		Calm	0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.79‡	756.7‡			76	24.4	68	NNE			4		8		NE					Fair	
Ranger, Amoy, China	29.91‡	759.7‡			85	29.4	87	Calm			0		0					Smooth		Blue sky	
Richmond, N. 32° 33′, E. 128° 12′	29.90‡	759.4‡			72	22.2	90	E			2		10		E			Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.88‡	758.9‡			79	26.1	95	SE			2		2		S	0	0			Fair	
Santee, Annapolis, Md.	30.28‡	769.1‡			65	18.3	63	W			1		0			0	0			Clear	
Saratoga, N. 24° 57′, W. 48° 17′	30.24‡	768.1‡			81	27.2	78	E			4		2		ESE	Heavy	Heavy	Mod'ate	ESE	D. clouds	
St. Louis, League Island, Pa	30.26‡	768.6‡			61	16.1	77	SW	1	0.4			5		NE	0	0			Fair	
Trenton, N. 41° 41′, W. 15° 45′	30.14‡	765.5‡			66	18.9	84	SW			5		0			0	0	Long	W	Clear	
Tuscarora, N. 24° 28′, W. 112° 12′	29.86‡	758.4‡			65	18.3	94	NW			3		8		Calm	0	0	Long	N;W	D. clouds	
Vandalia, New York City, N. Y.	30.28‡	769.1‡			60	15.6	82	SSE			1		0			0	0			Clear	
Wabash, Boston, Mass	30.25‡	768.3‡			62	16.7	72	W	2	0.9			0			0	0			Clear	
Wyoming, Venice, Italy	30.01‡	762.2‡			74	23.3	63	S			0–1		2		S			Smooth		Clear	
Wachusett, Navy Yard, Pensacola, Fla.	30.12‡	765.0‡			78	25.6	73	E			3		2					Rough		Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima																			Capt. Whiteburn.
S. S. Costa Rica																			
S. S. Dakota, Capt. H. G. Morse, San Francisco, Cal.....†		29.88‡	757.7‡	58	14.4	76	SW			1		0						Clear.	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. O. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Hong-Kong, China .....†		29.91‡	759.7‡	84	28.9		SE			2		ks		SE	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Off Start Point, England.		29.94‡	760.5‡	56.0	13.3	87	SW			3		2			3 h'rs	Mod'ate	SW	Hazy	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 43° 47′, W. 36° 16′		29.98‡	761.5‡	59.5	15.3	68	WNW			6		5		NW	0	Rough	NW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.99?‡	761.7?‡				W			3		6		WSW				Fair	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30.27‡	768.8‡	67	19.4	95	SW			3		5		SW	0			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 43° 54′, W. 38° 31′		30.01‡	762.2‡				NW	30	13.4			8		WNW		Heavy	NW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss		30.10‡	64.5‡	80	26.7	78	E	18	8.0			8k		E	0.22 in. or 5.6mm			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 27° 22′, W. 62° 15′ †		30.20‡	767.1‡				SE			3		0			0	Smooth		Clear	N. B. Foss.
Schooner Harry and Fred, N 31° 16′, W. 68° 10′?		29.86‡	758.4‡				Calm	0	0			10		S	¼ in. or 102mm	Very Rough	SW	Raining	Capt. George Gardner.
W. D. Hilton, New London, Conn.†		30.24‡	768 1‡	62	16.7		NW			3		1			0			Clear	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, N. 48° 32′, W. 8° 38′†		29.80‡	756 9‡	59.5	15.3	.91	SW			4		10		SW		Long	SW	Cloudy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 57′ †.		30.20‡	767.1‡				W			1		0				Long	SE	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 31° 22′, W. 80° 20′ †.		30.18‡	766.6‡	74	23.3		NE			6				NNE		Rough		Clear	Capt. Wm. Shepherd.
Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

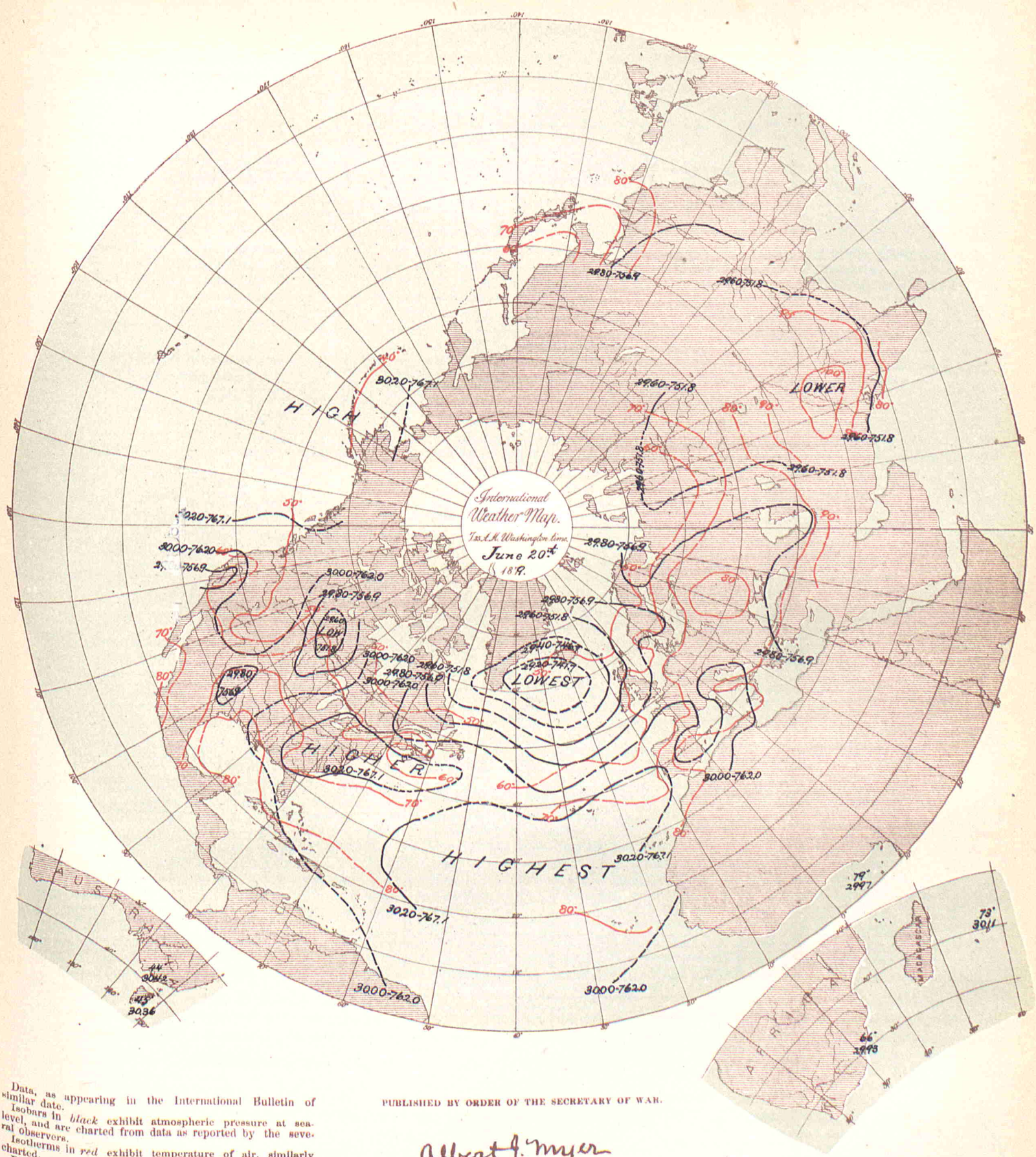
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 21, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.00	762.1	80.1	26.7	67	NNW			2		0			0	0	Clear	Kesxuche.
Algiers			29.98	761.5	77.0	25.0	72	N			1		0			0	0	Clear	Touriliere.
La Calle			30.04	763.1	82.9	28.3	67	NNW			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.10	764.5															Gau.
Saida			30.01	762.2	96.3	35.7	27	N			1		0			0	0	Clear	Herbin.
Tebessa			30.04	763.1	84.0	28.[illegible]	38	W			1		0			0	0	Clear	Watrin.
Geriville			30.02	762.4	86.0	30.0	41	WSW			2		8			0	0	Very cloudy	Brugniaux.
Laghouat			30.01	762.3	101.8	38.8	23	NW			2		0			0	0	Clear	Bertrand.
Biskra			29.99	761.7	102.0	38.9	24	NW			1		0			0	0	Clear	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.39	746.6	29.91	759.8	79.2	26.2	41	N			2		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.96	761.0	77.0	25.0	58	SSW			1		6			0	0		Dr. Wierzbiski.
Eperies	29.06	738.1	29.89	759.2	79.5	26.4	61	Calm			0		5ks			0	0		Julius Mikolik.
Gratz	28.74	730.1	29.94	760.5	74.7	23.7	62	E			2		3			0	0		Andreas Rospini.
Hermannstadt	28.55	725.2	29.90	759.5	78.8	26.0	56	SE			2		3			0	0		Prof. A. Gottschling.
Kremsmünster	28.68	728.5	29.97	761.1	73.6	23.1		WSW			1		3			0	0		Prof. C. Wagner.
Lemberg	28.94	735.1	29.88	758.9	77.7	25.4	63	SE			1		3			0	0		Dr. T. Stanecki.
Pola	29.84	758.0	29.95	760.7	78.1	25.6	64	WNW			1		1			0	0		I.R.Hydrographic Office.
Szathmar	29.50	749.4	29.95	760.6	81.3	27.4	57	SW			2		3			0	0		Julius Csics, S. J.
Szegedin	29.65	753.1	29.92	759.9	75.7	24.3	64	SE			1		6			0	0		Karl Stancel.
Trieste	29.87	758.7	29.97	761.3	77.5	25.3	66	SW			1		6			0	0	Fair	P. Busin.
Vienna	29.29	743.9	29.98	761.5	78.1	25.6	48	WNW			1		1			0.205	5.2		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level.* Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen	29.49	749.0	29.59	751.6	55.0	12.8		S	10	4.5			9			0.935	23.75	Drizzling	W. Boswell.
Ardrossan	29.46	748.3	29.47	748.5	57	13.9		ENE			2		9					Raining	Wm McNeil &G.Carrick
Armagh, Observatory			29.35	745.5	59.9	15.5		SE	11	4.9			7					Squally	S. Call.
Bidston (Liverpool Obs)			29.47	748.5	61.4	16.3		ESE	21	9.4			9					Overcast	John Hartnup.
Bolton (Sharples)			29.52	749.8	56.8	13.8		SE	18	8.0			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.15	740.4	29.55	750.6	58.6	14.8		SW			3		7			0.07	1.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.01	762.2	30.04	763.0	82.5	28.1		NE			2		8					Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.61	752.1	29.70	754.4	58.0	14.4		S			2		10					Raining	H. Todd.
Cardington			29.67	753.6	60.0	15.6		S			3		10					Overcast	John McLaren.
Chatham, School M. E.	29.65	753.1	29.78	756.4	57.5	14.1		SW			3		10					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.37	746.0	29.42	747.3	54	12.2		SSE			4		10					Raining	J. Mac Gowan.
Dover	29.79	756.7	29.82	757.4	56	13.3		SW			4		8					Gloomy	J. Costello.
Falmouth, Observatory	29.37	746.0	29.60	751.5	58.7	14.8		SW			6		10					Rain & fog	The Staff.
Fort Napier (Natal)	27.84	707.1	30.13	765.3	55.4	13.0		NE			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	86	30.0		SW			1		3					D. clouds	
Galway, Queen's College			29.27	743.4	60	15.6		WNW			8		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.97	761.2	76.8	24.9		W			3		1					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.30	744.2	29.50	749.3	56.1	13.4		E			4		10					Raining	D. G. Maclean. [O.
Great Yarmouth	29.77	756.1	29.[illegible]	756.4	57	13.9		S			4		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.57	751.1	29.74	755.4	57.2	14.0		SSW			4		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.56	750.8	29.77	756.1	60.5	15.8		SSW			5		5					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.61	752.1	29.73	755.1	60	15.6		SW			7		8k			0.20	5.1	Gloomy	M. P. Moyle.
Holyhead	29.40	746.7	29.40	746.7	58	14.4		SSW			6		10					Raining	John Tilston.
Jersey	29.54	750.3	29.83	757.7	59.2	15.1		SW			5		10					Gloomy	J. Fisher.
Kew, Observatory	29.69	754.1	29.73	755.1	58.5	14.7		S	24	10.7			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.36	745.7	29.61	752.1	58.8	14.9		S			4		10					Drizzling	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.80	756.9	29.87	758.7	76.8	24.9		NE			1		1k					Blue sky	A. King.
Nairn	29.48	748.8	29.56	750.8	57	13.9		Calm			0		10					Raining	W. D. Penny.
Nassau (Bahamas)			30.06	763.5	79.2	26.2		NE			2		9					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.41	747.0	29.60	751.8	60.7	15.9		S			6		10kd		S	0.075	1.91	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.05	737.9	29.57	751.1	57.6	14.2		SSE			4-5		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.64	752.8	62	16.7		S			6		10					Squally	H. E. Bellamy.
Plymouth	29.56	750.8	29.64	752.8	60.0	15.6		SW			6		10					Overcast	John Merrifield.
Prince Town	28.18	715.8	29.63	752.6	51.0	10.6		WSW			7		10					Squally	W. H. Tooker.
*Roche's Point	29.32	744.7	29.43	747.5	59	15.0		SW			5		10					Raining	Wm. Kennedy.
Saint Ann's Head	29.27	743.4	29.44	747.8	55	12.8		SSW			6		10					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.58	751.3	64	17.8		SSE	10	4.5			3					D. clouds	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.69	754.1	29.75	755.6	84.0	28.9		NNE			8		2			0	0	D. clouds	Serg't W. H.Lyne.
Sheffield	29.29	744.0	29.56	750.8	60.9	16.1		S			3		10			0.14	3.6	Gloomy	W. F. Cooper.
Silloth Rectory	29.46	748.3	29.49	749.0	62.5	16.9	67	S			2		8			1.020	25.91	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.14	740.1	29.54	750.3	57.7	14.3		SE			4		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.50	749.3	29.72	754.9	57.8	14.3		S			4		10					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.65	753.1	29.66	753.4	62	16.7		SW			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.48	748.8	29.51	749.5	53.0	11.7		NW	30	13.4			10					Squally	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.24	768.1	30.28	769.1	65.2	18.4	73	S	4	1.8		0	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.30	769.6	46.0	7.8	87	NW			1		10kn					Raining	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.56	750.8	56.0	13.3		E			2		10n			1.20	30.5	Raining	Andrew Gibb
Mauritius, Observatory	29.97	761.2	30.16	766.0	72.0	22.2	59	SSE	21.5	9.6		0	3		ESE	0.05	1.3	Squally	C. Meldrum.
Melbourne, Observatory	30.27	768.8	30.37	771.4	43.0	6.1	88	SSW	3	1.3			0			0	0	Foggy	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.52	749.8	60	15.6		N			3		10			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.58	751.3	51	10.6		SE			6	10	10			0	0		Robert Eurnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series.

Vessels.	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			Showery	Capt. W. J. L. Wharton.
Barque Fedalma, N. 46° 50′, W. 38° 55′	4	Var.	D. clouds	Capt. H. L. Fox.
S. S. Nizam, N. 37° 02′, E. 3° 59′			Blue sky	Capt. Barlow.
Astarte, N. 10° 30′, W. 27° 20′ *			Drizzling	Capt. Parson.
British Peer, N. 30° 25′, W. 42° 30′			Showery	Capt. Greig.
Theophane, S. 27° 30′, E. 44° 40′			Raining	Capt. Raymond.
Agnes Wilson				Capt. H. W. Dyke
S. S. Amanda				Capt. B. Boyes.
Barque Belle-Isle				Capt. A. J. Brown.
Ship British Commodore				Capt. J. W. Thorne.
Barque Commewyne				Capt. A. Buchan.
S. S. Royal Alexandra				W. P. Hughes.
S. S. Algeria				Capt. Wm. Watson.
Brig Alliance.§				Capt. W. Scott.
S. S. Iron Cross				Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.21	665.7	29.93	760.2	66.2	19.0	90	NW			1	8ck				0	0		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.81	757.2	29.86	758.4	68.4	20.2	69	W			2		7						
Fanöe	29.84	758.0	29.86	758.5	58.1	14.5	90	WSW			6		10						
Godthaab (Greenland)	29.25	743.0	29.30	744.1	41.7	5.4	86	Calm			0		10					Foggy	
Stykkisholm (Iceland)	29.26	743.2	29.30	744.3	54.3	12.4	77	SE			2		8					Raining	
Thorshavn (Faröe)	29.61	752.1	29.65	753.0	53.1	11.7	91	SE			2		3						
Vestervig	29.60	751.8	29.77	756.1	58.3	14.6	96	SW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.40	746.8	29.95	760.8	67.6	19.8	79	SW			3		5		SW	0.028	0.7	Cloudy	Collignon, Director.
Amiens, Normal School	29.71	754.7	29.82	757.4	68.7	20.4	78	SW			1		5		E	0	0	Cloudy	Bouvallet, Director.
Arras, Engin'r School	29.65	753.1	29.90	759.4	67.6	19.8	66	SSW			3				S	0.059	1.5	Sprinkling	Klein, Commandant.
Avignon, Normal School	29.95	760.7	30.03	762.7	78.8	26	50	N			1		0			0.209	5.3	Clear	Giraud, Director.
Bar-sur-Seine	29.44	747.8	29.98	761.4	72.0	22.2	50	S			2		2k		NW	0.244	6.2	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.65	753.2	29.91	759.7	71.2	21.8	58	S			3		10		S	0.089	2.25	Covered	Frere Eugene Marie.
Besançon, Normal School	29.14	740.2	30.00	762.1	74.3	23.5	59	SSW			1		0			0.110	2.8	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.4	30.08	764.1	75.6	24.2	59	NE			1					0.98	25.		Marlot, Director.
Bourges, Normal School	29.45	748.1	29.99	761.7	68.9	20.5	76	W			1		1	W	W	0.16	4.	Clear	M. Gence, Director.
Brest, Naval Observatory	29.53	750.0	29.77	756.1	66.2	19.0	75	SW			6		10		SW	0.157	4.00	Misty	Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.63	752.6	30.03	762.7	83.1	28.4	29	NW			2		1		NW	0	0	V. slightly cloudy	September, Dir.
Caen, Normal School	29.78	756.4	29.85	758.2	66.2	19	72	SSE			6		10			0	0	Covered	Lair, Director.
Chartres, Normal School	29.36	745.7	29.90	759.5	71.4	21.9	72	S			4		8		S	0.406	10.3		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.7	29.98	761.6	69.1	20.6	55	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.63	727.2	29.92	759.9	78.8	26.0	46	SE			1		0			0.106	2.7		Alluard, Director.
Commercy, Normal School	29.16	740.6	29.98	761.6	72.5	22.5	55	SW			1		2ck		SW	0.028	0.7	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.7	30.11	764.7	77.9	25.5	48	S			2		2		S	0.217	5.5		L. Kina, Director.
Grenoble, Normal School	29.27	743.5	30.01	762.3	72.3	22.4	69	NE			1		0			0.138	3.50	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.78	756.4	29.98	761.5	73.4	23	55	S			3		2		SSW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.63	752.7	29.93	760.3	68.9	20.5	61	WSW			3		8	WSW	WSW	0.128	3.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.4	30.00	762.1	74.3	23.5	64	W			2		2k			0.51	13.	Partly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.80	757.0	29.90	759.5	59.0	15.0	98	SW			4				SW	0.008	0.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Gaizin, Director.
Marseilles, Observatory	29.74	755.5	30.01	762.2	79.5	26.4	40	SW			0–1		0			0	0	Clear	E. Stephan, Director
Mirecourt, Normal School	28.97	735.9	29.98	761.6	69.4	20.8	63	NE			3		2		NE	0.71	18.	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.82	757.3	30.01	762.2	79.9	26.6	44	N			1		0			0.167	4.25	Clear	M. Boyer, Director.
Privas, Normal School	29.09	738.8	30.11	764.9	75.2	24	75	S			1	c		S	S	0.181	4.6		Cantier, Director.
Puy de Dome (Summit) Obs	25.27	641.8			55.2	12.9	64	S			2		5			0.189	4.8	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.96	761.0	29.99	761.8	77.4	25.2	57	S			1		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.81	757.1	29.89	759.3	67.5	19.7	59	S			1		5		SW	0.165	4.2	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.80	757.0	29.84	757.8	61.9	16.6	83	SW			6		8	SSW	SSW			Sprinkling	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.79	756.7	29.96	760.9	68.4	20.2	63	SSW			3		5		SSW	0	0	Fair	E. Renou, Director.
Tarbes, Normal School	28.95	735.3	29.98	761.5	77.0	25	61	WSW			3		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.32	744.6	30.04	763.0	74.8	23.8	62	SE			1		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.46	748.3	29.95	760.8	69.8	21.0	54	SW			4					0.002	0.04		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.39	746.4	30.07	763.8	75.4	24.1	59	SE			2		5		S	0.756	19.2	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	80.6	27										0.47	12.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.41	746.9	30.00	762.0	74.5	23.6	48	W			1		0			0.780	19.8	Clear	Ch. André, Director.
Mont-Louis	25.01	635.3	30.33	770.3	69.8	21.0	41	SW	18.6	8.3			0			0	0		M. Cave.
Nice			30.04	762.9	77.4	25.2	76	SE			1		0			0.063	1.6	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.67	753.7			68.0	20.0	64	SSW			4		8		SW	0	0		Marié Davy, Director.
Perpignan	29.92	760.0	30.03	762.7	75.0	23.9	56	S	11.2	5.0			1			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.69	576.2			61.2	16.2		W			1		0			0	0	Clear	Gen'l de Nansouty.
Tours	29.76	756.0	29.96	761.0	72.9	22.7	54	SW			3		7		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.89	759.3	29.92	759.9	70.3	21.3	93	E	3.8	1.7			3k			0	0	Fair	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet; Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.6	30.00	762.1	73.6	23.1	53	SW			2		5	SW		0	0		Prof. Dr. Hoh.
Berlin	29.80	757.0	29.97	761.2	75.0	23.9		W			3		7			0	0		Prof. Dr. Arndt.
Breslau	29.45	748.1	29.98	761.6	80.6	27.0	40	SSW			3		4	SW		0	0		Royal University Obs'ry.
Carlsruhe	29.62	752.4	30.04	762.9	72.3	22.4	57	S			0		3	SW		0	0		Albert Senz.
Cassel	29.38	746.3	29.99	761.7	74.8	23.8	44	SW			2		3	SW		0	0		Dr. H. Möhl.
Crefeld	29.76	755.9	29.92	760.0	75.7	24.3	48	S			5		7k			0.87	22.		Director Lose.
Emden			29.87	758.7	67.1	19.5	64	W SW			2		10			0.126	3.2		Prof. Dr. Prestel.
Frankfort on the Main	29.65	753.2	30.02	762.4	75.2	24.0		WSW			2		4			0	0		Physical Society.
Freienwalde on the Oder	29.89	759.2	29.93	760.2	79.2	26.6	58	WSW			4		3k	WSW		0	0		Dr. Assmann.
Friedrichshafen	28.62	727.0	30.01	762.3	69.6	20.9	62	SW			5		1	W		0.020	0.5		M. Wilhelm.
Hamburg	29.87	758.6	29.93	760.3	69.6	20.9	66	SW			4		10cs			0.031	0.8		Captain F. Hegemann.
Kiel	29.89	759.2	29.91	759.7	66.7	19.3	73	WSW			2		10			0.052	1.33		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.86	758.4	29.94	760.4	77.0	25.0	42	NE			3		4			0.004	0.1		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.59	751.5	29.99	761.8	72.7	22.6	63	WSW			3		8	W		0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.91	759.6	29.95	760.8	71.4	21.9	58	W			2		9cs						Skalweit.
Munich (München)	28.25	717.5	30.11	764.9	79.7	21.5	52	N			3		5	S		0	0		Dr. C. Larg.
Neufahrwasser	29.88	759.0	29.90	759.4	75.4	24.1	61	NNE			3		9			0	0		A. Lothes.
Posen	29.68	753.9	29.95	760.8	82.0	27.8	37	W			6		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.49	749.0	30.02	762.5	73.9	23.3	56	S			2		3			0.526	13.34		Imp. University Observatory.
Stuttgart	29.06	738.1	29.96	760.9	76.1	24.5	43	S			1		4	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.55	725.2	30.01	762.2	69.4	20.8	55	W	2	1			7ck		W	0.047	1.2		T. Hopfner.
Wustrow	29.89	759.3	29.92	759.9	66.4	19.1	58	SW			3		5s			0	0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	82.9	28.3		NE			1.5		k					Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.49	749.1	29.54	750.4	88.0	31.1	69	W	13.0	5.8			6			0	0	D. clouds	
Deesa	29.09	738.8	29.54	750.4	96.9	36.1	36	SSE	10.0	4.5			7	ESE	SSE	0	0	D. clouds	
Bombay	29.57	751.0	29.61	752.0	82.1	27.8	85	S	21.0	9.4			7		SW	0	0	D. clouds	
Poona	27.78	705.5	29.62	752.4	78.8	26.0	80	WSW					8	S	WSW	0.25	6.4	D. clouds	
Lahore	28.76	730.5	29.48	748.8	91.1	32.8	62	NE	5.5	2.5			0			0.54	13.7	Blue sky	
Belgaum	27.17	690.1	29.70	754.5	73.9	23.3	84	SSW	16.0	7.2			10	SW	SW	0.01	0.3	D. clouds	
Roorkee	28.16	726.7	29.47	748.5	97.7	36.5	43	SW	2.8	1.3			7			0	0	D. clouds	
Agra	28.99	736.4	29.54	750.4	89.7	32.1	78	E					10			0	0		
Nagpur	28.53	724.7	29.54	750.4	91.7	33.2	48	S	3.6	1.6			8		NE	0	0	D. clouds	
Lucknow	29.17	740.9	29.54	750.2	88.7	31.5	75		1.4	0.6			9	SE		0.05	1.3	D. clouds	
Allahabad	29.24	742.6	29.54	750.2	91.3	32.9	75	Calm	2.7	1.2			10			2.38	60.4	Overcast	
Patna	29.38	746.3	29.56	750.9	80.1	26.7	87	ENE	0.2	0.1			10	ENE	ENE	1.53	38.9	Overcast	
Hazaribagh	27.60	701.0	29.60	751.9	76.8	24.9	89	SE	9.2	4.1			10			0.67	17.0	Thunder-storm	
Cuttack	29.54	750.2	29.62	752.3	86.2	30.1	72	S	3.0	1.3			3			0.02	0.5	D. clouds	
Calcutta (Alipore)	29.60	751.8	29.62	752.7	85.6	29.8	75	SSE	8.0	3.6			8	SE		0	0	D. clouds	
Goalpara	29.21	742.0	29.60	751.8	80.5	26.9	89	Calm	0.9	0.4			1			3.83	97.6	D. clouds	
Chittagong	29.60	752.0	29.70	754.4	83.7	28.7	87	SSW	4.8	2.2			6			0	0	Misty	
Sibsagar	29.31	744.5	29.64	752.9	82.9	28.3	89	S	1.4	0.6			10	W	W	0.50	12.7	D. clouds	
Jubbulpore	28.18	715.7	29.50	749.4	90.5	32.5	56	SE	3.8	1.7			8		W	0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.1	29.92	760.0	80.6	27.0	46	S	3.1	1.4			2			0	0		Prof. Giovanni Clodig.
Milan	29.48	748.9	29.98	761.5	83.5	28.6	37	SW			4		1			0	0		Prof. Schiaparelli.
Padua	29.57	758.6	29.97	761.3	79.5	26.4	48	SW	2.5	1.1			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.11	739.3	29.97	761.3	78.1	25.6	46	WSW	1.8	0.8			1			0	0		Prof. P. F. Denza.
Genoa	29.82	757.5	30.01	762.2	73.8	23.2	68	SW	6.3	2.8			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.14	714.7	29.97	761.1	75.7	24.3	40	SE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.94	760.4	29.98	761.6	75.2	24.0	66	N	6.3	2.8			0			0	0		Prof. Luigi Guidi.
Florence	29.59	751.6	29.96	760.9	83.3	28.5	29	N			4		1			0	0		Cav. F. Meucci.
Leghorn	29.89	759.2	29.97	761.3	73.8	23.2	65	W			4		3			0	0		Prof. P. Monte.
Rome	29.76	756.0	29.93	760.3	82.0	27.8	47	W	13.0	5.8			1			0	0		Prof. P. S. Ferrari.
Lecce	29.65	753.2	29.90	759.4	76.1	24.5	48	ENE	9.4	4.2			3			0	0		Prof. C. De Giorgi.
Cosenza	29.05	737.8	29.89	759.1	80.6	27.0	68	NW	3.8	1.7			8			0.008	0.2		Prof. D. Conti.
Cagliari	29.80	756.9	29.98	761.6	83.1	28.4	19	NW			4		2	W		0	0		Prof. A. Facinotti.
Palermo	29.74	755.4	29.99	761.7	72.5	22.5	40	NE	4.9	2.2			0			0	0		Prof. G. Cacciatore.
Syracuse	29.84	758.0	29.92	759.9	78.3	25.7	47	SW	4.9	2.2			3	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.42	747.2	29.98	761.4	79.7	26.5	55	ESE	0	0			8n	NNE		0	0		Prof. W. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.90	759.4	68.9	20.5	95	WNW	0.7	0.3			10n			0.607	15.42	Rainy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.89	759.2	67.2	19.6	93	SE	7.3	3.3			9s			0.500	12.70	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.83	757.7	29.89	759.2	72.1	22.3	93	S	5.4	2.4			10s			0.305	7.75	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.02	635.6	29.99	761.8	69.8	16.0	69	Calm			0	0	5		SE	0.008	0.2	½ clouded	Prof. L. Perez.
Leon	24.38	619.3	29.99	761.8	63.3	17.4	83	SE			2	2c	2k	E		0.36	9.2	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.03	585.0	29.95	761.5	56.8	13.8	87	NW	1.8	0.8		1c	3k	Calm	NE	0	0	Fair	The Staff.
Pabellon (Aguascalientes)					62.6	17.0	91	Calm			0	7kn	0	E		0.68	17.2	Foggy	M. V. de Leon, M. E
Tlacotalpam	29.86	758.5	29.87	758.8	74.7	23.7	92	N			1	0	10		N	1.90	48.3	Rainy	Prof. M. M. Cházaro.
San Luis Potosi	24.21	614.9	30.12	765.0	62.1	16.7	55	E			1		10		E	0.02	0.4	Covered	G. Barroeta, M D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.53	572.3	30.10	764.5	55.4	13 0	88	NE			2		Fog		SE	Inap.	Inap.	Dense fog	J. C. Castrillon.
Puebla (Catholic Institute)	23.35	593.0	30.11	764.8	53.6	12.0	83	Calm	0	0		1	0	Calm		0.004	0.1	Pleasant	Prof. P. Spina.
Colima	28.32	719.2	29.93	760.3	79.3	26.3	75	Calm			0	0	9		S	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.59	751.6	29.88	758.9	75.7	24.3	86	SE			1		10		SE	0	0	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.8	29.87	758.8	67.1	19.5		S								0.020	0.5		
Groningen	29.57	758.8	29.93	760.2	64.9	18.3		SW			1					0.134	3.4		
Helder	28.87	758.7	29.87	758.7	62.6	17.0		SSW			4					0.055	1.4		
Hellevoetsluis	29.85	758.1	29.85	758.1	71.4	21.9	67	S			3					0	0		
Utrecht	29.85	758.1	29.89	759.3	67.5	19.7	67	SSW			3		8			0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.67	753.6	29.72	755.0	66.2	19.0	72	SSW	4.9	2.2			3			0.016	0.4		
Brönö	29.49	749.1	29.53	750.1	61.2	16.2	59	N	4	2			0			0	0		
Christiania	29.60	751.9	29.74	755.5	67.8	19.9	64	SSW	4	2			8			0.024	0.6		
Tromsö	29.80	756.9	29.84	758.0	46.4	8.0	59	Calm	0	0			10			0.020	0.5		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.18	766.6	30.37	771.4	66.9	19.4	77	N	6.3	2.8			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.06	738.1	30.04	763.1	81.1	27.3	26	W	15.0	6.7			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.0	30.21	767.2	73.4	23.0	66	SW	8.1	3.6			3			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.80	756.8	30.15	765.7	71.2	21.8	58	N	13.7	6.1			0			0	0		The Staff.
Ponta Delgada (Azores)	30.30	769.5	30.37	771.3	70.2	21.2	48	NE	11.9	5.3			6			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0-9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 19′, E. 4° 27′			30.05	763.3	77.0	25		SSW			3		10		SSW	3	SW	Overcast	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.00	762.0	63.5	17.5		WNW			3		0			1	WNW	Blue sky	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.07	763.6	75.6	24.2		NNE			3		4		NNE	1		D. clouds	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.93	760.2	81.3	27.4		E			2		2		E	0		D. Clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.53	750.0	29.93	760.2	78.3	25.7	54	SW	2	1			5cks						Astronomical Obs.
Wilna	29.51	749.5	29 91	759.6	76.5	24.7	45	WSW	4	2			8						Astronomical Obs.
Dorpat	29.54	750.3	29.77	756.2	66.7	19.3	65	SW	13	6			9k						Prof. Dr. Weihrauch.
St. Petersburg	29.61	752.2	29.63	752.6	62.6	17.0	75	NW	22	10			10kn						Central Physical Obs.
Kieff	29.25	743.0	29.84	758.0	84.0	28.9	33	ESE	4	2			3k;ks						Physical Cabinet.
Nikolaiev	29.89	759.2	29.96	761.0	81.5	27.5	37	Calm	0	0			0						Kurdakof.
Kertch																			Lagorio.
Moscow	29.25	742.9	29.76	755.9	81.1	27.3	40	SW	7	3			4ks						Meteorological Obs.
Lugan	29.66	753.4	29.55	758.3	82.9	28.3	35	Calm	0	0			0						Meteorological Obs.
Archangel	29.50	749.2	29.52	749.7	52.0	11.1	64	SE	4	2			10						Capt. Sseliwerstow.
Tiflis	28.56	725.5	29.97	761.1	61.0	16.1	86	Calm	0	0			10					Raining	Physical Observatory.
Astrakhan	29.95	760.7	29.87	758.6	81.5	27.5	24	WSW	13	6			1s.						Capt. Wisganow.
Krotkowo*	29.28	743.6	29.72	754.8	79.9	26.6	45	W	0	0			6k						Cand. Fatjanow.
Kasan	29.38	746.2	29.63	752.6	79.9	26.6	51	WSW	4	2			2						Physical Cabinet.
Ekaterinburg	28.69	728.7	29.63	752.5	56.1	13.4	86	SW	4	2			10						Meteorological Obs.
Nukuss																			
Tashkend	28.13	714.5	29.59	751.5	86.7	30.4	47	Calm	0	0			10						Teich, A. M.
Barnaul	28.83	732.2	29.29	743.9	80.1	26.7	46	SE	13	6			10						Meteorological Obs.
Yeniseisk	29.25	743.0	29.52	749.9	80.1	26.7	46	ESE	11	5			3						Marks.
Irkutsk																			
Peking (China)	29.50	749.3	29.64	752.9	84.2	29.0	51	Calm	0	0			5k						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.81	757.2	29.91	759.7	54.0	12.2	94	S	4	2			8k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	76.3	24.6	58	SE	2.6	1.17			0			0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.97	761.1	30.02	762.5	78.3	25.7	46	NW	2.7	1.19			0			0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.4			79.9	26.6	33	SW	5.8	2.58			0			0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.83	706.8	29.91	759.6	89.4	31.9	27	W	15.7	7.06			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.85	758.3	30.00	761.9	86.9	30.5	48	NE	5.4	2.39			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.04	762.9	60.1	15.6	96	SSW	13.0	5.8			10			0.008	0.2	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.1	30.03	762.8	77.7	25.4	88	ESE	4.7	2.1		5c	0	W		0.150	3.8	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.79	756.9	29.85	758.2	81.2	27.3	92	N	0.7	0.3			2s		W	0.244	6.2	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.96	761.0	30.05	763.4	77.7	25.4	54	WNW	13.6	6.1		0	0			0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	82.4	28.0	77	SE	3.6	1.60		1c	2k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weatuer.	Observer.
Haparanda	29.71	754.5	29.74	755.5	58.6	14.8	.....	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.71	754.7	29.76	756.0	61.9	16.6	37	SW	.....	.....	4	.....	6	.....	.....	0	0	.....	
Hernosand	29.71	754.7	29.76	756.0	53.2	11.8	96	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.63	752.5	29.80	757.0	68.2	20.1	57	SW	.....	.....	4	.....	2	.....	.....	0.0°8	0.2	.....	
Wisby	29.74	755.4	29.80	756.9	65.8	18.8	64	W	.....	.....	7	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.68	753.9	29.76	755.8	70.7	21.5	67	SSW	9.0	4.0	.....	.....	5	.....	W	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.44	722.8	30.01	762.3	73.4	23.0	60	W	.....	.....	1	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.80	756.9	74.8	23.8	60	NNE	22	10.0	.....	.....	3	.....	NE	0.083	2.1	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.927	760.07	100.4	38.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.2	77.9	25.5	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.55	750.6	29.66	753.4	87.1	30.6	59	SW	.....	.....	4	.....	5k;ks	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.83	757.7	30.12	765.0	70	21.1	.....	SW	4	1.8	.....	2c	0	W	.....	0	0	Clear	W. R. Bigg.
Chatham, N. B	29.99	761.7	30.05	763.3	70	21.1	64	S	8	3.6	.....	2c	0	S	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.09	764.3	30.13	765.3	61	16.1	68	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	64.5	18.2	70	W	.....	.....	1	0	1s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.84	757.9	29.95	760.7	65.2	18.4	75	W	.....	.....	1	5cs	0	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.93	760.2	29.96	761.0	56	13.3	87	SW	20	8.9	.....	5k	Haze	W	Calm	0.03	0.8	Cloudy	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.15	765.8	68.1	20.1	61	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba	29.05	737.9	29.86	758.4	54	12.2	87	NW	2	0.9	.....	5ck	2s	NW	NW	0.055	1.40	Fair	James Stewart.
Granton, Ontario	28.99	736.3	30.05	763.3	67	19.4	95	S	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.13	765.3	30.23	767.8	57	13.9	57	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.76	755.9	30.12	765.0	65.5	18.6	79	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.80	756.9	30.13	765.3	60	15.6	85	SW	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	70.9	21.6	57	W	12	5.4	.....	1k	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.90	759.4	30.09	764.3	65	18.3	66	SW	11	4.9	.....	8c	0	NE	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.35	745.5	30.03	762.7	65	18.3	73	SW	6	2.7	.....	2cs	5ks	S	S	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.36	745.7	30.09	764.3	65.2	18.4	71	S	.....	.....	1	4k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.10	764.5	61	16.1	88	S	3	1.3	.....	2c	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.22	767.6	30.27	768.8	44.1	6.7	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.09	764.3	65	18.3	89	E	5	2.2	.....	5ck	0	N	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.78	756.4	30.09	764.3	62	16.7	77	W	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.56	750.8	30.01	762.2	58	14.4	78	Calm	0	0	.....	8ck	0	W	.....	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.11	764.8	30.16	766.1	58	14.4	75	S	.....	.....	2	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.00	762.0	30.17	766.3	54	12.2	80	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.02	762.5	66	18.9	72	S	10	4.5	.....	.....	8ks	.....	S	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.25	742.9	30.00	762.0	72	22.2	62	SE	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.08	764.0	62.9	17.2	79	SW	5	2.2	.....	2c;cs	0	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.09	764.3	30.13	765.3	69	20.6	60	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.73	755.1	30.10	764.5	60	15.6	80	E	8	3.6	.....	8cs	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.11	764.8	30.20	767.1	59.0	15.0	91	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.88	758.9	30.12	765.0	58.0	14.4	64	SW	.....	.....	.....	10k?	10s?	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

UNITED STATES SERIES.

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, New York	29.99	761.7	30.21	767.3	66	18.9	69	S	5	2.2		0	0			0	0	Clear	
Alpena, Michigan	29.31	744.5	29.93	760.2	64	17.8	73	S	8	3.6			10s		S	0	0	Cloudy	
Atcha, Aleutian Islands					40	4.4	100	SE			4		10s		SE	0	0	Cloudy	
Atlanta, Georgia	29.09	738.9	30.22	767.6	70	21.1	48	E	3	1.3		0	0			0	0	Clear	
Atlantic City, New Jersey	30.27	768.8	30.29	769.4	64	17.8	78	S	6	2.7		0	0			0	0	Clear	
Augusta, Georgia	30.10	764.5	30.30	769.6	69	20.6	61	NE	2	0.9		5cs	0	N		0	0	Fair	
Baltimore, Maryland	30.23	767.8	30.28	769.1	65	18.3	68	SW	5	2.2		0	Haze		Calm	0	0	Clear	
Barnegat, New Jersey	30.24	768.1	30.26	768.6	71	21.7	62	S	9	4.0		0	0			0	0	Clear	
Bismarck, Dakota	28.08	713.2	29.93	760.2	61	16.1	82	SE	4	1.8		0	0			0		Clear	
Boerne, Texas	28.56	725.4	29.82	757.4	74	23.3	72	Calm	0	0		5k	5ks			1.08	27.4	Cloudy	
Boise City, Idaho	26.98	685.3	29.94	760.5	57	13.9	67	Calm	0	0		5cs	0	Calm		0	0	Fair	
Boston, Massachusetts	30.08	764.0	30.22	767.6	68	20.0	60	W	7	3.1		0	0			0	0	Clear	
Brackettville, Texas	28.83	732.3	29.82	757.4	76	24.4	86	E	8	3.6		0	5ks		SE	0.02	0.5	Fair	
Breckenridge, Minnesota	28.89	733.8	29.85	758.2	59	15.0	88	W	1	0.4		2c	0	Calm		0	0	Clear	
Brownsville, Texas	29.88	758.9	29.92	760.0	81	27.2	83	E	4	1.8		2c	0	Calm		0	0	Clear	
Buffalo, New York	29.41	747.0	30.09	764.3	68	20.0	60	SW	6	2.7		1cs	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					80	26.7	25	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.87	758.7	30.16	766.1	65	18.3	63	S	8	3.6		2c	Haze	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.75	755.6	30.13	765.3	75	23.9	60	S	10	4.5		2c	2ks	W	SW	0	0	Fair	
Campo, California	27.33	694.2	29.90	759.4	46	7.8	62	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.27	768.8	30.28	769.1	66	18.9	64	NE	20	8.9		0	0			0	0	Clear	
Cape Henry, Virginia	30.28	769.1	30.29	769.4	65	18.3	49	NE	4	1.8		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.25	768.3	30.27	768.8	65	18.3	73	NE	20	8.9		0	0			0	0	Clear	
Cape May, New Jersey	30.22	767.6	30.25	768.3	65	18.3	68	S	4	1.8		0	0			0	0	Clear	
Castroville, Texas	29.21	741.9	29.89	759.2	77	25.0	86	SE	2	0.9			10s		SE	0.13	3.3	Cloudy	
Charleston, South Carolina	30.20	767.1	30.26	768.6	69	20.6	70	NE	8	3.6		0	0			0	0	Clear	
Charlotte, North Carolina	29.45	748.0	30.25	768.3	69	20.6	61	SW	3	1.3		5c	0	Calm		0	0	Fair	
Chattanooga, Tennessee	29.46	748.3	30.25	768.3	67	19.4	64	S	1	0.4		1cs	0	Calm		0	0	Clear	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	51	10.6	59	W	4	1.8		0	0			Inap	Inap.	Clear	
Chicago, Illinois	29.31	744.5	29.98	761.5	68	20.0	70	S	3	1.3			10n		SW	Inap.	Inap.	Light rain	
Cincinnati, Ohio	29.52	749.8	30.16	766.1	69	20.6	65	SE	4	1.8		6c;k	0	SW		0	0	Fair	
Cleveland, Ohio	29.39	746.5	30.09	764.3	68	20.0	56	SE	8	3.6		5ck	Haze	SW	Calm	0	0	Fair	
Coleman City, Texas	28.22	716.8	29.84	757.9	66	18.9	95	NW	6	2.7			10s		SE	2.13	54.1	Cloudy	
Columbus, Ohio	29.30	744.2	30.12	765.0	68	20.0	60	S	2	0.9		5ck	Smo	S	Calm	0	0	Fair	
Concho, Texas	28.12	714.2	29.76	755.9	65	18.3	100	NE	13	5.8			10n		Calm	2.10	53.3	Raining	
Corsicana, Texas	29.55	750.6	30.00	762.0	75	23.9	86	S	6	2.7		5cs	5s	Calm	S	0.40	10.2	Cloudy	
Davenport, Iowa	29.34	745.2	29.96	761.0	66	18.9	89	NW	6	2.7			10n		Calm	0.47	11.9	Light rain	
Deadwood, Dakota	25.34	643.6			62	16.7	61	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.84	732.5	29.96	761.0	73	22.8	85	E	6	2.7			10s		S	0.75	19.1	Cloudy	
Denison, Texas	29.24	742.7	30.01	762.2	73	22.8	95	E	3	1.3			10ks		S	1.17	29.7	Cloudy	
Denver, Colorado	24.83	630.7	30.05	763.3	61	16.1	55	SE	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.94	760.5	67	19.4	89	NW	5	2.2			10s		NW	0.03	0.8	Cloudy	
Detroit, Michigan	29.40	746.7	30.05	763.3	65	18.3	68	SW	5	2.2		10cs	0	W		0	0	Cloudy	
Dodge City, Kansas	27.47	697.7	29.69	754.1	63	17.2	94	E	4	1.8			Fog		Calm	0.12	3.0	Foggy	
Dubuque, Iowa	29.26	743.2	29.93	760.2	66	18.9	95	S	5	2.2			10n		S	0.28	7.1	Light rain	
Duluth, Minnesota	29.20	741.7	29.86	758.4	63	17.2	72	W	6	2.7		0	0			0.06	1.5	Clear	
Eagle Pass, Texa	29.18	741.1	29.87	758.7	77	25.0	82	SE	7	3.1			10s		SE	0.01	0.3	Cloudy	
Eastport, Maine	30.11	764.8	30.17	766.3	60	15.6	71	S	4	1.8		8c	Haze	Calm	Calm	0	0	Fair	
Edinburg, Texas					78	25.6	91	SE			1	5k	5ks	S	S	0	0	Fair	
El Paso, Texas	26.21	665.7			70	21.1	66	E	4	1.8		1ck	0	W		0	0	Clear	
Erie, Pennsylvania	29.40	746.7	30.09	764.3	70	21.1	61	S	8	3.6		1c	0	W		0	0	Clear	
Escanaba, Michigan	29.25	742.9	29.88	758.9	61	16.1	82	SW	8	3.6			10s		SW	0	0	Cloudy	
Florence, Arizona	28.36	720.3	29.96	761.0	85	29.4	29	NW	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.77	705.4			59	15.0	87	SE	4	1.8		5ck	0	NW		0.04	1.0	Fair	
Fort Craig, New Mexico	25.54	648.7	29.61	752.1	63	17.2	51	Calm	0	0		1k	0	Calm		0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	62	16.7	94	Calm	0	0			10s		Calm	1.03	26.2	Cloudy	
Fort Gibson, Indian Ter	29.51	749.5	30.03	762.7	70	21.1	90	E	4	1.8			10c		S	0.56	14.2	Cloudy	
Fort Grant, Arizona	25.20	640.1	30.00	762.0	70	21.1	32	E	4	1.8		10k	0	Calm		0	0	Cloudy	
Fort Griffin, Texas	28.68	728.5	29.91	759.7	68	20.0	100	Calm	0	0			10n		Calm	5.63	143.0	Light rain	
Fort Keogh, Montana	27.23	691.6			61	16.1	66	SE	2	0.9		5c	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.76	705.1	29.61	752.1	71	21.7	85	S	4	1.8			10s		S	0.04	1.0	Cloudy	
Fort St. Michael, Alaska	30.27	768.8	30.30	769.6	33	0.6	100	SW	5	2.2			10ks		SW	0	0	Cloudy	
Fort Shaw																			
Fort Sill, Indian Territory	28.81	731.8	29.88	758.9	71	21.7	95	NE	4	1.8			10s		E	0.86	21.8	Cloudy	
Fort Stevenson, Dakota	28.02	711.7			61	16.1	77	S	1	0.4		1c	0	Calm		0	0	Fair	
Fort Verde, Arizona					58	14.4	22	NW			1	0	0			0	0	Clear	
Port Yates																			
Fredericksburg, Texas	28.27	718.0	29.76	755.9	74	23.3	81	S	9	4.0		0	5ks		Calm	0.50	12.7	Fair	
Galveston, Texas	29.97	761.2	30.01	762.2	82	27.8	71	SE	14	6.3		3cs;k	5ks	NW;Calm	SE	0	0	Cloudy	
Graham, Texas	28.93	734.8	29.95	760.7	72	22.2	100	SE	1	0.4			10n		SW	1.48	37.6	Heavy rain	
Grand Haven, Michigan	29.35	745.5	29.98	761.5	65	18.3	68	SW	15	6.7			10s		Calm	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	29.95	737.9	29.96	761.0	71	21.7	100	SE	7	3.1			10n		SE	2.23	56.6	Heavy rain	
Indianapolis, Indiana	29.31	744.5	30.06	763.5	72	22.2	67	S	4	1.8		8k	0	SW		0	0	Fair	
Indianola, Texas	29.98	761.5	30.00	762.0	84	28.9	75	SE	5	2.2		1c	2ks	Calm	SE	0.01	0.3	Fair	
Jacksboro, Texas	28.88	723.5	29.96	761.0	74	23.3	95	S	1	0.4			10s			1.50	38.1	Cloudy	
Jacksonville, Florida	30.19	766.8	30.21	767.3	75	23.9	60	NE	12	5.4		5k	0	NE		0	0	Fair	
Keokuk, Iowa	29.31	744.5	29.90	759.4	67	19.4	95	NE	2	0.9			10n		S	0.30	7.6	Light rain	
Key West, Florida	30.02	762.5	30.06	763.5	80	26.7	74	E	10	4.5		1k	0	Calm		0.41	10.4	Clear	
Kittyhawk, North Carolina	30.26	768.6	30.28	769.1	64	17.8	68	NE	12	5.4		0	0			0	0	Clear	
Knoxville, Tennessee	29.26	743.2	30.25	768.3	67.6	19.7	69	SW	3	1.3		0	Haze			0	0	Clear	
La Crosse, Wisconsin	29.21	741.9	29.92	760.0	67	19.4	89	S	6	2.7		2k	0	*W		0.26	6.6	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	69	20.6	56	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.55	750.6	29.88	758.9	75	23.9	52	SE	6	2.7		0	0			0.12	3.0	Clear	
Leavenworth, Kansas	29.17	740.9	29.98	761.5	66	18.9	95	NW	1	0.4		2cs	0	W		1.16	29.5	Clear	
Little Rock, Kansas																			
Los Angeles, California	29.52	749.8	29.85	758.2	55.5	13.1	84	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.61	752.1	30.15	765.8	73	22.8	55	S	4	1.8		7ck;k	0	Calm		0	0	Fair	
Lynchburg, Virginia	29.62	752.3	30.30	769.6	67	19.4	55	SW	4	1.8		1c	0	N		0	0	Clear	
Madison, Wisconsin	28.99	736.3	29.94	760.5	65	18.3	94	SW	5	2.2			10n		Calm	0.46	11.7	Heavy rain	
Marquette, Michigan	29.14	740.1	29.80	756.9	67	19.4	74	SW	8	3.6			10s		S	0	0	Cloudy	
Mason, Texas	28.38	720.8	30.06	763.5	76	23.9	77	S	7	3.1		10cs	2s	Calm	S	0	0	Cloudy	
Memphis, Tennessee	29.80	756.9	30.13	765.3	78	25.6	50	S	6	2.7		2ck	0	S		0	0	Clear	
Milwaukee, Wisconsin	29.25	742.9	29.96	761.0	65	18.3	94	W	10	4.5			10n		Calm	0.07	1.8	Light rain	
Mobile, Alabama	30.13	765.3	30.17	766.3	76	24.4	64	E	10	4.5		0	1s		SE	0	0	Clear	
Montgomery, Alabama	30.01	762.2	30.24	768.1	71	21.7	53	E	5	2.2		1c	0	Calm		0	0	Clear	

UNITED STATES SERIES—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.21	741.9	30.17	766.3	67	19.4	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.06	611.1	30.42	772.7	49	9.4	77	SW	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Nashville, Tennessee	29.68	753.9	30.20	767.1	73	22.8	59	E	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.14	765.5	30.25	768.3	72	22.2	62	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.22	767.6	30.27	768.8	69	20.6	70	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	81	27.2	48	E	12	5.4	.....	1k	0	E	.....	0	0	Clear	
Newport, Rhode Island	30.22	767.6	30.26	768.6	63	17.2	78	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.09	764.3	30.27	768.8	62	16.7	77	SW	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.24	768.1	30.30	769.6	67	19.4	60	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.12	688.8	29.63	752.6	60	15.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.82	757.4	29.86	758.4	51.0	10.6	82	S	4	1.8	.....	0	8ks	.....	W	0	0	Cloudy	
Omaha, Nebraska	28.87	733.3	29.93	760.2	64	17.8	89	Calm	0	0	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Oswego, New York	29.83	757.7	30.15	765.8	62	16.7	83	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Pembina, Dakota	28.96	735.6	29.78	756.4	50	10.0	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Philadelphia, Pa	30.21	767.3	30.26	768.6	64	17.8	78	SW	9	4.0	.....	1ck	Haze	Calm	Calm	0	0	Clear	
Phœnix, Arizona	28.61	726.7	30.34	770.6	70	21.1	32	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.97	456.4	30.18	766.6	30	− 1.1	57	SW	30	13.4	.....	0	Haze	.....	.....	0	0	Hazy	
Pioche, Nevada	.....	.....	.....	.....	56	13.3	24	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.38	746.2	30.18	766.6	59	15.0	76	SE	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.38	746.2	30.03	762.7	64	17.8	78	S	8	3.6	.....	10ck	0	W	.....	0	0	Cloudy	
Portland, Maine	30.13	765.3	30.18	766.6	62	16.7	77	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	29.86	758.4	29.93	760.2	55.0	12.8	87	NW	5	2.2	.....	.....	10n	.....	NW	0.08	2.0	Light rain	
Prescott, Arizona	24.73	728.1	30.09	764.3	56	13.3	24	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.89	759.2	89	31.7	66	SE	10	4.5	.....	1k	8s	S	SE	0	0	Fair	
Punta Rassa, Florida	30.07	763.8	30.08	764.0	75	23.9	68	NE	17	7.6	.....	2k	0	NE	.....	0	0	Clear	
Red Bluff, California	29.34	745.2	29.68	753.9	72	22.2	42	N	5	2.2	.....	1c	0	N	.....	0	0	Clear	
Rio Grande City, Texas	29.76	755.9	29.96	761.0	78	25.6	91	E	6	2.7	.....	5c	0	Calm	.....	0.25	6.3	Fair	
Rochester, New York	29.53	750.0	30.13	765.3	65	18.3	63	SW	7	3.1	.....	2c	0	SW	.....	0	0	Clear	
Roseburg, Oregon	29.41	747.0	29.97	761.2	54	12.2	90	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Sacramento, California	29.64	752.8	29.72	754.9	65	18.3	63	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.45	748.0	30.00	762.0	75	23.9	60	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
St. Marks, Florida	30.19	766.8	30.21	767.3	70	21.1	66	NE	10	4.5	.....	1c	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.07	738.4	29.86	758.4	64	17.8	89	SW	4	1.8	.....	Haze	Haze	SW	.....	0.01	0.3	Hazy	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	60	15.6	40	SE	4	1.8	.....	4k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.32	744.7	29.88	758.9	78	25.6	82	SE	4	1.8	.....	.....	10s	.....	SE	0.49	12.4	Cloudy	
San Diego, California	29.83	757.7	29.90	759.4	60	15.6	88	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.44	747.8	30.09	764.3	68	20.0	60	SW	9	4.0	.....	10ck	0	Calm	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	69	20.6	61	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.74	755.4	29.80	756.9	54.5	12.5	90	W	8	3.6	.....	0	2s;fg	.....	Calm;W	0	0	Fair	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	65	18.3	31	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.18	766.6	30.27	768.8	74	23.3	68	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.88	758.9	30.09	764.3	76	24.4	82	SE	5	2.2	.....	2cs	5s	Calm	Calm	0	0	Fair	
Silver City, New Mexico	24.31	617.5	30.34	770.6	58	14.4	48	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.26	768.6	30.30	769.6	64	17.9	73	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Socorro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	30.10	764.5	30.23	767.8	67	19.4	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.00	685.8	30.00	762.0	69	20.6	56	SE	8	3.6	.....	5c	5ks	Calm	SE	0	0	Cloudy	
Thatcher's Island, Mass	30.16	766.1	30.21	767.3	61	16.1	88	S	12	5.4	.....	0	Haze	.....	.....	0	0	Clear	
Toledo, Ohio	29.39	746.5	30.05	763.3	70	21.1	57	SW	5	2.2	.....	8c	Sm'e	W	.....	0	0	Fair	
Tucson, Arizona	27.42	696.5	29.98	761.5	69	20.6	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.42	747.3	29.88	758.9	61.0	16.1	66	W	4	1.8	.....	.....	10ks	.....	W	0.05	1.3	Cloudy	
Uvalde, Texas	29.06	738.1	29.85	758.2	76	24.4	86	E	2	0.9	.....	2k	5s	Calm	E	0.07	1.8	Cloudy	
Vicksburg, Mississippi	29.92	760.0	30.17	766.3	75	23.9	72	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	51	10.6	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.37	746.0	29.72	754.9	64.5	18.1	65	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.16	766.1	30.27	768.8	67	19.4	64	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	60	15.6	44	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.20	767.1	30.28	769.1	62	16.7	66	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.53	648.4	29.89	759.2	58.0	14.4	48	SW	7	3.1	.....	1c	0	Calm	.....	0	0	Clear	
Wood's Holl, Mass	30.22	767.6	30.25	768.3	62	16.7	77	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.71	729.2	29.94	760.5	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.57	751.1	29.73	755.1	71	21.7	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.96	761.0	30.01	762.2	78	25.6	82	SE	2.4	1.1	.....	8c	0	Calm	.....	0.17	4.3	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.21	640.3	.....	.....	66.5	19.2	85	Calm	.....	.....	0	.....	8ks	.....	.....	0.04	1.0	.....	Thomas Herran.
Navassa, W. I.	29.87	758.7	29.95	760.7	81	27.2	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.06	763.5	30.06	763.5	81	27.2	83	E	.....	.....	2	5k	7ks	E	.....	0.870	22.10	½ clouded?	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.22‡	767.6‡			78	25.6	65	E	20	8.9			2		W	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.91‡	759.7‡			75.5	24.2	81	SW			3		8k		SW	0	0			Cloudy	
Adams, La Union, San Salvador.	29.85‡	758.2‡			80	26.7	96	SW			1		5		SW					Fair	
Alaska, N. 46° 22,′ W. 128° 10′	29.99‡	761.7‡			50	10.0	79	W			4		10			0.075	1.91	Mod'ate	W	Raining	
Alliance. Havre, France	29.88‡	758.9‡			65	18.3	68	SSW			3		10		S;W					Threatening	
Arhuelot, Nagasaki, Japan	29.89‡	759.2‡			70	21.1	90	SE			1		10		Calm					Overcast	
Colorado, New York, N. Y.	30.27‡	768.8‡			65	18.3	68	S	3	1.3			2			0	0			Hazy	
Constellation, Hampton Roads, Va.	30.36‡	771.1‡			63.2	17.3	72	NNW			1		0							Clear	
Constitution, League Island, Penn.	30.16‡	766.1‡			65	18.3	89	SW			1		1		Calm					Clear	
Despatch, St. George's, Bermuda.	30.25‡	768.3‡			77	25.0	91	SSE			2		8		SSE	5hr's	5hr's	Smooth		Cloudy	
Enterprise, Wilhelm's Haven, Germany.	29.95‡	760.7‡			65	18.3	78	WSW			4		77		wsw					Clear?	
Franklin. Norfolk, Va.	30.30‡	769.6‡			64	17.8	78	SW	2	0.9			2		SW	0	0			Clear	
Hartford, Montevideo, Uruguay	30.11‡	764.8‡			48	8.9	63	NNW	4	1.8			2		NW	0	0			Fair	
Kearsarge, Portsmouth, N. H.	30.20‡	767.1‡			62	16.7	77	NW			2		1		NW					Clear	
Marion, N. 30° 50′, W. 80° 20′	30.17‡	766.3‡			76	24.4	86	NNE			5		2		NE			Mod'ate	N	Clear	
Michigan, Erie, Pa.	30.07‡	763.8‡			71	21.7	66	S			4		2							Clear	
Monocacy, Shanghai, China	29.90‡	759.4‡			72	22.2	90	E			1		8							Cloudy	
Monongahela, Yokohama, Japan	29.87‡	758.7‡			76	24.4	86	W			0-1		kn			0	0			Overcast	
New Hampshire. Port Royal, S. C.	30.26‡	768.6‡			79	26.1	62	NE	14	6.3			2		NE	0	0			Clear	
Onward, Callao, Peru †.	30.19‡	766.8‡			64	17.8	89	Calm			0		2					Long	W	Misty	
Palos, Shanghai, China	29.90‡	759.4‡			70	21.1	100	ENE			2		2		ENE					Fair	
Passaic, Washington, D. C.					67	19.4	95	SW			2		2		SW					Clear	
Pensacola, Arica, Peru	30.05‡	763.3‡			61	16.1	71	SE	7	3.1			10		SE	0	0	Long	S	Overcast	
Portsmouth. Gardner's Bay, Long Island, N.Y.	30.25‡	768.3‡			64	17.8	73	SW			2		2		SW	0	0	Smooth		Clear	
Powhatan, New York, N. Y.	30.22‡	767.6‡			63	17.2	72	SSW			1		2		Calm	0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.80‡	756.9‡			74	23.3	62	NNE			5		2		NE					Fair	
Ranger, Amoy, China	29.89‡	759.2‡			84	28.9	87	Calm			0		2		Calm			Smooth		D. clouds	
Richmond, Nagasaki, Japan	29.82‡	757.4‡			74	23.3	72	Calm			0		5		SSE			Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.93‡	760.2‡			81	27.2	96	E			1		2		Calm	0	0			Fair	
Santee, Annapolis, Md.	30.26‡	768.6‡			66	18.9	68	W			1		2			0	0			Clear	
Saratoga, N. 24° 58′, W. 51° 45′	30.31‡	769.9‡			81	27.2	91	E			6		8		N	0	0	Mod'ate	E	D. clouds	
St. Louis, League Island, Pa.	30.24‡	768.1‡			63	17.2	72	SW	6	2.7			0			0	0			Clear	
Trenton, N. 44° 46′, W. 15° 41′	30.13‡	765.3‡			62	16.7	66	NW			5-6		2		S;W	0.01	0.3	Mod'ate	W	Fair	
Tuscarora, N. 25° 49′, W. 113° 20′	29.86‡	758.4‡			65	18.3	94	NW			3		2		SE	0	0	Smooth		D. clouds	
Vandalia, New York City, N. Y.	30.26‡	768.6‡			64	17.8	78	SW			3		2		SW	0	0			Fair	
Wabash, Boston, Mass.	30.22‡	767.6‡			64	17.8	78	W	4	1.8			0			0	0			Clear	
Wyoming, Venice, Italy	29.96‡	761.0‡			78	25.6	65	S			0-1		2		S			Smooth		Clear	
Wachusett, Navy Yard, Pensacola, Fla.	30.18‡	766.6‡			76	24.4	68	E			3		0							Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 35° 26', W. 122° 02'...†		29.98‡	761.5‡	58	14.4	94	Calm			0		10		Calm	0	Mod'ate	W	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, N. 39° 50', W. 124° 10'...†		29.95‡	760.7‡	55	12.8	80	NW			6		4		NW		Heavy	NW	Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Hong-Kong, China ...†		29.85‡	758.2‡	84	28.9		SE			2		ks		SE				D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Off Dungeness, England		29.87‡	758.7‡	56.0	13.3	87	SW			3		10		SW	0	Mod'ate	WSW	Light rain	Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 45° 01', W. 30° 42'		30.27‡	768.8‡	60.5	15.8	71	WNW			3		8		WNW		Mod'ate	WNW	Sprinkling	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.89‡	759.2‡				SW			3		5		SW				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River, Pa.		30.07‡	763.8‡	79	26.1	86	SSE			6		2		SE	0			Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 45° 11′, W. 32° 17′		30.11‡	764.8‡				W	15	6.7			10		W		Long	WNW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.16‡	766.1‡	78	25.6	73	ENE	8	3.6			2k		E	0			Clear	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", N. 25° 00′, W. 62° 30′ †		30.21‡	767.3‡				ESE			5		2		ESE	0	Mod'ate	ESE	Fair	N. B. Foss.
Schooner Harry and Fred, N. 31° 50′?, W. 68° 22′?		30.13‡	765.3‡				SW	1	0.4			10		E	1.5 in. or 38.1mm	Long	S	Raining	Capt. George Gardner
W. D. Hilton, New London, Conn. †		30.22‡	767.6‡	66	18.9		SSW			3		0			0			Clear	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, N. 49° 41′, W. 4° 51′ †		29.59‡	751.6‡	58	14.4	88	SSW			5		10		SW		Long	SW	Cloudy	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 54′ †		30.25‡	769.1‡				SSW			1		0				Long	SE	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 31° 39′, W. 80° 31′ †		30.26‡	768.6‡	76	24.4		NE			5						Rough		Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

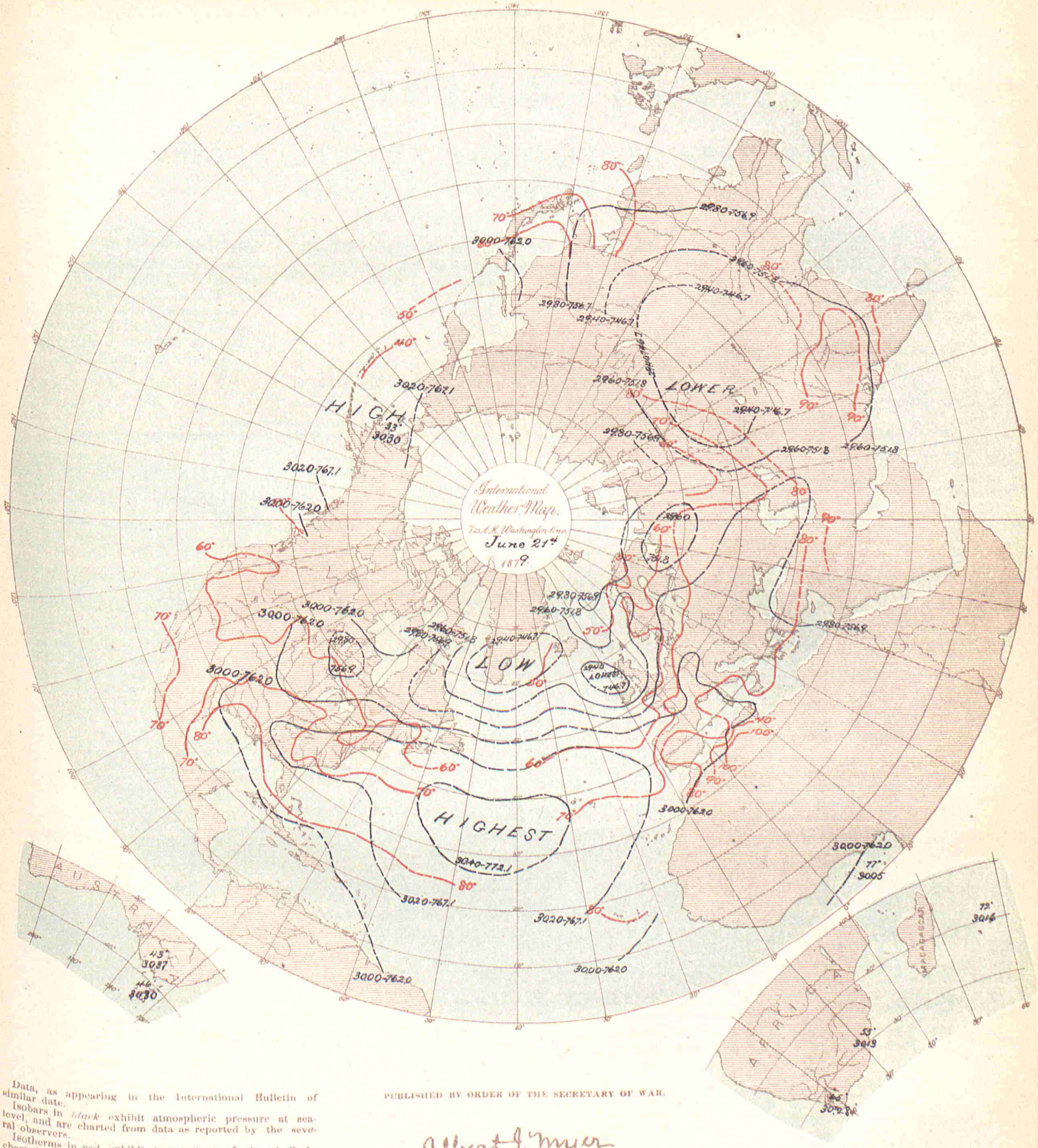
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 120 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 22, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.96	761.0	81.7	27.6	66	NNW			1		0			0	0	Clear	Kesxuche.
Algiers			29.91	759.6	87.1	30.6	53	E			2		0			0	0	Clear	Tourliiere.
La Calle			29.97	761.3	75.7	24.3	70	NE			2		0			0	0	Clear	Foufrede.
Tunis																			Jacques.
Sfax			30.10	764.6															Gau.
Saida			29.96	761.0	100.4	38.0	32	NNW			4		5			0	0	Cloudy	Herbin.
Tebessa			30.02	762.5	90.1	32.3	30	NW			4		2			0	0	Fair	Watrin.
Geriville			30.01	762.3	84.0	28.9	53	NW			3		2			0	0	Fair	Brugniaux.
Laghouat			29.98	761.5	102.6	39.2	24	E			2		0			0	0	Clear	Bertrand.
Biskra			30.00	762.0	97.2	36.2	33	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.38	746.2	29.90	759.4	81.3	27.4	54	SE			3		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.13	739.8	29.85	758.2	82.4	28.0	57	ENE			1		1			0	0		Dr. Wierzbiski.
Eperies	29.02	737.0	29.84	758.0	81.1	27.3	64	S			3		3ks			0	0		Julius Mikolik.
Gratz	28.68	728.5	29.87	758.6	78.6	25.9	54	S			2		0			0.039	1.0		Andreas Rospini.
Hermannstadt	28.56	725.3	29.89	759.1	84.0	28.9	46	ESE			1		0			0	0		Prof. A. Gottschling.
Kremsmünster	28.55	725.2	29.82	757.3	79.9	26.6		WNW			3		5			0	0		Prof. C. Wagner.
Lemberg	28.59	726.9	29.83	757.6	79.3	26.3	62	NW			1		2			0	0		Dr. T. Stanecki.
Pola	29.84	758.0	29.95	760.7	81.3	27.4	53	WNW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.49	749.1	29.93	760.2	83.1	28.4	56	NW			2		4			0	0		Julius Csics, S. J.
Szegedin	29.64	752.9	29.91	759.6	79.2	26.2	64	Calm			0		3			0	0		Karl Stancel.
Trieste	29.55	758.1	29.95	760.7	82.9	28.3	53	NW			1		0			0	0		P. Busin.
Vienna	29.17	740.9	29.86	758.4	82.0	27.8	50	SSE			2		0			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.41	747.0	29.51	749.5	58.9	14.9		NW	25	11.2			6			0	0	D. clouds	W. Boswell.
Ardrossan																			Wm. McNeil & G. Carrick
Armagh, Observatory			29.46	748.3	58.0	14.4		WNW	9	4.0									S. Call.
Bidston (Liverpool Obs)			29.77	756.1	53.8	12 1		W	39	17.4			9					Raining	John Hartnup.
Bolton (Sharples)			29.75	755.6	51.7	10.9		WNW	24	10.7			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire																0.14	3.6		J. McLandsborough.
Bridgetown (Barbadoes)	29.98	761.5	30.00	762.0	84	28.9		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.71	754.6	29.81	757.2	59.0	15.0		SW			2		10					Overcast	H. Todd.
Cardington			29.81	757.2	62.3	16.8		W			4		10					Overcast	John McLaren.
Chatham, School M. E.	29.74	755.4	29.87	758.7	59.5	15.3		W			2		8					Overcast	J. Carmell, Sapper, R. E.
Donaghadee	29.72	754.9	29.76	755.9	59	15.0		NW			4		2					D. clouds	J. Mac Gowan.
Dover	29.89	759.2	29.91	759.7	59	15.0		WSW			6		7					Showery	J. Costello.
Falmouth, Observatory	29.80	756.9	30.02	762.5	58.4	14.7		W			3		9					Overcast	The Staff.
Fort Napier (Natal)	27.84	707.1	30.12	765.0	67.0	19.4		Calm			0		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.69	754.1	29.92	760.0	86	30.0		Calm			0		3					D. clouds	
Galway, Queen's College			29.80	756.9	57	13.9		W			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.89	759.2	29.94	760.5	79.4	26.3		W			1		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.44	747.8	29.64	752.8	57.9	14.4		WNW			6		8					Gloomy	D. G. Maclean.
Great Yarmouth	29.75	755.6	29.76	755.9	60	15.6		W			4		6					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	59.0	15.0		WSW			4		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.917	759.77	30.03	762.7	58.5	14.7		WSW			3		5					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.98	761.5	30.10	764.5	60	15.6		NW			4		4ck			0.2	5.	Fine	M. P. Moyle.
Holyhead	29.82	757.4	29.84	757.9	58	14.4		WSW			5		5					D. clouds	John Tilston.
Jersey	29.78	756.4	30.08	764.0	57.8	14.3		W			5		8					Gloomy	J. Fisher.
Kew, Observatory	29.84	757.9	29.88	758.9	59.5	15.3		WSW	17	7.6			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.54	750.3	29.79	756.7	57.2	14.0		SW			5		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.94	760.5	30.02	762.5	75.8	24.3		NW			2		0					Blue sky	A. King.
Nairn	29.45	748.0	29.54	750.3	56	13.3		WNW			2		10					Overcast	W. D. Penny.
Nassau (Bahamas)			30.08	764.0	80.0	26.7		NE			2		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.80	756.9	29.99	761.7	56.6	13.7		WNW			5		10k;d		W	0.050	1.27	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.30	744.2	29.82	757.4	55.2	12.9		WSW			5		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.89	759.2	59	15.0		W			6		10					Showery	H. E. Bellamy.
Plymouth	29.90	759.4	29.97	761.2	61.8	16.6		WSW			4		6					D. clouds	John Merrifield.
Prince Town	28.52	724.4	29.99	761.7	53.1	11.7		NW			4		5					Fine	W. H. Tooker.
*Roche's Point	29.87	758.7	29.98	761.5	58	14.4		W			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.51	749.5	63.8	17.7		NW	12	5.4			10					Misty	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.68	753.9	29.74	755.4	83.0	28.3		NNE			3		3			0	0	D. clouds	Serg't W. H. Lyne.
Sheffield	29.49	749.0	29.77	756.1	57.4	14.1		SSW			6		8			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.65	753.1	29.68	753.9	58.9	14.9	71	NW			4		7			0.058	1.47	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.36	745.7	29.77	756.1	53.3	11.8		W			3		10			Blank	Blank	Gloomy	Rev. S. J. Perry.
Strathfield, Turgiss	29.68	753.9	29.90	759.4	60.4	15 8		W			3		8					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.98	761.5	29.99	761.7	63	17.2		W			4		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.87	758.7	29.90	759.4	57.0	13.9		SW	23	10.3			7					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.22	767.6	30.26	768.6	63.3	17.4	54	SE	11	4.9		0	2			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.28	769.1	36.0	2.2	75	W			2		10kn			0.07	1.8	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.63	752.6	61.0	16.1		W			4		10k			0.02	0.5	Cloudy	Andrew Gibb
Mauritius, Observatory	30.04	763.0	30.23	767.8	71.0	21.7	62	ESE	18.0	8.0		0	7		SE	0.27	6.8	Fine	C. Meldrum.
Melbourne, Observatory	30.16	766.1	30.25	768.3	41.0	5.0	83	E	3	1.3			0			0	0	Foggy	R. L. J. Ellery.
Monach Lighthouse (Hebrides)			29.64	752.8	54	12.2		W			3	3	3	NW		0	0		J. Youngclaus.
North Unst (Shetland Is.)			29.47	748.5	50	10.0		E			4	10	10			0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series.

Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.77‡	756.1‡	76.5	24.7		N			4		5					Squally	Capt. W. J. L. Wharton.
Barque Fedalma, N. 47° 55′, W. 35° 00′			29.90	759.4	56	13.3		WNW			6		5		NW			D. clouds	Capt. H. L. Fox.
S. S. Nizam, N. 36° 33′, W. 1° 15′			29.99‡	761.7‡	75	23.9		Var.			1		0					Misty	Capt. Barlow.
Queenstown, Ireland			29.90	759.4	57	13.9		W			3		9			2		Overcast	Capt. Wm. Watson.
Astarte, N. 11° 40′, W. 28° 40′ *			30.04‡	763.0‡	79.5	26.4		NNE			3		3					D. clouds	Capt. Parson.
British Peer, N. 32° 20′, W. 44° 05′			30.42‡	772.7	75.5	24.2		NNE			4		5					D. clouds	Capt. Greig.
Theophane, S. 29° 20′, E. 40° 55′			30.20‡	767.1‡	72.8	22.7		NE			5		2					Blue sky	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	WEATHER.	OBSERVER
San José	26.24	666.5	29.96	761.0	70.7	21.5	86	SE			2	10cs				0.6	15.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.69	754.0	29.73	755.2	60.4	15.8	87	W			4		10					Raining	
Fanöe	29.65	753.2	29.67	753.7	59.1	15.1	83	WSW			6		8					Raining	
Godthaab (Greenland)	29.60	751.7	29.64	752.8	39.4	4.1	74	Calm			0		9						
Stykkisholm (Iceland)	29.52	749.9	29.57	751.0	53.2	11.8	74	SE			2		5						
Thorshavn (Faröe)	29.50	749.4	29.54	750.3	50.5	10.3	94	Calm			0		10						
Vestervig	29.40	746.8	29.57	751.1	57.6	14.2	80	S			6		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.60	751.8	30.15	765.8	64.0	17.8	76	SW			1		5		SW	0.043	1.1	Cloudy	Collignon, Director.
Amiens, Normal School	29.90	759.4	30.00	762.1	64.4	18	49	SW			1		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.72	755.0	29.98	761.4	58.8	14.9	66	W			8				NW	0.047	1.2		Klein, Commandant.
Avignon, Normal School	29.89	759.2	29.97	761.2	81.0	27.2	42	N			1		0			0	0	Clear.	Giraud, Director.
Bar-sur-Seine.	29.53	750.0	30.07	763.8	65.8	18.5	42	NE			1		8kn		WNW	0.220	5.6	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.76	755.9	30.02	762.5	65.1	18.4	51	W			3		8		W	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.23	742.5	30.11	764.9	63.1	17.3	80	S			2		10		SW	0.28	7.	Covered.	A. Carré, Director.
Bourg-en-Bresse, N. School	29.29	743.9	30.22	767.6	63.9	17.7	72	N			1		on	N	N	0.04	1.		Marlot, Director.
Bourges, Normal School	29.53	750.1	30.07	763.8	64.8	18.2	65	W			1		5	W	W	0.059	1.5	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.80	756.8	30.04	763.0	65.5	18.6	62	WSW			2		6		W	0.069	1.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.68	753.8	30.07	763.8	77.0	25	49	W			1		2		W	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.98	761.4	30.05	763.3	64.4	18	63	WSW			1		2		W	0	0	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.48	748.8	30.03	762.8	68.4	20.2	78	SW			2		8		SW	0.04	1.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	755.6	30.07	763.5	65.5	18.6	46	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob:	28.74	730.1	30.07	763.7	66.7	19.3	58	NE			1		8		SW	0.512	13.0		Alluard, Director.
Commercy, Normal School.	29.20	741.6	30.04	763.1	61.2	16.2	62	W			4		5kn		W	0.24	6.	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.94	735.1	30.08	764.1	80.1	26.7	37	NW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.28	743.7	30.02	762.6	70.9	21.6	61	NNW			1		kn		WNW	0	0		Ablard, Director
La Roche-sur-Yon, N. School	29.94	760.4	30.15	765.7	68.7	20.4	50	W			3		5		W	0.08	0.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.80	756.9	30.10	764.6	63.3	17.4	49	NW			3		8		WNW	0.20	5.	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N.School	29.14	740.1	30.04	763.0	64.4	18	77	W			2		n	W	W	0.331	8.40		A. Baudry, Director.
Lorient, Naval Observatory	30.03	762.8	30.13	765.3	62.2	16.8	70	WSW			3				WSW	0.322	8.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.73	755.2	30.00	761.9	76.1	24.5	64	W			1–2		0			0	0		E. Stephan, Director
Mirecourt, Normal School	28.99	736.3	30.00	762.1	67.3	19.6	66	NE			3		5		NE	0.28	7.	Cloudy	Barbier, Director.
Nismes, Normal School	29.81	757.1	30.00	762.0	76.3	24.6	57	NE			3		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.04	737.5	30.09	764.3	75.2	24	51	SE			1		on	SE	SE	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.28	642.2			46.8	8.2	94	W			2		10			0.685	17.4	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.12	765.0	30.15	765.8	71.6	22.0	49	W			1		8	W	W	0	0	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.95	760.8	30.04	763.0	61.7	16.5	53	WNW			1		5		W	0.043	1.1	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.04	762.9	30.07	763.8	62.8	17.1	63	WNW			2		8	WNW	WNW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.3	30.07	763.5	63.9	17.7	53	WSW			2–3		8		W	0	0	Very cloudy	E. Renou, Director.
Tarbes, Normal School	29.09	738.8	30.13	765.4	68.9	20.5	78	W			2		10			0.24	6.	Raining	T. Huguet, Director.
Toulouse, Observatory	29.43	747.5	30.15	765.9	66.9	19.4	73	NNW			2		9			0	0		M. Julier Mercadier.
Versailles, Observatory	29.57	751.1	30.06	763.6	63.3	17.4	46	W			4		9			0.005	0.13	Almost cov'd	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.41	747.1	30.11	764.8	69.1	20.6	68	NNE			2		8		SW	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.85	758.1	29.87	758.8	80.6	27										0.08	2.		L'Abbé Marel ésl.
Lyons Obs'y (Park Station)	29.49	749.0	30.09	764.3	69.4	20.8	58	NNE			1		5	SW	NE	0	0	Cloudy	Ch. André, Director.
Mont-Louis	24.94	633.5	30.26	768.5	62.6	17.0	58	SSE	28.0	12.5			6		N	0	0		M. Cave
Nice			30.00	762.1	77.7	25.4	68	S			1		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.78	756.3			67.1	19.5	49	W			3		8		WSW	0.004	0.1		Marié Davy, Director.
Perpignan	29.94	760.4	30.04	763.1	74.8	23.8	44	NW	9.4	4.2			8		NW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.63	574.7			52.0	11.1		SW			1		3			0	0	Clear	Gen'l de Nansouty.
Tours	29.90	759.5	30.10	764.5	69.8	21.0	43	WNW			2		8		W	0.024	0.6		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.67	753.7	29.70	754.3	73.0	22.8	97	SSE	11.4	5.1			10n			0.224	5.7	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.11	739.3	29.95	760.7	68.0	20.0	69	W			4		7	W		0.039	1.0		Prof. Dr. Hoh.
Berlin	29.62	752.4	29.79	756.6	74.3	23.5		W			4		10					Thunder-storm.	Prof. Dr. Arndt.
Breslau	29.33	744.9	29.85	758.3	83.1	28.4	39	S			4		6	SW		0	0		Royal University Obs'ry.
Carlsruhe	29.58	751.2	29.99	761.8	66.4	19.1	73	SW			2		9	SW		0.322	8.2		Albert Senz.
Cassel	29.84	745.2	29.95	760.6	68.4	20.2	53	W			4		5	WSW		0.041	1.06		Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	66.7	19.3	47	W			6		8			0.04	1.		Director Lose.
Emden			29.79	756.7	61.9	16.6	80	W			3		6			0.094	2.4		Prof. Dr. Prestel.
Frankfort on the Main	29.58	751.2	29.94	760.4	68.0	20.0		S			4		6			0.169	4.3		Physical Society.
Freienwalde on the Oder	29.73	755.1	29.77	756.1	78.8	26.0	56	WSW			1		9ks	SW		0	0		Dr. Assmann.
Friedrichshafen	28.65	727.6	30.06	763.5	62.4	16.9	82	WSW			6		10	WSW		0.059	1.5		M. Wilhelm.
Hamburg	29.72	755.0	29.79	756.7	65.1	18.4	73	WSW			5		8kn			0.055	1.4	Showery	Captain F. Hegemann.
Kiel	29.74	755.3	29.75	755.7	64.8	18.2	71	SW			2		8			0.073	1.85		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.5	29.82	757.5	74.8	23.8	51	W			3		2			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.48	748.7	29.89	759.2	62.2	16.8	92	WSW			2		10	W				Raining	Prof. Bruhns, Privy Counsellor.
Memel	29.79	756.6	29.84	757.8	66.0	18.9	73	WNW			3		3cs					Hazy	Skalweit.
Munich (München)	28.18	715.8	30.04	763.1	68.4	20.2	58	W			8		8	W		0	0		Dr. C. Larg.
Neufahrwasser	29.80	756.8	29.81	757.2	71.6	22.0	67	E			3		10			0.012	0.8		A. Lothes.
Posen	29.57	751.1	29.84	758.0	82.9	28.3	39	SW			6		9			0.217	5.5	Thunder-storm.	Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.03	762.8	66.9	19.4	74	W			3		9			0.388	9.86		Imp. University Observatory.
Stuttgart	29.07	738.3	29.99	761.8	62.6	17.0	78	W			1		9	W		0.083	2.1		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.52	724.5	30.01	762.2	61.3	16.3	71	W	4	2			10		WNW	0	0		T. Hopfner.
Wustrow	29.77	756.1	29.79	756.7	58.8	14.9	90	W			3		10			0.382	9.7		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.4	29.84	758.0	81.5	27.5		NE			5.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.47	748.4	29.52	749.7	87.4	30.8	68	WNW	13.0	5.8			4			0	0		D. clouds
Deesa	29.06	738.1	29.51	749.6	97.9	36.6	38	SW	10.9	4.9			6	ESE	SSW	0	0		D. clouds
Bombay	29.57	751.1	29.61	752.1	82.7	28.2	85	SSW	15.0	6.7			10		S	0.02	0.5		D. clouds
Poona	27.78	705.5	29.62	752.3	79.7	26.5	69	WSW					10	Calm	W	0	0		Gloomy
Lahore	28.65	727.8	29.36	745.6	101.7	38.2	43	NE	2.3	1.0			3			0	0		Blue sky
Belgaum	27.18	690.3	29.71	754.6	74.5	23.6	86	SW	9.0	4.0			10	SW	SW	0.01	0.3		D. clouds
Roorkee	28.51	724.2	29.37	745.9	96.9	36.1	49	S	2.9	1.3			8			0	0		Gloomy
Agra	29.01	736.8	29.56	750.8	89.7	32.1	65	S					7		S	0	0		
Nagpur	28.54	724.8	29.56	750.9	82.2	27.9	78	E	4.5	2.0			8		WSW	0	0		D. clouds
Lucknow	29.11	739.4	29.48	748.6	92.2	33.4	67		2.0	0.9						0	0		Blue sky
Allahabad	29.19	741.5	29.50	749.3	83.1	28.4	87	Calm	1.7	0.8			10			0.21	5.3		Overcast
Patna	29.34	745.3	29.52	749.8	88.6	31.4	69	W	0.2	0.1			8	W	W	0	0		D. clouds
Hazaribagh	27.57	700.4	29.56	750.8	79.8	26.6	78	NNE	9.6	4.3			10						Thunder-storm.
Cuttack	29.52	749.7	29.60	751.8	86.7	30.4	69	SSW	3.0	1.3			5			0	0		D. clouds
Calcutta (Alipore)	29.57	751.1	29.59	751.7	84.7	29.3	79	SE	5.0	2.2			10	S		0	0		Overcast
Goalpara	29.20	741.7	29.59	751.6	77.2	25.1	91	Calm	1.0	0.4			9		W	0.20	5.0		Showery
Chittagong	29.59	751.5	29.68	753.8	82.9	28.3	87	S	4.9	2.2			5			0	0		Misty
Sibsagar	29.81	744.4	29.64	752.8	80.3	26.8	94	ESE	1.9	0.8			10	W	W	1.44	36.6		Overcast
Jubbulpore	28.21	716.6	29.56	750.9	80.8	27.1	83	SW	4.5	2.0			10		E	0.30	7.6		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,548.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.4	29.93	760.3	83.5	28.6	41	SW	3.8	1.7			2			0	0		Prof. Giovanni Clodig.
Milan	29.42	747.2	29.91	759.8	85.8	29.9	33	WSW			2		2	W		0	0		Prof. Schiaparelli.
Padua	29.82	757.4	29.93	760.1	81.9	27.7	40	S	4.3	1.9			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.03	737.3	29.89	759.2	81.1	27.3	40	ESE	3.1	1.4			3	ENE		0	0		Prof. P. F. Denza.
Genoa	29.82	757.5	30.01	762.2	74.5	23.6	58	SW	4.9	2.2			4	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	28.08	713.1	29.90	759.5	79.2	26.2	42	NW			4		1			0	0		Prof. D. C. Bruno.
Pesaro	29.90	759.5	29.95	760.7	77.4	25.2	73	NE	9.4	4.2			0			0	0		Prof. Luigi Guidi.
Florence	29.71	754.7	29.96	761.0	83.7	28.7	40	NW			4		0			0	0		Cav. F. Meucci.
Leghorn	29.91	759.8	30.00	761.9	75.6	24.2	58	NE			4		1			0	0		Prof. P. Monte.
Rome	29.82	757.3	29.98	761.6	81.7	27.6	56	W	8.1	3.6			1			0	0		Prof. P. S. Ferrari.
Lecce	29.70	754.3	29.94	760.5	77.9	25.5	51	NNE	11.2	5.0			1			0	0		Prof. C. De Giorgi.
Cosenza	29.08	738.7	29.92	760.0	81.0	27.2	67	NW	5.6	2.5			4			0	0		Prof. D. Conti.
Cagliari	29.78	756.4	29.97	761.1	77.2	25.1	61	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.76	755.8	30.00	762.1	75.2	24.0	58	ENE	4.3	1.9			0			0	0		Prof. G. Cacciatore.
Syracuse	29.87	758.8	29.95	760.7	81.7	27.6	45	SSW	2.5	1.1			0?	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.6	30.00	762.0	80.6	27.0	61	NE	0	0			4			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.85	758.2	29.86	758.4	71.2	21.8	91	Calm	0	0			10s			0.682	17.32	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.66	753.3	29.85	758.2	69.0	20.6	92	NNW	0.5	0.2			1s			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.75	755.6	29.82	757.4	71.3	21.8	92	ESE	7.3	3.3			10s			0.120	3.05	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalájara	25.11	637.7	30.09	764.3	60.8	16.0	70	SE			1		10		E	1.93	49.0	Overcast	Prof. L. Perez.
Leon	24.46	621.3	30.03	762.8	64.8	18.2	86	SW			1	4c	2k	E		0	0	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.5	30.06	763.5	56.6	13.7	84	NW	0.9	0.4		9k	0			0.09	2.2	Cloudy	The Staff.
Pabellon (Aguascalientes)					63.5	17.5	77	NW			1	1c	4ks	E	E	0	0	½ clouded	M. V. de Leon, M. E
Tlacotalpam	29.92	759.9	29.93	760.2	74.8	23.8	96	NW			3	10	0	NE		1.54	39.0	Rainy	Prof. M. M. Cházaro.
San Luis Potosi	24.22	615.3	30.11	764.8	64.0	17.8	75	E			1	2	6	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.6	30.16	766.1	56.3	13.5	85	NE			1	3c	5k	SE	SE	0	0	Cloudy	J. C. Castrillon.
Puebla (Catholic Institute)	23.43	595.0	30.19	766.8	58.1	14.5	73	Calm	0	0		8	0	N		0.09	2.3	Cloudy	Prof. P. Spina.
Colima	28.39	721.0	30.01	762.2	79.5	26.4	78	E			2	0	10		E	1.40	35.6	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.69	754.2	29.98	761.5	77.0	25.0	84	SW			1		10		SE	0	0		F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.88	759.0	29.98	759.0	63.1	17.3		W								0.043	1.1		
Groningen	29.72	754.9	29.78	756.3	61.3	16.3		SW			4					0.063	1.6		
Helder	29.75	755.6	29.75	755.6	57.2	14.0		SSW			5					0	0		
Hellevoetsluis	29.82	757.5	29.82	757.5	62.8	17.1	67	WSW			6					0.079	2.0		
Utrecht	29.81	757.1	29.85	758.3	63.7	17.6	64	WSW			5		5			0.024	0.6	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.46	748.2	29.51	749.6	58.3	14.6	91	W	10.1	4.5			4			0.315	8.0	Raining	
Brōno	29.47	748.4	29.50	749.4	64.4	18.0	49	N	7	3			0			0	0		
Christiania	29.48	748.8	29.62	752.4	57.7	14.3	90	SE	7	3			10					Raining	
Tromsō	29.72	755.0	29.77	756.1	45.0	7.2	73	E	7	3			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.08	764.1	30.27	768.9	68.0	20.0	71	WSW	8.1	3.6			1			0	0		Dr. J. A. Sampaio.
Campo Major	29.02	737.1	30.00	762.1	81.5	27.5	26	WSW	5.6	2.5			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.04	763.0	30.13	765 2	73.2	22.9	71	SW	5.6	2.5			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.09	764.3	70.2	21.2	42	NNE	18.6	8.3			0			0	0		The Staff.
Ponta Delgada (Azores)	30.23	767.8	30.30	769.6	72.0	22.2	50	SW	4.3	1.9			6			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 6° 07′, E. 5° 53′			30.10	764.4	77.9	25.5		SSW			3		8		SSW	2	SW	D. clouds	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			29.99	761.7	62.6	17.0		WNW			3		0			1	WNW	Blue sky	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa St. Vincent, Cape Verd, Island			30.04	763.0	76.6	24.8		ENE			3		4		NE	1		D. clouds	P. de Fair[illegible] F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimarães. Macao, China			29.91	759.8	82.4	28.0		S			3		3		S	1	S	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.44	747.7	29.84	757.8	81.7	27.6	49	SW	7	3			2k						Astronomical Obs.
Wilna	29.38	746.3	29.78	756.3	80.8	27.1	45	S	4	2			10						Astronomical Obs.
Dorpat	29.52	749.7	29.75	755.6	68.4	20.2	84	WSW	4	2			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.70	754.3	29.71	754.7	63.5	17.5	49	WNW	18	6			2k						Central Physical Obs.
Kieff	29.23	742.4	29.84	757.9	69.8	21.0	80	SE	7	3			9k;ks;cn]					Raining	Physical Cabinet.
Nikolaiev	29.85	758.2	29.92	760.0	83.7	28.7	29	W	4	2			0						Kurdakof.
Kertch																			Lagorio.
Moscow	29.22	742.1	29.74	755.3	72.5	22.5	50	SE	9	4			4ks						Meteorological Obs.
Lugan	29.55	750.5	29.74	755.4	86.9	30.5	36	SE	4	2			5			Blank	Blank		Meteorological Obs.
Archangel	29.39	746.4	29.41	746.9	42.6	5.9	87	W	11	5			10					Raining	Capt. Sseliwerstow.
Tiflis	28.54	724.8	29.92	759.9	66.4	19.1	74	Calm	0	0			10						Physical Observatory.
Astrakhan	29.98	761.6	29.90	759.5	79.7	26.5	32	SSE	9	4			8s						Capt. Wisganow.
Krotkowo*	29.19	741.3	29.63	752.6	74.5	23.6	65	W	0	0			8k						Cand. Fatjanow.
Kasan	29.30	744.1	29.55	750.5	73.9	23.3	47	WSW	9	4			7						Physical Cabinet.
Ekaterinburg	28.48	723.5	29.39	746.5	73.0	22.8	50	WSW	31	14			9cn					Thunder-storm.	Meteorological Obs.
Nukuss	29.71	754.7	29.94	760.4	76.8	24.9	28	NNE	20	9			1ks						Teich, A. M.
Tashkend	28.26	717.7	29.72	754.9	84.9	29.4	40	NW	4	2			10					Light clouds	Meteorological Obs.
Barnaul	29.06	738.1	29.54	750.4	57.7	14.3	85	SW	9	4			10					Light clouds	Marks.
Yeniseisk	29.09	738.9	29.36	745.8	74.7	23.7	56	WNW	7	3			4						
Irkutsk																			Physical Observatory.
Peking (China)	29.52	749.9	29.67	753.5	71.1	21.7	80	Calm	0	0			3k						Meteorological Obs.
Nertchinsk																			
Vladivostock	29.75	755.7	29.85	758.2	56.1	13.4	91	Calm	0	0			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.92	759.9	30.02	762.5	77.4	25.2	55	SE	2.3	1.03			0			0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.10	764.6	30.16	766.0	67.3	19.6	63	NW	3.0	1.34			10			0.130	3.3	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.4			65.3	18.5	59	NE	11.4	5.11			5			0	0	Cloudy	Domingo Martin y Peres
Madrid, Royal Oservatory	27.77	705.4	29.86	758.4	88.3	31.2	30	SW	11.2	5.00		2	0	WSW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.80	756.8	29.94	760.4	87.1	30.6	57	NE	7.8	3.50			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.3	30.07	763.7	65.7	18.7	57	NNW	3.8	1.7			5			0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.99	761.8	30.06	763.5	80.0	26.7	87	E	4.0	1.8		0	1k			0.008	0.2	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.82	757.6	29.87	758.9	83.5	28.6	84	NE	0	0			2s		W	0.512	13.0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	759.9	30.01	762.3	76.1	24.5	64	WNW	12.2	5.5		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.3	30.02	762.6	82.4	28.0	77	E	0.4	0.15		2c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.71	754.5	29.74	755.5	59.0	15.0	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.68	753.8	29.73	755.1	61.2	16.2	55	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.66	753.4	29.71	754.7	53.6	12.0	94	SE	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	
Stockholm	29.52	749.7	29.69	754.2	68.0	20.1	54	W	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.71	754.6	29.77	756.1	65.5	18.6	70	W	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.58	751.2	29.65	753.1	68.7	20.4	63	SSW	9	4.0	.....	.....	5	WSW	W	0.087	2.21	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.47	723.1	30.09	764.3	64.0	17.8	82	NE	.....	.....	2	.....	10	.....	.....	0.020	0.5	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, —— per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.82	757.4	76.1	24.5	42	NE	27	12.0	.....	.....	3	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.92?	760.0?	102.2	39.0	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	82.8	28.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.60	751.8	29.72	754.8	86.4	30.2	56	SW	.....	.....	4	.....	1ks	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.71	754.6	30.01	762.2	61	16.1	.....	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	W. R. Bigg.
Chatham, N. B	29.89	759.2	29.95	760.7	64	17.8	70	S	14	6.3	.....	8ck	2ks	S	S	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.00	762.0	30.04	763.0	61	16.1	64	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	29.98	761.5	65.2	18.4	82	W	.....	.....	2	.....	10s	.....	.....	0.013	0.33	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.69	754.1	29.85	758.2	67.8	19.9	70	NW	.....	.....	1	.....	9s	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.78	756.4	29.80	756.9	55	12.8	78	SW	26	11.6	.....	.....	10s	.....	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.03	762.7	65.0	18.3	68	S	6	2.7	.....	0	.....	.....	.....	0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba	29.00	736.6	29.81	757.2	51	10.6	96	E	7	3.1	.....	5k	5n	W	W	1.055	26.80	Heavy rain	James Stewart.
Granton, Ontario	28.95	735.3	30.01	762.2	68	20.0	100	Calm	.....	.....	0	.....	10n	.....	.....	0.05	1.3	Overcast	James Grant.
*Halifax, N. S	30.06	763.5	30.16	766.1	64	17.8	58	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.67	753.6	30.03	762.7	68.3	20.2	89	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.68	753.9	30.00	762.0	61	16.1	93	W	5	2.2	.....	.....	10ks	.....	Calm	0.01	0.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.00	762.0	30.04	763.0	71.7	22.1	48	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.74	755.4	29.93	760.2	67	19.4	75	SW	15	6.7	.....	8c	2s	SW	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.34	745.2	30.02	762.5	59	15.0	99	S	4	1.8	.....	.....	Fog	.....	S	0.05	1.3	Foggy	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	29.99	761.7	70.9	21.6	78	SW	.....	.....	1	4k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.03	762.7	64	17.8	94	NE	3	1.3	.....	.....	10n	.....	NE	0.09	2.3	Light rain	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.01	762.2	64	17.8	99	NE	3	1.3	.....	.....	Fog	.....	NE	0.25	6.3	Light rain	M. Payne.
*Quebec, Quebec	29.62	752.3	29.93	760.2	64	17.8	78	NW	.....	.....	3	.....	10n	.....	NW	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.50	749.3	29.94	760.5	66	18.9	81	W	6	2.7	.....	0	2ks	.....	W	0.15	3.8	Fair	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.04	763.0	59	15.0	74	SW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.94	760.5	30.11	764.8	56	13.3	68	SW	11	4.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.34	745.2	30.04	763.0	63	17.2	92	S	4	1.8	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.76	730.5	30.00	762.0	65.6	18.7	97	Calm	0	0	.....	1c	2s	N	.....	0.38	9.7	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.04	763.0	30.08	764.0	68	20.0	56	SW	17	7.6	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.66	753.4	30.03	762.7	65	18.3	95	S	2	0.9	.....	5ck	2s	W	W	0.10	2.5	Fair	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.12	765.0	64.0	17.8	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.87	758.7	30.10	764.5	73.0	22.8	39	SW	.....	.....	.....	0?	0?	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4: at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.08	764.0	64	17.8	68	S	4	1.8			Haze			0	0	Dense haze	
Alpena, Michigan	29.37	746.0	29.99	761.7	66	18.9	84	NW	4	1.8		0	0			0.10	2.5	Clear	
Atcha, Aleutian Islands					40	4.4	100	SE			4		10n			Inap.	Inap.	Raining	
Atlanta, Georgia	29.07	738.4	30.19	766.8	68	20.0	60	S	12	5.4		10k	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.17	766.3	63	17.2	83	SW	9	4.0			10s		Calm	0	0	Cloudy	
Augusta, Georgia	30.05	763.3	30.25	768.3	69	20.6	61	Calm	0	0		5ck	Haze	SW	Calm	0	0	Fair	
Baltimore, Maryland	30.10	764.5	30.15	765.8	66	18.9	59	S	5	2.2			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	69	20.6	65	S	10	4.5		5ck	2s	Calm	Calm	0	0	Fair	
Bismarck, Dakota	27.93	709.4	29.78	756.4	67	19.4	84	E	8	3.6		0	0			0	0	Clear	
Boerne, Texas	28.04	712.2	29.90	759.4	76	24.4	82	S	3	1.3			10ks		SE	0	0	Cloudy	
Boise City, Idaho	26.91	683.5	29.87	758.7	55	12.8	68	NW	4	1.8		5k	0	W		0	0	Fair	
Boston, Massachusetts	29.94	760.5	30.09	764.3	67	19.4	60	SW	14	6.3		1k	0	SW		0	0	Clear	
Brackettville, Texas	28.89	733.8	29.88	758.9	78	25.6	78	NE	7	3.1		0	5ks		E	0	0	Fair	
Breckenridge, Minnesota	28.79	731.3	29.73	755.1	70	21.1	80	S	18	8.0		1k	0	W		Inap.	Inap.	Clear	
Brownsville, Texas	29.94	760.5	29.98	761.5	81	27.2	81	E	1	0.4		5k	0	E		0	0	Fair	
Buffalo, New York	29.33	745.0	30.00	762.0	68	20.0	82	SE	1	0.4			10s		W	0.20	5.1	Threatening	
Burkes, Arizona					83	28.3	19	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.72	754.9	30.00	762.0	64	17.8	78	S	10	4.5			10n		W	0.02	0.5	Light rain	
Cairo, Illinois	29.82	757.4	30.19	766.8	74	23.3	86	Calm	0	0			10s		W	0.31	7.9	Cloudy	
Campo, California	27.39	695.7	29.96	761.0	42	5.6	50	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	69	20.6	70	NE	4	1.8		8cs	Haze	W		0	0	Fair	
Cape Henry, Virginia	30.18	766.6	30.20	767.1	64	17.8	68	S	4	1.8		8cs	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	67	19.4	74	NE	10	4.5		8cs	0	W		0	0	Cloudy	
Cape May, New Jersey	30.13	765.3	30.16	766.1	65	18.3	78	S	12	5.4			10ks		W	0	0	Cloudy	
Castroville, Texas	29.29	744.0	29.97	761.2	81	27.2	75	E	4	1.8			10s		E	0	0	Cloudy	
Charleston, South Carolina	30.16	766.1	30.22	767.6	70	21.1	61	N	6	2.7		2ck	0	NE		0	0	Fair	
Charlotte, North Carolina	29.35	745.5	30.15	765.8	68	20.0	60	SW	5	2.2			10s		Calm	0	0	Cloudy	
Chattanooga, Tennessee	29.42	747.3	30.21	767.3	66	18.9	74	W	2	0.9			10n		Calm	Inap.	Inap.	Light rain	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	55	12.8	33	W	5	2.2		0	0			0	0	Clear	
Chicago, Illinois	29.39	746.5	30.06	763.5	70	21.1	75	SW	3	1.3		5cs	0	W		1.02	25.9	Fair	
Cincinnati, Ohio	29.48	748.8	30.12	765 0	70	21.1	50	NW	9	4.0			10ks		NW	0.09	2.3	Threatening	
Cleveland, Ohio	29.29	744.0	29.99	761.7	66	18.9	89	SW	7	3.1			10n		W	0.15	3.8	Light rain	
Coleman City, Texas	28.27	718.0	29.87	758.7	74	23.3	86	SE	10	4.5		0	8ks		S	0.06	1.5	Fair	
Columbus, Ohio	29.24	742.7	30.04	763.0	69	20.6	85	NW	7	3.1			10n		S	0.03	0.8	Light rain	
Concho, Texas	28.17	715.5	29.79	756.7	72	22.2	90	S	4	1.8		8k	0	Calm		0.48	12.2	Fair	
Corsicana, Texas	29.65	753.1	30.10	764.5	74	23.3	90	S	2	0.9		2ck	8s	S	S	0	0	Cloudy	
Davenport, Iowa	29.46	748.3	30.08	764.0	70	21.1	85	Calm	0	0		5c	0	W		0.34	8.6	Fair	
Deadwood, Dakota	25.27	641.8			67	19.4	84	S	4	1.8		0	0			0	0	Clear	
Decatur, Texas	28.90	734.0	30.01	762.2	78	25.6	86	S	8	3.6			8s		S	0	0	Cloudy	
Denison, Texas	29.31	744.5	30.07	763.8	74	23.3	90	SE	6	2.7		2ck	2ks	SW	SW	0.01	0.3	Fair	
Denver, Colorado	24.77	629.2	29.99	761.7	60	15.6	39	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.18	741.1	30.02	762.5	71	21.7	75	Calm	0	0		2c	0	NW		0	0	Clear	
Detroit, Michigan	29.37	746.0	30.02	762.5	66	18.9	89	NW	9	4.0			10s		NW	0.60	15.2	Threatening	
Dodge City, Kansas	27.44	697.0	29.63	752.6	69	20.6	85	S	10	4.5		0	8ks		S	0	0	Cloudy	
Dubuque, Iowa	29.38	746.2	30.05	763.3	72	22.2	54	SW	2	0.9		5c	Haze	NW	Calm	0.04	1.0	Fair	
Duluth, Minnesota	29.36	745.7	30.02	762.5	58	14.4	70	NE	16	7.2			10s		NE	0.09	2.3	Cloudy	
Eagle Pass, Texa	29.28	743.7	29.98	761.5	78	25.6	82	SE	8	3.6		1c	2s	Calm	SE	0	0	Fair	
Eastport, Maine	30.00	762.0	30.07	763.8	62	16.7	56	SW	16	7.2		0	0			0	0	Clear	
Edinburg, Texas					82	27.8	79	Calm			0	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.28	667.5			65	18.3		Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.31	744.5	30.00	762.0	67	19.4	89	SE	4	1.8			10n		S	0.10	2.5	Light rain	
Escanaba, Michigan	29.40	746.7	30.04	763.0	58	14.4	70	NE	12	5.4		8c	0	NW		0	0	Fair	
Florence, Arizona	28.39	721.1	29.99	761.7	75	23.9	37	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine					63	17.2	83	NE	1	0.4		1c	0	Calm		0	0	Clear	
Fort Buford, Dakota	27.74	704.6			57	13.9	87	W	2	0.9		1c	0	Calm		0.08	2.0	Clear	
Fort Craig, New Mexico	25.59	650.0	29.66	753.4	62	16.7	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Davis, Texas	25.30	642.6	30.26	768.6	73	22.8	90	SE	6	2.7			10s		S	0.50	12.7	Cloudy	
Fort Gibson, Indian Ter	29.54	750.3	30.05	763.3	74	23.3	47	E	4	1.8		0	0			0	0	Clear	
Fort Grant, Arizona	25.27	641.8	30.07	763.8	74	23.3	95	W	4	1.8			10s		Calm	0.20	5.1	Cloudy	
Fort Griffin, Texas	28.79	731.3	30.02	762.5	63	17.2	78	NW	4	1.8		0	Haze		Calm	0	0	Clear	
Fort Keogh, Montana	27.22	691.4			72	22.2	80	S	4	1.8		5c	2s	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.84	707.1	29.69	754.1	38	3.3	100	NW	5	2.2			10ks		NW	0	0	Cloudy	
Fort St. Michael, Alaska	29.98	761.5	30.01	762.2															
Fort Shaw					75	23.9	90	SE	12	5.4			10s		Calm	0.32	8.1	Cloudy	
Fort Sill, Indian Territory	28.83	732.3	29.89	759.2	67	19.4	79	NE	6	2.7		1c	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.89	708.4			69	20.6	35	NW			1	5k	0	W		0	0	Fair	
Fort Verde, Arizona																			
Fort Yates					80	26.7	66	S	6	2.7		5k	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.32	719.3	29.81	757.2	82	27.8	75	E	10	4.5		2ck	0	SE		0.55	14.0	Clear	
Galveston, Texas	30.06	763.5	30.10	764.5	76	24.4	91	SE	3	1.3			10s		S	0.36	9.1	Cloudy	
Graham, Texas	28.98	736.1	29.99	761.7	59	15.0	94	SW	4	1.8			Fog		Calm	0.25	6.3	Foggy	
Grand Haven, Michigan	29.40	746.7	30.04	763.0															
Helena, Montana					75	23.9	90	S	5	2.2		0	8s		Calm	1.02	25.9	Cloudy	
Henrietta, Texas	29.09	738.9	29.99	761.7	67	19.4	89	Calm	0	0			10s		Calm	0.15	3.8	Cloudy	
Indianapolis, Indiana	29.35	745.5	30.10	764.5	82	27.8	83	SE	15	6.7		2cs	8ks	W	SE	0.38	9.7	Cloudy	
Indianola, Texas	30.05	763.3	30.07	763.8	79	26.1	78	Calm	0	0		0	5s		Calm	0	0	Fair	
Jacksboro, Texas	28.98	736.1	30.03	762.7	74	23.3	63	NE	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	30.19	766.8	30.21	767.3	77	25.0	77	SW	6	2.7		2c	0	W		0.09	2.3	Clear	
Keokuk, Iowa	29.45	748.0	30.03	762.7	75	23.9	82	NE	9	4.0		2k	0	NE		0	0	Fair	
Key West, Florida	30.06	763.5	30.09	764.3	80	26.7	83	Calm	0	0			Sm'e		Calm	0	0	Smoky	
Kittyhawk, North Carolina	30.19	766.8	30.21	767.3	64	17.8	61	W	4	1.8			10s		W	0	0	Threatening	
Knoxville, Tennessee	29.22	742.2	30.20	767.1	69	20.6	84	S	8	3.6		2k	0	Calm		0	0	Clear	
La Crosse, Wisconsin	29.31	744.5	30.02	762.5	67	19.4	88	Calm	0	0		5cs	0	Calm		0.03	0.8	Fair	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	61	16.1	55	SE	3	1.3		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.93	760.2	80	26.7	95	S	3	1.3			10s		SW	0	0	Threatening	
Leavenworth, Kansas	29.21	741.9	30.02	762.5	70	21.1													
Little Rock, Kansas					61.0	16.1	82	SW	3	1.3			10s		Calm	0	0	Cloudy	
Los Angeles, California	29.60	751.8	29.94	760.5	73	22.8	55	W	5	2.2		5k	5ks	NW	NW	0.01	0.3	Cloudy	
Louisville, Kentucky	29.57	751.1	30.10	764.5	69	20.6	65	SW	2	0.9		8ck	0	NW		0	0	Fair	
Lynchburg, Virginia	29.47	748.5	30.13	765.3	69	21.1	75	W	2	0.9		5c	0	NW		0.45	11.4	Fair	
Madison, Wisconsin	29.09	738.9	30.04	763.0	70	21.1	61	NW	12	5.4		0	0			0	0	Clear	
Marquette, Michigan	29.38	746.2	30.07	763.8	53	11.7	77	SE	4	1.8		Haze	0	Calm		0	0	Hazy	
Mason, Texas	28.46	722.9	30.16	766.1	75	23.9	86	SW	4	1.8			10n		Calm	0.01	0.3	Light rain	
Memphis, Tennessee	29.84	757.9	30.17	766.3	75	23.9	75	NW	10	4.5		1c	0	W		0.32	8.1	Clear	
Milwaukee, Wisconsin	29.33	745.0	30.03	762.7	70	21.1	88	S	4	1.8		0	1s		S	0	0	Clear	
Mobile, Alabama	30.15	765.8	30.19	766.8	73.5	23.1	55	SE	1	0.4		2c	0	N		0	0	Clear	
Montgomery, Alabama	30.00	762.0	30.23	767.8	74	23.3													

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.09	738.9	30.04	763.0	72	22.2	67	SW	4	1.8		5k	0	SW		0	0	Fair	
Mt. Washington, N. H.	23.95	608.3	30.31	769.9	49	9.4	93	W	20	8.9		10k	0	W		0	0	Cloudy	
Nashville, Tennessee	29.66	753.4	30.18	766.6	75	23.9	64	SW	1	0.4			10ks		SW	0.01	0.3	Cloudy	
New Haven, Connecticut	30.03	762.7	30.14	765.5	69	20.6	65	S	5	2.2		5ck	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.13	765.3	30.18	766.6	70	21.1	61	SW	9	4.0		1ck	Haze	WNW	Calm	0	0	Fair	
New Orleans, Louisiana	30.09	764.3	30.15	765.8	81	27.2	63	SE	6	2.7		0	0			0	0	Clear	
Newport, Rhode Island	30.13	765.3	30.18	766.6	64	17.8	78	S	9	4.0		2k	Haze	W		0	0	Fair	
New York, New York	29.99	761.7	30.17	766.3	63	17.2	71	SW	10	4.5			10s		Calm	0	0	Cloudy	
Norfolk, Virginia	30.13	765.3	30.19	766.8	66	18.8	64	S	4	1.8			10s		Calm	0	0	Cloudy	
North Platte, Nebraska	27.02	686.3	29.47	748.5	68	20.0	79	S	18	8.0		0	Haze		Calm	0	0	Clear	
Olympia, Washington Ter.	29.80	756.9	29.84	757.9	50.0	10.0	93	W	2	0.9			10n		W	0.06	1.5	Light rain	
Omaha, Nebraska	28.88	733.5	29.92	760.0	73	22.8	81	Calm	0	0			10s		S	0	0	Cloudy	
Oswego, New York	29.74	755.4	30.05	763.3	65	18.3	80	Calm	0	0			10s		Calm	0.11	2.8	Cloudy	
Pembina, Dakota	28.90	734.0	29.70	754.4	60	15.6	88	NE	6	2.7			10s		Calm	0	0	Cloudy	
Philadelphia, Pa.	30.11	764.8	30.16	766.1	63	17.2	72	S	9	4.0		10cs	0	Calm		0	0	Cloudy	
Phœnix, Arizona	28.64	727.4	30.32	770.1	78	25.6	29	E	2	0.9		5k	0	S		0	0	Fair	
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	35	1.7	36	W	26	11.6		0	Haze			0	0	Hazy	
Pioche, Nevada					60	15.6	24	S	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.24	742.7	30.02	762.5	69	20.6	90	SW	4	1.8			10n		Calm	0.02	0.5	Light rain	
Port Huron, Michigan	29.36	745.7	30.01	762.2	63	17.2	94	NE	6	2.7		10k	0	NE		0.30	7.6	Cloudy	
Portland, Maine	30.00	762.0	30.05	763.3	62	16.7	72	SW	4	1.8		2k	0	Calm		0	0	Fair	
Portland, Oregon	29.85	758.2	29.92	760.0	49.5	9.7	63	S	5	2.2			10n		SW	0.80	20.3	Light rain	
Prescott, Arizona	24.76	629.2	30.13	765.3	53	11.7	42	Calm			0	2k	0	NW		0	0	Fair	
Pilot Point, Texas	29.18	741.1	29.96	761.0	81	27.2	59	SE	12	5.4		0	0			0.02	0.5	Clear	
Punta Rassa, Florida	30.12	765.0	30.13	765.3	76	24.4	73	NE	10	4.5		0	0			0	0	Clear	
Red Bluff, California	29.51	749.5	29.86	758.4	56	13.3	35	NW	14	6.3		1cs	0	NW		0	0	Clear	
Rio Grande City, Texas	29.81	757.2	30.02	762.5	77	25.0	86	E	4	1.8		0	0			0	0	Clear	
Rochester, New York	29.44	747.8	30.04	763.0	66	18.9	84	W	2	0.9			10s		W	0.18	4.6	Cloudy	
Roseburg, Oregon	29.44	747.8	30.00	762.0	48	8.9	85	NE	1	0.4			10s		Calm	0.04	1.0	Cloudy	
Sacramento, California	29.76	755.9	29.85	758.2	54	12.2	74	S	6	2.7		2c	0	Calm		0	0	Clear	
St. Louis, Missouri	29.57	751.1	30.12	765.0	71	21.7	85	Calm	0	0		0	Haze			0.18	4.6	Clear	
St. Marks, Florida	30.20	767.1	30.22	767.6	72	22.2	71	SE	3	1.3		0	0			0	0	Clear	
St. Paul, Minnesota	29.11	739.4	29.91	759.7	67	19.4	84	SE	7	3.1		1c	0	Calm		0	0	Clear	
Salt Lake City, Utah	25.47	646.9	29.80	756.9	70	21.1	21	SE	10	4.5		0	0			0	0	Clear	
San Antonio, Texas	29.39	746.5	29.95	760.7	78	25.6	82	E	3	1.3		0	8s		E	0	0	Cloudy	
San Diego, California	29.90	759.4	29.77	761.2	61	16.1	82	NW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.37	746.0	30.02	762.5	68	20.0	84	NW	20	8.9		5k	0	NW		0.20	5.1	Fair	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	68	20.0	60	SW	9	4.0		2c	5s	Calm	Calm	0	0	Cloudy	
San Francisco, California	29.85	758.2	29.91	759.7	52	11.1	79	W	10	4.5		0	0			0	0	Clear	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	52	11.1	55	NE	1	0.4		5c	0	W		0.08	2.0	Fair	
Savannah, Georgia	30.15	765.8	30.24	768.1	70	21.1	66	N	6	2.7		1c	0	N		0	0	Clear	
Shreveport, Louisiana	29.94	760.5	30.15	765.8	77	25.0	73	S	4	1.8		0	0			0	0	Clear	
Silver City, New Mexico	24.39	619.5	30.48	774.2	55	12.8	76	Calm	0	0		2k	0	Calm		0.08	2.0	Fair	
Smithville, North Carolina	30.21	767.3	30.24	768.1	68	20.0	70	N	3	1.3		10cs	0	Calm		0	0	Cloudy	
Socom																			
Springfield, Ill																			
Springfield, Massachusetts	29.99	761.7	30.12	765.0	64	17.8	78	S	5	2.2		0	8ks		Calm	0	0	Cloudy	
Stockton, Texas	27.02	686.3	30.02	762.5	71	21.7	75	SE	12	5.4		10cs	0	E		0	0	Cloudy	
Thatcher's Island, Mass.	30.06	763.5	30.11	764.8	60	15.6	88	SW	6	2.7		0	0			0	0	Clear	
Toledo, Ohio	29.37	746.0	30.02	762.5	69	20.6	75	NW	12	5.4			10ks		N	0.25	6.3	Clearing	
Tucson, Arizona	27.46	698.0	30.03	762.7	80	26.7	40	S	4	1.8			0			0	0	Clear	
Umatilla, Oregon	29.41	747.0	29.89	759.2	52.0	11.1	73	SW	24	10.7			10s		SW	0.07	1.8	Cloudy	
Uvalde, Texas	29.15	740.4	29.94	760.5	78	25.6	78	E	1	0.4		1c	2s	Calm	SE	0	0	Fair	
Vicksburg, Mississippi	29.96	761.0	30.22	767.6	72	22.2	80	S	4	1.8		2c	2s	Calm	S	0	0	Fair	
Virginia City, Montana	24.04	610.1	29.50	749.3	54	12.2	67	Calm	0	0			10s		W	0.03	0.8	Cloudy	
Visalia, California	29.48	748.8	29.84	757.9	63	17.2	49	NW	4	1.8		0	0			0	0	Clear	
Washington, D. C.	30.01	762.2	30.13	765.3	66	18.9	59	S	10	4.5			10s		Calm	0	0	Cloudy	
Wickenburg, Arizona					67	19.4	42	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.14	765.5	30.22	767.6	64	17.8	73	Calm	0	0			10s		Calm	0	0	Cloudy	
Winnemucca, Nevada	25.38	644.6	29.74	755.4	64	17.8	12	SW	28	12.5		0	4s		SW	0	0	Fair	
Wood's Holl, Mass.	30.12	765.0	30.16	766.1	65	18.3	68	SW	14	6.3		0	0			0	0	Clear	
Yankton, Dakota	28.64	727.4	29.86	758.4	74	23.3	77	S	7	3.1		5k	0	SW		Inap.	Inap.	Fair	
Yuma, Arizona	29.64	752.8	29.80	756.9	70	21.1	66	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.99	761.7	30.04	763.0	80	26.7	82	SE	1.2	0.5		0	0			0	0	Haze	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.27	641.8			65.5	18.6	85	SW			0		10n			1.29	32.8		Thomas Herran.
Navassa, W. I.	29.99	761.7	30.07	763.8	80	26.7	78	NE								0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	80	26.7	82	E			2	3c	5k	E		0.230	5.84	Fair	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m., Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,395.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.27‡	768.8‡			76	24.4	91	NE	3	1.3			2		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.85‡	758.2‡			71	21.7	95	SW			1		10n		SW	0.87	22.1			Light rain	
Adams, N. 13° 12,′ W. 90° 30′	29.89‡	759.2‡			82	27.8	91	WSW			3		10		W			Long	W	Cloudy	
Alaska, N. 44° 07,′ W. 126° 56′	29.94‡	760.5‡			52	11.1	86	NE			2		8		NE	0.3	8.	Long	W	Raining	
Alliance, Havre, France	30.04‡	763.0‡			61	16.1	66	WSW			4		5		S;W					Pleasant	
Ashuelot, Nagasaki, Japan	29.84‡	757.9‡			72	22.2	95	NNW			1		2		Calm					Fair	
Colorado, New York, N. Y.	30.18‡	766.6‡			65	18.3	58	SSW	4	1.8			8			0	0			Hazy	
Constellation, Hampton Roads, Va.	30.26‡	768.6‡			65	18.3	73	S			2		10		Calm					Overcast	
Constitution, League Island, Penn.	30.09‡	764.8‡			65	18.3	84	SSW			1		9		Calm					Cloudy	
Despatch, St. George's, Bermuda	30.27‡	768.8‡			76	24.4	91	SE			3		6		SSE	4 h'rs	4 h'rs	Smooth		Fair	
Enterprise, Cuxe Haven, Germany	29.79‡	756.7‡			63	17.2	67	WSW			5–6		8		wsw	0	0			Cloudy	
Franklin, Norfolk, Va.	30.23‡	767.8‡			65	18.3	73	SSW	4.8	2.1			10		SSW	0	0			Cloudy	
Hartford, Montevideo, Uruguay	30.07‡	763.8‡			53	11.7	67	N	2	0.9			10		N					Cloudy	
Kearsarge, Portsmouth, N. H.	30.17‡	766.3‡			58	14.4	88	SSW			4		1					Long	SE	Clear	
Marion, Port Royal, S. C.	30.22‡	767.6‡			72	22.2	95	NW			1		5		Calm			Smooth		Fair	
Michigan, Erie, Pa.	29.98‡	761.5‡			65	18.3	100	Calm			0		10							Raining	
Monocacy, Shanghai, China	29.72‡	754.9‡			73	22.8	95	SE			3–5		10							Rainy	
Monongahela, Yokohama, Japan	29.84‡	757.9‡			73	22.8	95	Calm			0		n			Heavy	Heavy			Overcast	
New Hampshire, Port Royal, S. C.	30.21‡	767.3‡			72	22.2	76	NNW	6	2.7			2		Calm	0	0			Clear	
Onward, Callao, Peru †	30.21‡	767.3‡			63	17.2	78	Calm			0		8					Long	W	Misty	
Palos, Shanghai, China	29.70‡	754.4‡			73	22.8	95	S			1		10							Raining	
Passaic, Washington, D. C.					68	20.0	90	SSW			2		5							Fair	
Pensacola, Arica, Peru	30.08‡	764.0‡			63	17.2	72	SE	5	2.2			10		SE	0	0	Smooth	SSW	Overcast	
Portsmouth, Gardiner's Bay, Long Island, N.Y	30.15‡	765.8‡			64	17.8	78	SW			2		2		Calm	0	0	Smooth		Clear	
Powhatan, New York, N. Y.	30.12‡	765.0‡			64	17.8	62	SW			3		10		Calm	0	0			Cloudy	
Quinnebaug, Constantinople, Turkey	29.77‡	756.1‡			75	23.9	60	NE			5		2		NE					Fair	
Ranger, Amoy, China	29.83‡	757.7‡			83	28.3	91	Calm			0		10		Calm			Smooth		Overcast	
Rio Bravo, Brownsville, Texas	29.95‡	761.5‡			78	25.6	95	N			1		5		SE	0	0			Fair	
Santee, Annapolis, Md.	30.14‡	765.5‡			68	20.0	60	SW			2		10			0	0			Cloudy	
Saratoga, N. 26° 18′, W. 55° 40′	30.27‡	768.8‡			81	27.2	96	ESE			6		2		Calm	0	0	Long	SE	D. clouds	
St. Louis, League Island, Pa	30.16‡	766.1‡			70	21.1	80	SSW	8	3.6			10		NW	0	0			Cloudy	
Trenton, N. 47° 15′, W. 12° 52′	30.09‡	764.8‡			57	13.9	87	SSW			3		10		Calm	0	0	Mod'ate	W	Cloudy	
Tuscarora, N. 27° 10′, W. 114° 33′	29.95‡	760.7‡			65	18.3	94	WNW			3		2		Calm	0	0	Smooth		D. clouds	
Vandalia, New York City, N. Y.	30.14‡	765.5‡			66	18.9	79	SSW			2		8		SW	0	0			Cloudy	
Wabash, Boston, Mass.	30.13‡	765.3‡			70	21.1	57	SW	7	3.1			2			0	0			Fair	
Wyoming, Venice, Italy	29.93‡	760.2‡			78	25.6	69	SE			2–3		2		SE			Smooth		Clear	
Wachusett, Pass a Loutre, mouth of Miss. river.	30.17‡	766.3‡			78	25.6	91	SSE			2		2		S				SE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			Capt. R. Searle.
S. S. Colima N. 31° 34', W. 120° 08'....†		29.99‡	761.7‡	62	16.7	94	SSW			2		10		Calm	0	Mod'ate	SW	Misty	Capt. Whiteburn.
S. S. Costa Rica																			R. Lawless.
S. S. Dakota, Capt. H. G. Morse, N. 44° 50', W. 124° 43'...†		29.95‡	760.7‡	55	12.8	80	NW			6		0				Heavy	NW	Clear	Capt. Connolly.
S. S. Georgia																			F. W. Hart, 1st Officer.
S. S. Granada, Capt. Austin																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Hong-Kong, China .....†		29.90‡	759.4‡	83	28.3		SW			4		ks		SW	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

Names of Vessels.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 46° 23', W. 25° 07'		29.90‡	759.4‡	58.5	14.7	64	W			5		5						Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.88‡	758.9‡				SW			8		10		W				Raining	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 38° 53′, W. 70° 27′		30.01‡	762.2‡	80	26.7	87	E			2		5		E	0	Slight	SE	Fine	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 46° 53′, W. 25° 45′		29.61‡	752.1‡				WSW	20	8.9			5		W		Heavy	NW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.19‡	66.8‡	78	25.6	82	ENE	4	1.8			5k		NE	0			D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 22° 47′, W. 63° 05′ †		30.17‡	766.3‡				ESE			5		2		ESE	0	Rough	ESE	Fair	N. B. Foss.
Schooner Harry and Fred, N. 32° 20′?, W. 68° 33′?		30.06‡	763.5‡				SE	4	1.8			10		SE	3. in. or 76. mm	Rough	SE	Rain-squalls	Capt. George Gardner.
W. D. Hilton, N. 41° 10′ W. 72° —′		30.17‡	766.3‡	64	17.8		SW			3					0	Heavy	SE	Fair	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, N. 49° 38′, W. 1° 10′ †		29.87‡	758.7‡	57.5	14.2	81	W			3		5		SW		Smooth	SW	Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 51′ †		30.18‡	766.6‡				W			2		0				Short	S	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 32° 11′, W. 80° 15′ †		30.23‡	767.8‡	75	23.9		NNW			2	c					Smooth		Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 23, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.94	760.5	81.3	27.4	75	Calm			0					0	0	Clear	Kesxuche.
Algiers			29.89	759.2	86.4	30.2	46	W			3		0			0	0	Clear	Touriliere.
La Calle			29.93	760.1	78.4	25.8	70	NE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.07	763.6															Gau.
Saida			29.95	760.7	96.8	36.0	38	NNW			4		0			0	0	Clear	Herbin.
Tebessa			29.97	761.3	96.8	36.0	22	NW			4		2			0	0	Fair	Watrin.
Geriville			30.01	762.3	90.5	32.5	37	WSW			3		2			0	0	Fair	Brugniaux.
Laghouat			29.96	760.9	104.7	40.4	26	SW			5		5			0	0	Cloudy	Bertrand.
Biskra			29.94	760.4	100.4	38.0	37	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.39	746.5	29.92	759.9	75.6	24.2	53	NE			2		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.19	741.4	29.93	760.2	72.3	22.4	63	WNW			1		10			0.055	1.4		Dr. Wierzbiski.
Eperies	29.06	738.2	29.89	759.3	68.4	20.2	72	N			1		10s			0	0		Julius Mikolik.
Gratz	28.76	730.5	29.97	761.1	68.4	20.2	75	S			2		10			0.433	11.0		Andreas Rospini.
Hermannstadt	28.50	723.9	29.83	757.7	84.2	29.0	46	N			1		6			0	0		Prof. A. Gottschling.
Kremsmünster	28.60	726.4	29.89	759.3	68.0	20.0		NE			3		10			0.067	1.7		Prof. C. Wagner.
Lemberg	28.91	734.2	29.85	758.3	72.5	22.5	60	NW			2		7			0.059	1.5		Dr. T Stanecki.
Pola	29.79	756.6	29.89	759.3	81.9	27.7	48	ESE			1		1			0	0		I.R.Hydrographic Office.
Szathmar	29.41	747.1	29.85	758.2	81.0	27.2	57	SW			3		8			0.118	3.0		Julius Csics, S. J.
Szegedin	29.59	751.5	29.85	758.2	78.8	26.0	48	Calm			0		6			0	0		Karl Stancel.
Trieste	29.82	757.3	29.92	759.9	82.9	28.3	58	WSW			1		4			0	0	½ Clear	P. Busin.
Vienna	29.26	743.3	29.96	760.9	69.4	20.8	50	Calm			0		9			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260. feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.59	751.6	29.69	754.1	56.4	13.4		SSW	10	4.5			9			Blank	Blank	Overcast	W. Boswell.
Ardrossan	29.64	752.8	29.65	753.1	57	13.9		SSW			3		7					D. clouds	Wm. McNeil & G. Carrick
Armagh, Observatory			29.54	750.3	57.5	14.2		SSE	16	7.2			10					Squally	S. Call.
Bidston (Liverpool Obs)			29.74	755.4	56.7	13.7		S	9	4.0			10					Overcast	John Hartnup.
Bolton (Sharples)			29.73	755.1	56.3	13.5		SE	12	5.4			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.37	746.0	29.77	756.1	57.4	14.1		SW			1		10			0.07	1.8	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.93	760.2	29.96	761.0	81	27.2		NE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.74	755.4	29.84	757.9	60.0	15.6		SW			1		10					Overcast	H. Todd.
Cardington			29.83	757.7	62.0	16.7		W			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.76	755.9	29.88	758.9	60.0	15.6		W			1		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.61	752.1	29.65	753.1	57	13.9		SW			6		8					D. clouds	J. Mac Gowan.
Dover	29.86	758.4	29.88	758.9	59	15.0		SW			2		6					⅔ clouded	J. Costello.
Falmouth, Observatory	29.56	750.8	29.79	756.7	57.3	14.1		S			3		10					Overcast	The Staff.
Fort Napier (Natal)	27.84	707.1	30.12	765.0	66.5	19.2		SE			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4		W			1		3					D. clouds	
Galway, Queen's College			29.44	747.8	57	13.9		S			3		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.94	760.5	80.5	26.9		W			4		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.46	748.3	29.66	753.4	56.9	13.8		SW			4		10					Threatening	D. G. Maclean.
Great Yarmouth	29.86	758.4	29.87	758.7	60	15.6		SSW			3		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.69	754.1	29.86	758.4	63.7	17.6		SW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.65	753.1	29.87	758.7	59.5	15.3		SW			2		7					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.80	756.9	29.92	760.0	61	16.1		SW			6		6k			0	0	Fine	M. P. Moyle.
Holyhead	29.68	753.9	29.70	754.4	60	15.6		SSW			4		4					D. clouds	John Tilston.
Jersey	29.64	752.8	29.93	760.2	58.2	14.6		SSW			2		9					Gloomy	J. Fisher.
Kew, Observatory	29.82	757.4	29.86	758.4	61.1	16.2		SSW	14	6.3			10					Threatening	The Met'g'l Office.
Leicester, Museum	29.56	750.8	29.81	757.2	59.9	15.5		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.91	759.7	29.98	761.5	78.0	25.6		N			1		0					Blue sky	A. King.
Nairn	29.55	750.6	29.64	752.8	59	15.0		Calm			0		10					Overcast	W. D. Penny.
Nassau (Bahamas)			30.00	762.0	80.5	26.9		NE			2		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.62	752.3	29.80	756.9	65.7	18.7		SSW			5		8 k	ks	SSW	0.022	0.56	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.27	743.4	29.79	756.7	59.8	15.4		SSW			4		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.85	758.2	57	13.9		SSW			4		10					Threatening	H. E. Bellamy.
Plymouth	29.75	755.6	29.82	757.4	56.9	13.8		SSE			4		10					Gloomy	John Merrifield.
Prince Town	28.40	721.3	29.86	758.4	49.6	9.8		S			2		10					Squally	W. H. Tooker.
*Roche's Point	29.50	749.3	29.66	751.8	55	12.8		SSW			6		10			Blank	Blank	Overcast	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.9	54	12.2		S			4		7					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.68	753.9	54.8	12.7		W	10	4.5			4					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.78	756.4	29.84	757.9	86.4	30.2		NE			2		1			0	0	Blue sky	Serg't W. H. Lyne.
Sheffield	29.52	749.8	29.80	756.9	59.4	15.2		S			2		9			0.15	3.8	Threatening	W. F. Cooper.
Silloth Rectory	29.69	754.1	29.72	754.9	59.7	15.4	67	SW			6		5			0.230	5.84	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.36	745.7	29.76	755.9	58.3	14.6		S			2		10					Overcast	Rev. S. J. Perry.
Stratfield, Turgiss	29.67	753.6	29.89	759.2	58.5	14.7		SW			2		10					Showery	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.80	756.9	29.82	757.4	62	16.7		S			7		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.46	748.3	29.49	749.0	55.1	12.8		SSW	24	10.7			8					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.14	765.4	30.19	766.8	69	20.6	49	S	6	2.7		0	0			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.32	770.1	35.0	1.7	84	NW			2		5k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.69	754.1	61.0	16.1		W			2		10k					Showery	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.18	766.4	71.0	21.7	58	E	17.0	7.6		9	2		ESE	0.04	1.0	Fine	C. Meldrum.
Melbourne, Observatory	30.15	765.8	30.24	768.1	42.0	5.6	88	N	3	1.3			0			0	0	Foggy	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.58	751.3	57	13.9		S			4	5	5	S		0	0		J. Youngclaus.
North Unst (Shetland Is.)			29.57	751.1	51	10.6		SW			4	10	10			0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

VESSELS.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25'. E. 29° 10'			29.87‡	758.7‡	80.1	26.7		E			1.4		0					Squally	Capt. W. J. L. Wharton.
Barque Fedalma, N. 49° 00', W. 30° 25'			29.82	757.4	54	12.2		NW			4		7			5	NNW	D. clouds	Capt. H. L. Fox.
S. S. Nizam, N 36° 02', W. 5° 28'			30.00	762.0	69	20.6		W			3		0					Blue sky	Capt. Barlow.
Algeria, N. 51° 25', W. 14° 20'			29.42‡	747.3‡	55	12.8		WSW			3		7	WSW		3	W	D. clouds	Capt. Wm. Watson.
Astarte, N. 13° 05', W. 30° 00' *			30.05‡	763.3‡	79.2	26.2		NE			5		4					D. clouds	Capt. Parson.
British Peer, N. 33° 50', W. 46° 50'			30.35‡	770.9‡	73.2	22.9		NNE			5		4					D. clouds	Capt. Greig.
Theophane, S. 30° 05', E. 37° 00'			30.11‡	764.8‡	71	21.7		WSW			2		1					Blue sky	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.20	665.5	29.92	760.0	65.8	18.8	92	SE			1	7cs				0.1	3.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	63 0	17.2	55	WNW			4		8						
Fanöe	29.82	757.3	29.84	757.8	58.5	14.7	78	W			4		3						
Godthaab (Greenland)	29.75	755.7	29.80	756.8	39.2	4.0	78	S			2		10						
Stykkisholm (Iceland)	29.58	751.2	29.62	752.3	49.6	9.8	76	SE			6		5						
Thorshavn (Faröe)	29.57	751.0	29.60	751.9	57.9	14.4	83	Calm			0		7						
Vestervig	29.72	755.0	29.89	759.3	58.3	14.6	70	W			6		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.43	747.6	29.98	761.6	64.0	17.8	74	SW			1		5	W	SW	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.78	756.5	29.89	759.2	68.0	20	55	W			1		10			0	0	Covered	Bonvallet, Director.
Arras, Engin'r School	29.67	753.7	29.93	760.1	63.3	17.4	54	SSW			2		10		W	0	0	Covered	Klein, Commandant.
Avignon, Normal School	29.82	757.5	29.90	759.5	82.9	28.3	43	N			1		2		SSW	0	0	Partly cl'dy.	Giraud, Director.
Bar-sur-Seine	29.37	746.1	29.91	759.7	70.3	21.3	37	S			1		8n		SW	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.65	753.0	29.90	759.5	71.6	22	51	S			1		10		SW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.06	738.2	29.92	760.0	73.0	22.8	45	SSW			1		2		S	0.12	3.	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.11	739.3	30.03	762.8	73.6	23.1	54	SW			1		cn	SW	SW	0	0		Marlot, Director.
Bourges, Normal School	29.38	746.2	29.91	759.7	71.2	21.8	70	SW			1		5	SW	SW	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.59	751.6	29.84	757.8	63.7	17.6	67	SW			3		10		SW	0.030	0.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.51	749.6	29.90	759.5	81.3	27.4	70	NW			2		5	NW	NW	0	0	Cloudy	September, Dir.
Caen, Normal School	29.83	757.7	29.90	759.5	61.5	16.4	66	NNE			2		5		S	0.031	0.8	Cloudy	Lair, Director.
Chartres, Normal School	29.34	745.1	29.88	759.0	68 5	20.3	81	SSW			1		10		SSW	0	0	Covered	Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.0	29.95	760.8	70.9	21.6	41	SSW			2		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.55	725.2	29.83	757.7	78.4	25.8	45	E			1		8		SW	0	0		Alluard, Director.
Commercy, Normal School	29.15	740.3	29.98	761.5	69.6	20.9	41	WNW			1		5k		WNW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.5	30.02	762.5	79.2	26.2	45	S			2		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.17	740.9	29.91	759.6	73.4	23	58	WNW			1		8kn	NNW		0	0	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.75	755.6	29.96	761.0	65.5	18.6	60	NW			1		5		NW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.64	752.9	29.94	760.5	62.2	16.5	44	NW			1		8		WNW	0.08	2.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.03	737.4	29.92	760.0	74.3	23.5	53	NW			2	5c		W	W	0.047	1.20	Cloudy	A. Baudry, Director.
Lorient, Naval Observatory	29.85	758.1	29.95	760.6	63.0	17.2	67	SW			3				SW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.67	753.5	29.93	760.1	82.0	27.8	47	WSW			2		1			0	0		E. Stephan, Director
Mirecourt, Normal School	28.87	733.4	29.89	759.1	67.6	19.8	67	NE			1		5		NE	0	0	Cloudy	Barbier, Director
Nismes, Normal School	29.72	754.8	29.91	759.6	88.5	31.4	41	SW			3		2		SW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.88	733.6	29.89	759.1	82.4	28	52	S			1		k	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.16	639.1			52.2	11.2	70	W			2		8			0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.94	760.4	29.97	761.2	71.1	21.7	61	NW			1		10	W	W	0.08	2.	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.81	757.1	29.89	759.3	66.2	19.0	46	SSW			2		5		S	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.86	758.5	29.89	759.3	61.2	16.2	62	S			1		8	SSW	SSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.75	755.6	29.91	759.8	69.4	20.8	52	S			2				SSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.89	733.8	29.92	760.3	70.3	21.3	75	W			4		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.24	742.8	30.08	764.1	73.0	22.8	62	E			1		2			0	0		M. Julier Mercadier.
Versailles, Observatory	29.42	747.2	29.91	759.7	68.7	20.4	44	SW			2					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.19	741.3	29.87	758.7	74.3	23.5	66	E			1		8		W	0	0	Very cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.81	757.1	29.84	757.8	81.3	27.4										0.12	3.		L'Abbé Marci ésl.
Lyons Obs'y (Park Station)	29.30	744.2	29.90	759.4	72.0	22.2	49	SE			1		10	SW	S	0	0	Covered	Ch. André, D rector.
Mont-Louis	24.85	631.2	30.17	766.2	69.4	20.8	46	WSW	15.0	6.7			0			0	0		M. Cave.
Nice			29.97	761.3	74.8	23.8	75	E			1		10			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.63	752.6			67.3	19.6	54	S			2		10		S	0	0		Marié Davy, Director.
Perpignan	29.81	757.1	29.91	759.8	72.0	22.2	66	E	15.0	6.7			3		E	0	0		Dr. Finés.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.60	574.1			52.2	11.2		SW			1		3			0	0	Clear	Gen'l de Nansouty.
Tours	29.71	754 6	29.91	759.6	69.4	20.8	49	W			2		7		WSW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.71	754.5	29.73	755.1	75.2	24.0	92	SSE	6.0	2.7		5ck				0.409	10.4	Cloudy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.5 ft., Pic du Midi, (Summit 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.12	739.6	29.96	761.0	69.4	20.8	54	W			2		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.78	756.5	29.95	760.7	69.8	21.0		W			4		6			0.114	2.9		Prof. Dr. Arndt.
Breslau	29.46	748.2	29.99	761.7	69.6	20.9	45	NW			3		4			Inap.	Inap.		Royal University Obsl'y.
Carlsruhe	29.49	749.1	29.91	759.7	68.7	20.4	54	NE			1		5	SW		0	0		Albert Sens.
Cassel	29.39	746.4	29.99	761.8	69.4	20.8	46	S			3		5	WNW		0	0		Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	66.4	19.1	46	NW			2		6k;cs			0	0		Director Lose.
Emden			29.86	758.5	64.6	18.1	70	SW			1		8	W		0.016	0.4		Prof. Dr. Prestel.
Frankfort on the Main	29.59	751.5	29.95	760.6	69.1	20.6		SW			2		3			0	0		Physical Society.
Freienwalde on the Oder	29.90	759.4	29.94	760.4	68.4	20.2	61	WSW			4		10ks	W		0.322	8.2		Dr. Assmann.
Friedrichshafen	28.52	724.3	29.90	759.5	68.9	20.5	68	SW			4		1	SW		0.220	5.6		M. Wilhelm.
Hamburg	29.84	758.0	29.91	759.8	63.1	17.3	71	WSW			4		9cs;n			0.008	0.2		Captain F. Hegemann.
Kiel	29.84	758.0	29.86	758.4	63.1	17.3	53	WSW			5		7			0.209	5.30		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.77	756.1	29.85	758.2	63.1	17.3	69	W			5		4			0.063	1.6		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.56	750.8	29.97	761.2	69.4	20.8	45	SW			2		7	WNW		0.150	3.8		Prof. Bruhns, Privy Counsellor.
Memel	29.73	755.2	29.78	756.4	64.2	17.9	72	WSW			7		8s						Skalweit.
Munich (München)	28.15	715.0	30.01	762.3	69.6	20.9	57	E			4		8	SW		0.094	2.4		Dr. C. Larg.
Neufahrwasser	29.86	758.4	29.87	758.8	66.6	19.2	57	W			4		10			0.146	3.7		A. Lothes.
Posen	29.71	754.5	29.98	761.6	69.8	21.0	46	NW			6		9			0.024	0.6		Dr. Magener.
Strassburg (in Alsace)	29.40	746.7	29.93	760.2	70.2	21.2	48	E			2		7			0	0		Imp. University Observatory.
Stuttgart	29.00	736.6	29.91	759.6	71.1	21.7	46	E			1		6	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.48	723.3	29.93	760.3	67.8	19.9	47	S	1.1	0.5			9ck		SSW	0	0	Hazy	T. Hopfner.
Wustrow	29.87	758.6	29.89	759.2	62.4	16.9	77	W			5		6ks			0	0		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 418.3 meters, or 1,366.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.3	29.91	759.8	85.1	29.5		NE			2.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.45	748.1	29.50	749.3	86.6	30.3	69	WSW	15.0	6.7			2			0	0	D. clouds	
Deesa	29.03	737.3	29.48	748.8	97.2	36.2	37	SSW	17.5	7.8			10	SE	SW	0	0	D. clouds	
Bombay	29.56	750.8	29.60	751.7	81.0	27.2	87	W	14.0	6.3			10		SSW	0.11	2.8	Raining	
Poona	27.76	705.2	29.61	752.1	77.9	25.5	72	W					9	Calm	W	0	0	D. clouds	
Lahore	28.60	726.3	29.30	744.1	100.7	38.2	46	E	1.7	0.8			10			1.58	40.1	D. clouds	
Belgaum	27.17	690.0	29.71	754.6	71.9	22.2	87	W	16.0	7.2			10	W	W	0.38	9.6	D. clouds	
Roorkee	28.60	726.5	29.49	749.0	79.8	26.6	82	SW	7.3	3.3			10			0.25	6.4	Gloomy	
Agra	28.94	735.1	29.50	749.3	83.7	28.7	77	E					10		E	0	0		
Nagpur	28.49	723.6	29.50	749.3	91.2	32.9	49	NW	4.4	2.0			7		ESE	0.04	1.0	D. clouds	
Lucknow	29.14	740.2	29.51	749.5	90.2	32.3	63		2.3	1.0			10			0.06	1.5	Overcast	
Allahabad	29.21	741.8	29.51	749.6	86.1	30.1	79	NNE	1.7	0.8			10		W	0	0	Overcast	
Patna	29.35	745.5	29.53	750.0	84.4	29.1	79	ENE	0.5	0.2			10	ENE	ENE	0.56	14.2	Overcast	
Hazaribagh	27.56	700.0	29.55	750.4	80.0	26.7	81	SW	4.0	1.8			10			0.12	3.0	Thunder-storm	
Cuttack	29.50	749.3	29.58	751.4	86.3	30.2	70	S	4.0	1.8			3			0	0	D. clouds	
Calcutta (Alipore)	29.55	750.6	29.58	751.2	84.7	29.3	79	SSE	3.0	1.3			5	S	S	0	0	D. clouds	
Goalpara	29.18	741.2	29.57	751.0	81.4	27.4	91	Calm	1.9	0.8			6			0.07	1.8	D. clouds	
Chittagong	29.57	751.0	29.66	753.3	82.6	28.1	85	Calm	5.5	2.5			4			0	0	Misty	
Sibsagar	29.31	744.5	29.64	753.0	78.0	25.6	97	NE	2.1	0.9			10	W	W	1.22	31.0	Overcast	
Jubbulpore	28.15	715.0	29.47	748.6	90.2	32.3	54	SW	3.4	1.5			10		NE	0.25	6.4	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.0	29.92	759.9	78.4	25.8	51	E	6.3	2.8			6			0	0		Prof. Giovanni Clodig.
Milan	29.39	746.4	29.88	759.0	82.6	28.1	44	WSW			4		6	SW		0	0		Prof. Schiaparelli.
Padua	29.79	756.7	29.90	759.4	79.2	26.2	60	NE	12.5	5.6			7	E		0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.01	736.8	29.87	758.7	81.3	27.4	46	SW	3.8	1.7			1			0	0		Prof. P. F. Denza.
Genoa	29.78	756.5	29.97	761.2	73.8	23.2	63	SW	6.9	3.1			4	S		0	0		Prof. G. M. Garibaldi.
Mondovi	28.00	711.3	29.83	757.7	77.0	25.0	57	NE			4		1	W		0	0		Prof. D. C. Bruno.
Pesaro	29.84	757.9	29.88	759.0	80.1	26.7	56	E	13.7	6.1			4	SW		0	0		Prof. Luigi Guidi.
Florence	29.70	754.3	29.91	760.5	82.4	28.0	43	W			2		0			0	0		Cav. F. Meucci.
Leghorn	29.87	758.8	29.96	760.9	76.6	24.8	54	W			4		0			0	0		Prof. P. Monte.
Rome	29.82	757.5	29.99	761.8	81.5	27.5	55	WSW	9.8	4.4			0			0	0		Prof. P. S. Ferrari.
Lecce	29.71	754.5	29.95	760.7	84.9	29.4	32	NNE	4.3	1.9			1			0	0		Prof. C. De Giorgi.
Cosenza	29.09	738.8	29.93	760.1	85.8	29.9	65	NW	4.3	1.9			5			0	0		Prof. D. Conti.
Cagliari	29.77	756.2	29.96	760.9	77.5	25.3	49	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.75	755.7	30.00	761.9	75.0	23.9	71	ENE	6.9	3.1			0			0	0		Prof. G. Cacciatore.
Syracuse	29.87	758.6	29.94	760.4	85.1	29.5	48	W	6.3	2.8			0?	NW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.48	748.9	30.04	763.0	79.2	26.2	64	SW	0	0			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.86	758.4	29.88	758.9	74.0	23.3	80	SW	1.7	0.8			10s		SW	0.964	24.48	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.61	752.1	29.81	757.2	77.3	25.2	87	S	24.9	11.1			7s			0.400	10.16	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.91	759.7	29.97	761.2	69.9	21.1	89	E	6.3	2.8			10s			0.005	0.13	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.09	637.2	30.08	740.0	59.9	15.5	71	SW			1	0	9			0.13	3.4	Very cloudy	Prof. L. Perez.
Leon	24.44	620.8	30.03	762.7	66.9	19.4	69	NE			1	8c	2k	NE		0	0	½ clouded	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.6	30.08	764.0	59.0	15.0	76	N	8.7	3.9		2c	6k	E		0.10	2.5	Cloudy	The Staff.
Pabellon (Aguascalientes)					64.9	18.3	80	N			1		10ks		E	0	0	Overcast	M. V. de Leon, M. E
Tlacotalpam	29.89	759.3	29.91	759.6	76.3	24.6	96	W			1	5	5	Calm	SE	3.93	99.8	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.26	616.1	30.13	765.2	66.0	18.9	77	E			3	8	0	E		0.22	5.5	Cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.59	573.7	30.15	765.8	57.7	14.3	80	E			3	2c	3k	Calm	E	0	0	Foggy	J. C. Castrillon.
Puebla (Catholic Institute)	23.41	594.5	30.17	766.3	56.3	13.5	63	Calm	0	0			10		NE	0.05	1.3	Covered	Prof. P. Spina.
Colima	28.38	720.8	30.00	761.9	79.5	26.4	79	NE			1	0	9		SE	0.02	0.5	Raining	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.68	753.8	29.97	761.1	76.5	24.7	86	Calm			0	3	1			0.12	3.0		F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,589.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.94	760.4	29.94	760.4	65.3	18.5		W								0	0		
Groningen	29.85	758.2	29.91	759.6	62.1	16.7		WSW			0					0.047	1.2		
Helder	29.90	759.5	29.90	759.5	59.4	15.2		SW			4					0	0		
Hellevoetsluis	29.91	759.7	29.91	759.7	66.6	19.2	59	WSW			3					0	0		
Utrecht	29.89	759.3	29.94	760.5	61.7	16.5	69	SW			1		8			0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.52	749.8	29.58	751.2	55.8	13.2	91	W	2.5	1.1			10			0.150	3.8	Foggy	
Brönø	29.34	745.2	29.38	746.2	51.8	11.0	68	N	11	5			1			0	0		
Christiania	29.23	742.5	29.37	746.1	65.7	18.7	63	SSW	9	4			10			0.276	7.0	Thunder-storm	
Tromsö	29.52	749.9	29.57	751.0	45.0	7.2	64	NE	25	11			10			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.04	763.0	30.23	767.8	69.4	20.8	78	W	9.8	4.4			2			0	0		Dr. J. A. Sampaio.
Campo Major	29.00	736.5	29.98	761.6	78.4	25.8	25	W	10.5	4.7			1			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.06	763.4	30.14	765.6	71.8	22.1	65	SW	6.3	2.8			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.4	30.10	764.4	66.9	19.4	48	NNW	15.0	6.7			0			0	0		The Staff.
Ponta Delgada (Azores)	30.19	766.9	30.26	768.7	72.7	22.6	62	NW	11.9	5.3			3			0	0		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. N. 0° 37', E. 6° 27'			30.01	762.3	81.5	27.5		Calm			0		2		SSW	0		Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.05	763.2	64.4	18.0		W			4		1		SE	1	W	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.05	763.3	76.6	24.8		ENE			3		6		ENE	2	ENE	D. clouds	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.87	758.8	82.6	28.1		SW			4		9		SW	3	SW	Raining 12 hours	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.51	749.6	29.92	760.0	69.8	21.0	45	WNW	9	4			5ks						Astronomical Obs.
Wilna	29.39	746.4	29.79	756.7	68.4	20.2	45	W	11	5			5						Astronomical Obs.
Dorpat	29.36	745.8	29.60	751.8	58.5	14.7	82	SW	9	4			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.48	748.9	29.50	749.3	58.5	14.7	94	WSW	7	3			10n					Light rain	Central Physical Obs.
Kieff	29.10	739.0	29.69	754.0	83.3	28.5	41	NW	7	3			6k; ks; cn					Raining	Physical Cabinet.
Nikolaiev	29.76	755.9	29.83	757.7	87.3	30.7	41	ENE	4	2			4kn						Kurdakof.
Kertch																			Lagorio.
Moscow	29.14	740.1	29.66	753.3	72.0	22.2	76	S	4	2			8ks						Meteorological Obs.
Lugan	29.52	749.8	29.71	754.7	86.9	30.5	42	SSW	13	6			4			Blank	Blank		Meteorological Obs.
Archangel	29.51	749.5	29.53	750.0	55.2	12.9	65	Calm	0	0			10						Capt. Sseliwerstow.
Tiflis	28.34	719.9	29.67	753.6	83.3	28.5	47	Calm	0	0			0						Physical Observatory.
Astrakhan	29.85	758.2	29.77	756.1	76.3	24.6	49	ESE	16	7			9s						Capt. Wisganow.
Krotkowo*	29.30	744.3	29.75	755.6	74.7	23.7	45	NNW	7	3			9ns						Cand. Fatjanow.
Kasan	29.40	746.7	29.65	753.1	75.6	24.2	63	SSW	9	4			3						Physical Cabinet.
Ekaterinburg	28.58	725.8	29.49	749.1	67.3	19.6	31	W	31	14			5ks						Meteorological Obs.
Nukuss																			
Tashkend	28.31	719.1	29.79	756.6	82.4	28.0	30	NW	4	2			0						Teich, A. M.
Barnaul	29.11	739.3	29.59	751.5	63.0	17.2	78	NE	0	0			10					Light clouds	Meteorological Obs.
Yeniseisk	29.39	746.6	29.67	753.6	74.1	23.4	45	N	4	2			1						Marks.
Irkutsk																			
Peking (China)	29.45	748.0	29.59	751.6	67.8	19.9	87	Calm	0	0			9n					Thunder	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.80	757.0	29.90	759.5	56.8	13.8	97	SE	4	2			10n					Dense fog	
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	76.3	24.6	66	SSW	3.8	1.72			0			0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.87	758.8	29.93	760.2	77.0	25.0	57	NW	1.6	0.73		1	8	NW		0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.1			75.7	24.3	82	SW	7.5	3.35			0			0	0	Clear	Domingo Martin y Perez
Madrid, Royal Observatory	27.72	704.1	29.80	756.9	88.3	31.4	22	S	17.9	8.00			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.74	755.4	29.88	759.0	89.6	32.0	49	NW	4.0	1.78			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.10	739.0	29.97	761.3	65.7	18.7	60	SW	9.8	4.4			7			0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	760.0	29.99	761.7	81.1	27.3	86	E	4.9	2.2		0	1ks			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.84	758.1	83.9	28.8	78	E	2.9	1.3			2s		E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.0	73.4	23.0	58	WNW	11.9	5.3		0	0			0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.86	758.5	29.95	760.8	84.2	29.0	72	SE	2.7	1.20		4ks	3k	SE	SE	0.463	11.75	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.34	745.2	29.38	746.2	47.8	8.8		N			4		10			0	0		
Umea	29.30	744.2	29.35	745.5	59.7	15.4	75	S			4		9			0.037	2.2		
Hernosand	29.29	743.9	29.34	745.2	56.8	13.8	94	NNE			2		10			0.055	1.4		
Stockholm	29.28	743.8	29.46	748.3	60.4	15.8	77	SW			6		10			0.047	1.2		
Wisby	29.54	750.3	29.60	751.8	63.0	17.2	66	WSW			7		5			0	0		
Sub-Series.																			
Upsala	29.34	745.1	29.41	747.0	56.7	13.7	95	NW	5.1	2.3			9		SW	0.411	10.44		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.34	719.8	29.91	759.8	72.7	22.6	63	E			1		2			0.157	4.0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.90	759.4	77.7	25.4	39	NE	12	5.0			0			0	0		The Observatory.
Fao, Persian Gulf			30.00	762.0	104.0	40.0		NW			1		0						
Valona			30.06	763.6	81.9	27.7		W			1		0			0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.66	753.4	29.77	756.2	81.9	27.7	59	WNW			2		1k		SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.78	756.4	30.07	763.8	62	16.7		W	1	0.4		5cs	0	W		0	0	Fair	W. R. Bigg.
Chatham, N. B	29.75	755.6	29.81	757.2	62	16.7	85	SW	3	1.3		2k	8ks	SW	SW	Inap.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.81	757.2	29.85	758.2	61	16.1	79	S	4	1.8			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.81	757.2	30.00	762.0	61.8	16.6	69	N			1		3s			0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.67	753.6	29.83	757.7	62	16.7	80	W			3	0	5ks			0.07	1.8	Fair	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.92	760.0	29.94	760.5	50	10.0	86	SW	18	8.0		2k	5n		Calm	0.18	4.6	Cloudy	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.88	758.9	60.0	15.6	83	S	4	1.8			10s			0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	28.92	734.6	29.72	754.9	60	15.6	94	NE	10	4.5		5k	5n	E	E	0.050	1.27	Cloudy	James Stewart.
Granton, Ontario	28.98	736.1	30.03	762.7	71	21.7	85	Calm			0	0	0			0	0	Clear	James Grant.
*Halifax, N. S	29.82	757.4	29.93	760.2	54	12.2	98	S	6	2.7			10n			0.024	0.61	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.09	764.3	69.7	20.9	75	Calm			0	0	0			0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.75	755.6	30.07	763.8	63	17.2	92	E	5	2.2		5c	0	Calm		0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.86	758.4	29.90	759.4	60.8	16.0	96	S	3	1.3			10n			0.07	1.8	Raining	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.84	757.9	30.04	763.0	60	15.6	69	N	8	3.6		2cs	0			0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.40	746.7	30.09	764.5	59	15.0	84	E	2	0.9		2ck	5ks	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.07	763.8	65.9	18.8	71	W			1	5k	0			0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.41	747.0	30.08	764.0	64	17.8	100	Calm	0	0			Fog			0.03	0.8	Foggy	H. Morgan.
Port Hastings, N. S	29.87	758.7	29.92	760.0	50	10.0		Calm	0	0						0.40	10.2	Raining	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.06	763.5	68	20.0	95	E	3	1.3		2ck	Haze	Calm		0.01	0.3	Clear	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762.2	56	13.3	74	N			3	0	0			0.08	2.0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.6	30.12	765.0	55	12.8	74	Calm	0	0		5cs	0	NW		0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.81	757.2	29.86	758.4	56	13.3	79	SE			1		10k			0	0	Cloudy	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	51	10.6	96	S	4	1.8			Fog			0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.07	763.8	60	15.6	89	E	2	0.9			10ks		W	0	0	Threatening	K. Stewart.
Stayner, Ontario	29.31	744.5	30.07	763.8	60	15.6	88	Calm	0	0			10n		Calm	Inap.	Inap.	Light rain	R. J. Cole.
Stratford, Ontario	28.81	731.8	30.05	763.3	65.8	18.8	92	E	1	0.4		1c;cs	2s			0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.88	758.9	29.92	760.0	61	16.1	95	SW	5	2.2			10n			0.01	0.3	Light rain	T. C. Hill.
*Toronto, Ontario	29.70	754.4	30.07	763.8	67	19.4	76	N	3	1.3		5ck	Haze	NW		0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.80	756.9	29.89	759.2	59.5	15.3	85	W	3	1.3		3cs	7n;k			0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.84	757.9	30.07	763.8	66.0	18.9	79	S				5k?	10s?			0	0	Fair?	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.71	754.6	30.03	762.7	70	21.1	70	S	4	1.8		1c	0	W		Inap.	Inap.	Clear	
Alpena, Michigan	29.44	747.8	30.08	764.0	57	13.9	81	E	10	4.5		2c	0	Calm		0	0	Clear	
Atcha, Aleutian Islands					42	5.6	100	SE			2		10n		SE	0.05	1.3	Cloudy	
Atlanta, Georgia	28.98	736.1	30.09	764.3	72	22.2	63	W	5	2.2		10c;k	0	Calm		0	0	Cloudy	
Atlantic City, New Jersey	30.09	764.3	30.10	764.5	66	18.9	84	SW	7	3.1		0	0			Inap	Inap.	Clear	
Augusta, Georgia	29.96	761.0	30.16	766.1	73	22.8	55	SW	4	1.8		2cs	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.06	763.5	30.10	764.5	74	23.3	72	S	4	1.8		2k	Haze	NE	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	30.05	763.3	30.07	763.8	73	22.8	72	SW	4	1.8		5c	Haze	Calm	Calm	0	0	Fair	
Bismarck, Dakota	27.82	706.6	29.67	753.6	74	23.3	62	NW	12	5.4		5c	0	S		0	0	Fair	
Boerne, Texas	28.69	728.7	29.96	761.0	75	23.9	95	SW	4	1.8			10ks		S	0.06	1.5	Cloudy	
Boise City, Idaho	27.26	692.4	30.22	767.6	45	7.2	68	Calm	0	0		0	8s		W	0	0	Fair	
Boston, Massachusetts	29.83	757.7	29.98	761.5	70	21.1	70	W	8	3.6		0	0			0	0	Clear	
Brackettville, Texas	28.83	732.3	29.81	757.2	80	26.7	78	SE	8	3.6			10ks		SE	0	0	Cloudy	
Breckenridge, Minnesota	28.70	729.0	29.63	752.6	71	21.7	87	S	20	8.9		4c	0	SW		0	0	Clear	
Brownsville, Texas	29.84	757.9	29.89	759.2	84	28.9	75	SE	3	1.3		0	0			0	0	Clear	
Buffalo, New York	29.39	746.5	30.08	764.0	62	16.7	100	W	6	2.7		1ck	Fog	NW	Calm	0.01	0.3	Fair	
Burkes, Arizona					74	23.3	43	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.74	755.4	30.02	762.5	62	16.7	72	N	7	3.1		2c	5ks	NW	W	0.01	0.3	Fair	
Cairo, Illinois	29.74	755.4	30.12	765.0	74	23.3	90	SE	2	0.9			10s		SE	0	0	Cloudy	
Campo, California	27.42	696.5	29.99	761.7	37	2.8	45	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.11	764.8	30.11	764.8	77	25.0	69	SW	16	7.2		0	2s		SW	0	0	Clear	
Cape Henry, Virginia	30.06	763.5	30.07	763.8	72	22.2	76	SE	6	2.7		Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.08	764.0	30.10	764.5	75	23.9	68	W	20	8.9		2ck	0	W		0	0	Fair	
Cape May, New Jersey	30.04	763.0	30.07	763.8	67	19.4	79	S	2	0.9		0	8ks		W	0	0	Cloudy	
Castroville, Texas	29.24	742.7	29.91	759.7	80	26.7	78	S	4	1.8			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.06	763.5	30.12	765.0	74	23.3	68	W	6	2.7		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	29.28	743.7	30.06	763.5	77	25.0	67	NE	4	1.8		5c	0	Calm		0	0	Fair	
Chattanooga, Tennessee	29.35	745.5	30.13	765.3	71	21.7	75	SW	3	1.3		5ck	0	SW		0.09	2.3	Fair	
Cheyenne, Wyoming	28.97	668.8	29.91	759.7	63	17.2	33	W	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.35	745.5	30.01	762.2	74	23.3	72	SW	2	0.9		5k	Haze	SW		0	0	Fair	
Cincinnati, Ohio	29.49	749.0	30.12	765.0	71	21.7	75	SE	2	0.9		1c	0	NW		0	0	Clear	
Cleveland, Ohio	29.38	746.2	30.08	764.0	71	21.7	66	E	4	1.8		0	Sm'e		Calm	0.01	0.3	Clear	
Coleman City, Texas	28.20	716.3	29.79	756.7	75	23.9	77	SE	10	4.5		0	8ks		Calm	0	0	Cloudy	
Columbus, Ohio	29.30	744.2	30.11	764.8	71	21.7	75	W	1	0.4		5ck	Sm'e	Calm	Calm	Inap.	Inap.	Fair	
Concho, Texas	28.09	713.5	29.69	754.1	75	23.9	81	S	11	4.9		0	8s		S	0	0	Fair	
Corsicana, Texas	29.56	750.8	30.01	762.2	77	25.0	91	S	7	3.1			10s		SW	0.03	0.8	Threatening	
Davenport, Iowa	29.38	746.2	29.98	761.5	74	23.3	81	SW	3	1.3		8cs	0	W		0	0	Fair	
Deadwood, Dakota	25.17	639.3			78	25.6	19	W	4	1.8		0	0			0	0	Clear	
Decatur, Texas	28.82	732.0	29.93	760.2	75	23.9	95	S	10	4.5		0	0			0	0	Clear	
Denison, Texas	29.22	742.2	29.97	761.2	78	25.6	82	SE	8	3.6		0	0			0	0	Clear	
Denver, Colorado	24.70	627.4	29.92	760.0	67	19.4	33	S	4	1.8		0	0			0	0	Cloudy	
Des Moines, Iowa	29.05	737.9	29.88	758.9	72	22.2	85	S	5	2.2			10s		Calm	0	0	Cloudy	
Detroit, Michigan	29.42	747.3	30.06	763.5	70	21.1	70	SW	2	0.9		2cs	Sm'e	Calm		0	0	Clear	
Dodge City, Kansas	27.28	692.9	29.42	747.3	76	24.4	64	S	16	7.2		0	0			0	0	Clear	
Dubuque, Iowa	29.30	744.2	29.96	761.0	75	23.9	77	S	5	2.2		5c	Haze	S	Calm	0	0	Fair	
Duluth, Minnesota	29.25	742.9	29.82	757.4	52	11.1	73	NE	8	3.6		5ck	0	Calm		0.05	1.3	Fair	
Eagle Pass, Texa	29.20	741.7	29.89	759.2	80	26.7	82	SE	5	2.2		0	0			0	0	Clear	
Eastport, Maine	29.83	757.7	29.90	759.4	55	12.8	81	SW	6	2.7		10ck	Haze	W	Calm	0	0	Cloudy	
Edinburg, Texas					80	26.7	91	Calm			0	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.22	666.0			69	20.6		E	2	0.9		5cs	2s	W	W	0	0	Fair	
Erie, Pennsylvania	29.39	746.5	30.07	763.8	72	22.2	71	SW	4	1.8		0	0			0.08	2.0	Clear	
Escanaba, Michigan	29.32	744.7	29.94	760.5	72	22.2	76	S	6	2.7		2c	0	NW		0	0	Fair	
Florence, Arizona	28.44	722.4	30.04	763.0	86	30.0	30	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.65	702.3			65	18.3	73	NW	6	2.7		5cs	0	Calm		0.09	2.3	Fair	
Fort Craig, New Mexico	25.55	649.0	29.61	752.1	60	15.6	88	Calm	0	0		2c	1s	Calm	Calm	Inap.	Inap.	Fair	
Fort Davis, Texas	25.24	641.1	30.20	767.1	67	19.4	79	SW	5	2.2		2k	0	W		0.96	24.4	Fair	
Fort Gibson, Indian Ter	29.44	747.8	29.95	760.7	80	26.7	70	S	7	3.1		5c	0	W		0	0	Fair	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	70	21.1	32	NW	4	1.8		2k	0	W		0	0	Clear	
Fort Griffin, Texas	28.72	729.5	29.94	760.5	74	23.3	90	S	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.22	691.4			62	16.7	88	NW	20	8.9			10s		Calm	0.07	1.8	Cloudy	
Fort McKavett, Texas	27.76	705.1	29.60	751.8	75	23.9	77	S	8	3.6		0	8s		S	0	0	Fair	
Fort St. Michael, Alaska	29.78	756.4	29.81	757.2	39	3.9	91	W	2	0.9		0	0			0	0	Clear	
Fort Shaw																			
Fort Sill, Indian Territory	28.74	730.0	29.79	756.7	75	23.9	86	S	9	4.0		5cs	0	Calm		0.05	1.3	Fair	
Fort Stevenson, Dakota	27.80	706.1			66	18.9	73	NE	20	8.9		5ck	0	NE		0.01	0.3	Fair	
Fort Verde, Arizona					62	16.7	18	NW			1	2k	0	W		0	0	Fair	
Fort Yates																			
Fredericksburg, Texas	28.26	717.8	29.74	755.4	82	27.8	60	S	12	5.4		5k	0	Calm		0	0	Fair	
Galveston, Texas	30.01	762.2	30.05	763.3	82	27.8	79	S	8	3.6		1k	1ks	Calm	S	0	0	Clear	
Graham, Texas	28.90	734.0	29.89	759.2	78	25.6	86	S	6	2.7		0	0			0	0	Clear	
Grand Haven, Michigan	29.40	746.7	30.02	762.5	75	23.9	64	SW	12	5.4		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas																			
Indianapolis, Indiana	29.31	744.5	30.06	763.5	74	23.3	76	Calm	0	0		5k	0	Calm		0	0	Fair	
Indianola, Texas	30.03	762.7	30.05	763.3	85	29.4	72	S	11	4.9		0	1ks		S	0.04	1.0	Clear	
Jacksboro, Texas	28.84	732.5	29.91	759.7	80	26.7	74	SE	4	1.8		0	0			0	0	Clear	
Jacksonville, Florida	30.12	765.0	30.15	765.8	76	24.4	69	NE	2	0.9		0	0			0	0	Clear	
Keokuk, Iowa	29.35	745.5	29.92	760.0	77	25.0	77	SE	4	1.8		2c	0	S		0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	80	26.7	78	NE	16	7.2		0	2ks		NE	0.16	4.1	Fair	
Kittyhawk, North Carolina	30.05	763.3	30.08	764.0	75	23.9	77	SW	12	5.4		2cs	Sm'e	SW	Calm	0.02	0.5	Fair	
Knoxville, Tennessee	29.17	740.9	30.15	765.8	69	20.6	75	E	3	1.3		5cs	5s	Calm	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.20	741.7	29.90	759.4	72	22.2	80	S	7	3.1		0	0			0	0	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	67	19.4	64	Calm	0	0		8cs	0	W		0	0	Cloudy	
Laredo, Texas	29.54	750.3	29.87	758.7	79	26.1	51	E	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.85	758.2	73	22.8	90	S	5	2.2		0	4ks		SW	0.05	1.3	Fair	
Little Rock, Kansas																			
Los Angeles, California	29.65	753.1	29.99	761.7	58.0	14.4	82	NE	4	1.8			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.55	750.6	30.09	764.3	73	22.8	63	N	1	0.4		5c	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.44	747.8	30.09	764.3	76	24.4	68	Calm	0	0		0	1s		N	0	0	Clear	
Madison, Wisconsin	29.02	737.1	29.95	760.7	72	22.2	85	SE	3	1.3		2ck	0	W		0	0	Fair	
Marquette, Michigan	29.20	741.7	29.86	758.4	75	23.9	64	SW	12	5.4		5c	0	SW		0	0	Fair	
Mason, Texas	28.40	721.3	30.08	764.0	78	25.6	73	S	4	1.8		1cs	2s	Calm	S	0	0	Fair	
Memphis, Tennessee	29.76	755.9	30.09	764.3	71	21.7	90	E	4	1.8			10s;fg		Calm	0.01	0.3	Cloudy	
Milwaukee, Wisconsin	29.29	744.0	29.98	761.5	75	23.9	72	SW	5	2.2		1c	Haze	Calm		0	0	Clear	
Mobile, Alabama	30.08	764.0	30.12	765.0	77	25.0	84	S	2	0.9		0	0			0	0	Clear	
Montgomery, Alabama	29.92	760.0	30.15	765.8	78	22.8	67	NE	3	1.3		5ck;k	0	N		0	0	Fair	

UNITED STATES SERIES—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.16	740.7	30.13	765.3	66	18.9	95	Calm	0	0	.....	.....	Fog	.....	Calm	0.07	1.8	Foggy	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	44	6.7	100	NW	54	24.1	.....	.....	Fog	.....	NW	0.18	4.6	Foggy	
Nashville, Tennessee	29.83	751.3	30.10	764.5	75	23.9	77	Calm	0	0	.....	0	5ks	.....	W	0	0	Fair	
New Haven, Connecticut	29.92	760.0	30.03	762.7	68	20.0	74	SW	1	0.4	.....	2ck	Haze	Calm	Calm	Inap.	Inap.	Fair	
New London, Connecticut	29.98	761.5	30.03	762.7	72	22.2	71	SW	4	1.8	.....	1ck	Haze	W	Calm	0	0	Clear	
New Orleans, Louisiana	30.05	763.3	30.10	764.5	78	25.6	78	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.97	761.2	30.02	762.5	66	18.9	79	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.90	759.4	30.07	763.8	68	20.0	84	W	4	1.8	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Norfolk, Virginia	30.02	762.5	30.08	764.0	78	25.6	61	SE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
North Platte, Nebraska	26.88	682.7	29.29	744.0	69	20.6	50	SE	6	2.7	.....	5ck	Haze	SW	Calm	0	0	Fair	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	52.0	11.1	93	S	6	2.7	.....	.....	10n	.....	W	0.02	0.5	Light rain	
Omaha, Nebraska	28.71	729.2	29.73	755.1	76	24.4	86	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Oswego, New York	29.77	756.1	30.08	764.0	61	16.1	77	N	3	1.3	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Pembina, Dakota	28.77	730.7	29.55	750.6	68	20.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa.	30.03	762.7	30.08	764.0	73	22.8	76	N	6	2.7	.....	2ck	Sm'e	W	Calm	Inap.	Inap.	Fair	
Phœnix, Arizona	28.69	728.7	30.40	772.1	77	25.0	33	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.91	454.9	30.12	765.0	35	1.7	45	SW	45	20.1	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	57	13.9	15	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.33	745.0	30.13	765.3	60	15.6	88	NW	4	1.8	.....	0	Fog	.....	Calm	0.02	0.5	Foggy	
Port Huron, Michigan	29.40	746.7	30.04	763.0	69	20.6	75	W	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Portland, Maine	29.89	759.2	29.94	760.5	70	21.1	75	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.11	764.8	30.18	766.6	53.5	11.9	86	SW	5	2.2	.....	.....	10ks	.....	SW	0.37	9.4	Threatening	
Prescott, Arizona	24.78	629.4	30.14	765.5	53	11.7	54	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.05	763.3	30.07	763.8	75	23.9	68	NE	14	6.3	.....	2ck	0	NE	.....	0	0	Clear	
Red Bluff, California	29.75	755.6	30.11	764.8	58	14.4	37	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.81	757.2	30.02	762.5	81	27.2	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.47	748.5	30.07	763.8	67	19.4	74	W	9	4.0	.....	5ck	0	W	.....	0	0	Fair	
Roseburg, Oregon	29.69	754.1	30.27	768.8	51	10.6	86	SW	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Sacramento, California	29.97	761.2	30.05	763.3	62	16.7	51	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.04	763.0	70	21.1	90	S	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
St. Marks, Florida	30.12	765.0	30.14	765.5	72	22.2	76	NE	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.01	736.8	29.78	756.4	72	22.2	80	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	55	12.8	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.33	745.0	29.89	759.2	80	26.7	82	SE	3	1.3	.....	2c	5s	Calm	SE	0	0	Cloudy	
San Diego, California	29.93	760.2	30.01	762.2	62	16.7	77	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.45	748.0	30.10	764.5	70	21.1	75	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	72	22.2	67	SW	9	4.0	.....	1c	0	Calm	.....	0.01	0.3	Clear	
San Francisco, California	30.00	762.0	30.07	763.8	56	13.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	54	12.2	28	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.07	763.8	30.16	766.1	78	25.6	61	SW	4	1.8	.....	2c	0	N	.....	0	0	Fair	
Shreveport, Louisiana	29.87	758.7	30.08	764.0	76	24.4	86	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	24.36	618.7	30.42	772.7	56	13.3	57	Calm	0	0	.....	2k	0	Calm	.....	Inap.	Inap.	Fair	
Smithville, North Carolina	30.09	764.3	30.13	765.3	75	23.9	68	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Socorm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.88	758.9	30.01	762.2	72	22.2	67	S	3	1.3	.....	2cs	Haze	N	.....	Inap.	Inap.	Fair	
Stockton, Texas	26.96	684.8	29.96	761.0	74	23.3	59	SE	12	5.4	.....	0	2ks	.....	W	0	0	Fair	
Thatcher's Island, Mass.	29.93	760.2	29.98	761.5	67	19.4	79	SW	9	4.0	.....	0	Haze	.....	.....	0	0	Clear	
Toledo, Ohio	29.41	747.0	30.06	763.5	76	24.4	64	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.51	698.7	30.06	763.5	72	22.2	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.69	754.1	30.18	766.6	53.0	11.7	67	W	12	5.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Uvalde, Texas	29.08	738.6	29.86	758.4	78	25.6	73	S	3	1.3	.....	0	5s	.....	S	Inap.	Inap.	Fair	
Vicksburg, Mississippi	29.88	758.9	30.13	765.3	75	23.9	81	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.17	613.9	29.65	753.1	42	5.6	83	Calm	0	0	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Visalia, California	29.60	751.8	29.97	761.2	58	14.4	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.98	761.5	30.09	764.3	73	22.8	76	N	3	1.3	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	60	15.6	44	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	74	23.3	63	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	37	2.8	53	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.97	761.2	30.01	762.2	65	18.3	83	SW	18	8.0	.....	Haze	0	Calm	.....	0	0	Clear	
Yankton, Dakota	28.50	723.9	29.70	754.4	73	22.8	85	SE	7	3.1	.....	10k	0	SE	.....	0	0	Cloudy	
Yuma, Arizona	29.67	753.6	29.83	757.7	71	21.7	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.93	760.2	29.98	761.5	80	26.7	78	E	1.2	0.5	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	67.0	19.4	82	Calm	.....	.....	0	.....	10n	.....	.....	1.12	28.4	.....	Thomas Herran.
Navassa, W. I.	29.86	758.4	29.98	761.5	80	26.7	82	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	78	25.6	86	E	.....	.....	2	4ck	5k	E	.....	1.430	36.32	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m., Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,855 ft., or 1,488 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.5 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.22‡	767.6‡			78	25.6	91	NE	1	0.4			0			0	0			Clear	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.93‡	760.2‡			71	21.7	92	Calm			0		10s		W	0	0			Lightlycov'd	
Adams, N. 14° 07′, W. 93° 32′	29.86‡	758.4‡			82	27.8	96	SW			3		5		SW			Long	W	Fair	
Alaska, N. 41° 23′, W. 124° 45′	30.26‡	768.6‡			58	14.4	87	W			1		8		W	0	0	Long	W	D. clouds	
Alliance, Havre, France	29.91‡	759.7‡			64	17.8	62	Calm			0		10							Pleasant	
Ashuelot, Nagasaki, Japan	29.79‡	756.7‡			78	25.6	91	SSW			6		10		S; W			Smooth		Rainy	
Colorado, New York, N. Y.	30.03‡	762.7‡			69	20.6	80	W	2	0.9			0			0.02	0.5			Hazy	
Constellation, Hampton Roads, Va.	30.16‡	766.1‡			73	22.8	72	Calm			0		0			Slight	Slight			Hazy	
Constitution, League Island, Penn.	29.97‡	761.2‡			73	22.8	81	NW			1		6		Calm					Fair	
Despatch, St. George's, Bermuda	30.11‡	764.8‡			73	22.8	90	SE			3		9		S	15 h's	15h 's	Smooth		Cloudy	
Enterprise, Cux Haven, Germany	29.93‡	760.2‡			60	15.6	82	NW			3		9		NNW					Raining	
Franklin, Norfolk, Va.	30.09‡	764.3‡			74	23.3	76	Calm	0	0			0			0.1	3.			Clear	
Hartford, Montevideo, Uruguay	29.79‡	756.7‡			59	15.0	94	W	1	0.4			10		W	0.06	1.5			Cloudy	
Kearsarge, N. 41° 00′, W. 70° 00′	30.04‡	763.0‡			66	18.9	84	WSW			3		1					Smooth		Clear	
Marion, Port Royal, S. C.	30.17‡	766.3‡			74	23.3	90	WSW			0–1		2		Calm			Smooth		Clear	
Michigan, Erie, Pa.	30.04‡	763.0‡			78	25.6	65	SW			2		2							Clear	
Monocacy, Shanghai, China	29.70‡	754.4‡			79	26.1	82	SE			1		0							Clear	
Monongahela, Yokohama, Japan	29.94‡	760.5‡			72	22.2	90	E			0–1		kn			0	0			Overcast	
New Hampshire, Port Royal, S. C.	30.13‡	765.3‡			74	23.3	76	NW	8	3.6			1		NW	0	0			Clear	
Palos, Shanghai, China	29.72‡	754.9‡			76	24.4	95	SSE			2		5							Fair	
Passaic, Washington, D. C.					73	22.8	90	NE			1		2							Clear	
Pensacola, Iquique, Peru	30.07‡	763.6‡			62	16.7	72	E	6	2.7			10		E	0	0	Smooth		Overcast	
Portsmouth, Gardiner's Bay, Long Island, N.Y	30.03‡	762.7‡			67	19.4	74	WSW			3		2		Calm	0	0	Smooth		Clear	
Powhatan, New York, N. Y.	30.03‡	762.7‡			69	20.6	80	W			1		2		Calm	0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.89‡	759.2‡			76	24.4	51	NE			4		0							Clear	
Ranger, Amoy, China	29.83‡	757.7‡			81	27.2	91	SSE			1–2		8		Calm			Smooth		Cloudy	
Richmond, Nagasaki, Japan	29.76‡	755.9‡			78	25.6	91	S			4–6		10		S			Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.98‡	761.5‡			80	26.7	100	SE			1		0			0	0			Clear	
Santee, Annapolis, Md.	30.08‡	764.0‡			72	22.2	85	NW			2		8		N	0	0			Fair	
Saratoga, N. 28° 25′, W. 58° 34′	30.21‡	767.3‡			80	26.7	91	ESE			4		8		Calm	Light	Light	Mod'ate	SE	Blue sky	
St. Louis, League Island, Pa	30.06‡	763.5‡			71	21.7	85	Calm	0	0			8			0	0			Cloudy	
Trenton, N. 49° 01′, W. 7° 13′	29.75‡	755.6‡			57	13.9	87	SW			5		10		S; W	0	0	Mod'ate	W	Mistv	
Tuscarora, N. 28° 40′, W. 115° 14′	30.00‡	762.0‡			64	17.8	83	WNW			4		10		Calm	0	0	Smooth		Overcast	
Vandalia, New York City, N. Y.	30.02‡	762.5‡			68	20.0	84	W			2		2		WSW	0	0			Clear	
Wabash, Boston, Mass.	29.99‡	761.7‡			70	21.1	70	NW	5	2.2			0			0	0			Hazy	
Wyoming, Venice, Italy	29.89‡	759.2‡			78	25.6	78	SE			1		5		SE			Smooth		Fair	
Wachusett, New Orleans, La.	30.11‡	764.8‡			77	25 0	91	SE			1		0?		S					Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 28° 38′, W. 116° 57′...†		30.05‡	763.3‡	63	17.2	83	NW			2		9		Calm	0	Small	NNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, N. 46° 40′, W. 124° 50′...†		30.13‡	765.3‡	58	14.4	76	SW			3		4		NW		Mod'ate	NW	Cloudy?	W H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. O. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Hong-Kong, China...†		29.87‡	758.7‡	84	28.9		Var.			5		n		SW	Con-sid'ble			Raining	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Unddtsch.
S. S. Leipzig, Capt. F. Peiffer, N. 47° 59′, W. 18° 36′		29.74‡	755.4‡	56.5	13.6	75	WNW			6		8		WNW	1 h'r	Rough	NW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.93‡	760.2‡				W			4		8		SW				Cloudy	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 13′, W. 64° 32′		30.07‡	763.8‡	76	24.4	86	SSE			3		6		E	Light	Slight	SE	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 45° 36′, W. 18° 24′		29.61‡	752.1‡				W	30	13.4			5		WNW		Heavy	WNW	Cloudy	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.14‡	765.5‡	80	26.7	74	NE	2	0.9			2k		NE	0			D. clouds	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck.																			
Brigantine "George of Halifax", N. 20° 42′, W. 63° 20′ †		30.04‡	763.0‡				SSE			6		10		SSE		Rough	ESE	Fair	N. B. Foss.
Schooner Harry and Fred, N. 32° 57′, W. 68° 44′		30.07‡	763.8‡				N	6	2.7			2		E	0.75 in. or 19.1mm	Smooth	SE	Fair	Capt. George Gardner.
W. D. Hilton, N. 40° —′ W. 73° —′		30.05‡	763.3‡	66	18.9		SW			3		0			Blank	Light	SE	Clear	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Seine river, France †		29.94‡	760.5‡	60	15.6	76	SSE			3		5		SE				Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 54′ †		29.98‡	761.5‡				W			3						Short	S	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 32° 50′, W. 78° 58′ †		30.16‡	766.1‡	75	23.9		WSW			3	c					Smooth		Clear	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 126 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 24, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			29.97	761.1	83.3	28.5	69	C			0		0			0	0	Clear	Kesxuche.
Algiers			29.88	759.0	88.5	31.4	32	W			4		0			0	0	Clear	Touriliere.
La Calle			29.91	759.7	77.0	25.0	77	NE			2		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.03	762.7															Gau.
Saida			29.97	761.1	94.1	34.5	22	N			2		0			0	0	Clear	Herbin.
Tebessa			29.94	760.4	98.2	36.8	13	N			5		0			0	0	Clear	Watrin.
Geriville			29.99	761.7	85.3	29.6	22	WNW			1		0			0	0	Clear	Brugniaux.
Laghouat			29.91	759.9	104.4	40.2	21	SSW			3		2			0	0	Fair	Bertrand.
Biskra			29.91	759.6	104.0	40.0	42	NW			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.27	743.4	29.79	756.6	80.2	26.8	47	W			4		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.02	737.2	29.76	755.8	74.1	23.4	55	N			1		9			0	0		Dr. Wierzbiski.
Eperies	28.89	733.9	29.72	755.0	77.0	25.0	74	S			3		8k;cs;s		N	0.136	3.45		Julius Mikolik.
Gratz	28.67	728.1	29.87	758.8	70.3	21.3	75	S			2		6			0.008	0.2		Andreas Rospini.
Hermannstadt	28.45	722.5	29.77	756.2	84.4	29.1	51	NW			2		8			0.018	0.45		Prof. A. Gottschling.
Kremsmünster	28.49	723.7	29.76	756 0	75.4	24.1		WNW			2		3			0.217	5.5		Prof. C. Wagner.
Lemberg	28.80	731.4	29.74	755.5	69.1	20.6	87	E			1		10			0.264	6.7		Dr. T Stanecki.
Pola	29.79	756.6	29.89	759.2	83.1	28.4	59	S			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.37	745.9	29.81	757.1	79.2	26.2	67	W			3		5			0.091	2.3		Julius Osics, S. J.
Szegedin	29.50	749.3	29.76	756.0	81.8	27.4	62	E			2		6			0	0		Karl Stancel.
Trieste	29.79	756.6	29.89	759.2	83.1	28.4	63	W			1		8			0	0	½ Clear	P. Busin.
Vienna	29.13	739.9	29.81	757.2	77.7	25.4	44	WSW			2		0			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.42	747.3	29.52	749.8	52.0	11.1		ESE	7	3.1			9			0.030	0.76	Misty	W. Boswell.
Ardrossan	29.44	747.8	29.45	748.0	53	11.7		SW			1		9					Raining	Wm. McNeil & G. Carrick
Armagh, Observatory			29.47	748.5	50.4	15.2		SW	5	2.2			7					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.50	749.3	56.6	13.7		W	19	8.5			7					D. clouds	John Hartnup.
Bolton (Sharples)			29.46	748.3	57.4	14.1		WNW	6	2.7			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.10	739.1	29.50	749.3	55.1	12.8		W			3		8			0.20	5.1	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.96	761.0	29.99	761.7	77.5	25.3		NE			2		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.50	749.3	29.59	751.6	60.0	15.6		SW			1		10					Thunder-storm	H. Todd.
Cardington			29.57	751.1	63.0	17.2		W			2		5					Thunder-storm	John McLaren.
Chatham, School M. E.	29.50	749.3	29.63	752.6	62.9	17.2		W			2		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.43	747.5	29.47	748.5	57	13.9		S			4		8					D. clouds	J. Mac Gowan.
Dover	29.64	752.8	29.66	753.4	59	15.0		WSW			5		5					½ clouded	J. Costello.
Falmouth, Observatory	29.45	748.0	29.68	753.9	60.2	15.7		WSW			4		5					D. clouds	The Staff.
Fort Napier (Natal)	27.82	706.6	30.10	764.5	65.0	18.3		NE			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.77	756.1	30.00	762.0	88	31.1		E			1		3					D. clouds	
Galway, Queen's College			29.41	747.0	56	13.3		WSW			4		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.92	760.0	29.94	760.5	79.8	26.6		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.27	743.4	29.47	748.5	50.7	10.4		W			3		10					Raining	D. G. Maclean.
Great Yarmouth	29.58	751.3	29.59	751.6	63	17.2		W			3		6			Blank	Blank	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.45	748.0	29.62	752.3	63.0	17.2		SW			2		3					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.50	749.3	29.72	754.9	59	15.0		SW			4		3					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.72	754.9	29.84	757.9	62	16.7		SW			6		2ck			0.12	3.0	Fine	M. P. Moyle.
Holyhead	29.51	749.5	29.52	749.8	57	13.9		SW			6		1					Blue sky	John Tilston.
Jersey	29.49	749.0	29.78	756.4	58.6	14.8		WSW			4		4					D. clouds	J. Fisher.
Kew, Observatory	29.59	751.6	29.63	752.6	56.0	13.3		SW	15	6.7			9					Thunder-storm	The Met'g'l Office.
Leicester, Museum	29.30	744.2	29.55	750.6	60.0	15.6		SW			2		1					Blue sky	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.90	759.4	29.97	761.2	81.0	27.2		S			2		0					Blue sky	A. King.
Nairn	29.39	746.5	29.48	748.8	57	13.9		Calm			0		10					Overcast	W. D. Penny.
Nassau (Bahamas)			29.98	761.5	79.5	26.4		NE			1		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.35	745.5	29.54	750.3	61.7	16.5		SW			5	c	4ck;ks;	cks]	SW	0.245	6.23	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.03	737.3	29.54	750.3	61.0	16.1		SW			4		5					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.60	751.8	61	16.1		SW			5		5					D. clouds	H. E. Bellamy.
Plymouth	29.59	751.6	29.66	753.4	62.4	16.9		WSW			4		5					D. clouds	John Merrifield.
Prince Town	28.21	716.5	29.67	753.6	52.6	11.4		WSW			4		5					Fine	W. H. Tooker.
*Roche's Point	29.48	748.8	29.58	751.3	56	13.3		W			5		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.42	747.3	29.58	751.3	55	12.8		SW			5		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.57	751.1	55.6	13.1		E	12	5.4			5					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.84	757.9	29.90	759.4	88.4	31.3		NNE			2		2			0	0	Blue sky	Serg't W. H. Lyne.
Sheffield	29.26	743.2	29.54	750.3	59.9	15.5		SW			2		5			0.05	1.3	Overcast?	W. F. Cooper.
Silloth Rectory	29.45	748.0	29.48	748.8	53.8	12.1	87	W			2		10			0.070	1.78	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.11	739.4	29.52	749.8	57.5	14.2		SW			2		7					D. clouds	Rev. S. J. Perry.
Stratfield, Turgiss	29.41	747.0	29.63	752.6	56.8	13.8		W			2		8					Raining	Rev. O. H. Griffith, F.M.S.
Truro, Royal Institution	29.66	753.4	29.68	753.9	63	17.2		SW			6		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.52	749.8	29.54	750.3	56.1	13.4		WNW	16	7.2			7			Blank	Blank	D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.98	761.5	30.02	762.5	58	14.4	74	NNW	2	0.9		10	9			0.112	2.84	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.13	765.3	39.0	3.9	86	NW			2		4k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.49	749.0	56.3	15.5		E			2		10k			0.80	20.3	Showery	Andrew Gibb
Mauritius, Observatory	29.99	761.7	30.18	766.6	72.5	22.5	64	SSE	14.0	6.3		0	1			0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.99	761.7	30.08	764.0	44.0	6.7	88	NW	3	1.3			2			0	0	Foggy	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.51	749.5	58	14.4		N			3		10			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.58	751.3	54	12.2		S			2	4	6	W		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

BRITISH MARINE SERIES.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Force.	Clouds. Amount.	Clouds. Direction.	Rain-fall.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			29.93‡	760.3‡	73	22.8		WNW		1	0					Blue sky	Capt. W. J. L. Wharton.
Barque Fedalma, N. 50° 50′, W. 26° 35′			29.82	757.4	53	11.7		NW		4	10			2		Overcast	Capt. H. L. Fox.
S. S. Nizam, N 38° 09′, W. 9° 15′			30.16‡	766.1‡	64	17.8		NW		3	2				Var.	Blue sky	Capt. Barlow.
Algeria, N. 50° 40′, W. 21° 05′			29.70	754.4	55	12.8		NW		5	7	W		4	WNW	D. clouds	Capt. Wm. Watson.
Astarte, N. 15° 20′, W. 31° 00′ *			30.09‡	764.3‡	77	25.0		ENE		5	6					D. clouds	Capt. Parson.
Theophane, S. 30° 55′, E. 36° 40′			30.27‡	768.8‡	64.3	17.9		ESE		5	8					D. clouds	Capt. Raymond.
Agnes Wilson																	Capt. H. W. Dyke
S. S. Amanda																	Capt. B. Boyes.
Barque Belle-Isle																	Capt. A. J. Brown.
Ship British Commodore																	Capt. J. W. Thorne.
Barque Commewyne																	Capt. A. Buchan.
S. S. Royal Alexandra																	W. P. Hughes.
Brig Alliance.§																	Capt. W. Scott.
S. S. Iron Cross																	Capt. W. Randall.
British Peer,																	Capt. Greig.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.18	665.0	29.90	759.4	67.1	19.5	92	NE			1	8cs				0.14	3.6		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	752.4	29.67	753.6	62.4	16.9	52	S			2		10						
Fanöe	29.61	752.1	29.63	752.6	63.3	17.4	68	SW			4		8						
Godthaab (Greenland)	29.59	751.6	29.63	752.7	39.9	4.4	80	NNE			2		10						
Stykkisholm (Iceland)	29.73	755.2	29.78	756.3	53.6	12.0	79	S			2		8						
Thorshavn (Faröe)	29.64	752.8	29.67	753.7	49.1	9.5	89	NE			2		10					Foggy	
Vestervig	29.58	751.3	29.75	755.6	58.3	14.6	77	SW			4		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.28	743.8	29.84	757.8	64.0	17.8	78	SW			1		5		W	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.83	757.6	29.93	760.3	66.2	19	72	WSW			1		5		NE	0	0	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.50	749.2	29.75	755.6	59.5	15.3	61	W			4				NNW	0	0		Klein, Commandant.
Avignon, Normal School	29.78	756.3	29.85	758.3	81.5	27.5	43	SSW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.30	744.3	29.85	758.1	64.2	17.9	59	SW			1		10		SW	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.70	754.3	29.96	760.9	64.8	18.2	63	W			3		10		W	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.03	737.4	29.91	759.8	61.3	16.3	79	S			2		10		SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.08	738.7	30.00	762.1	59.9	15.5	79	SW			1		cn	SW	SW	0.08	2.		Marlot, Director.
Bourges, Normal School	29.32	744.6	29.85	758.1	68.2	20.1	64	SW			1		5	SW	SW	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.50	749.4	29.75	755.6	63.7	17.6	67	SW			3		4		SW	0.128	3.25	Squally	Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.56	750.7	29.95	760.8	74.8	23.8	41	WNW			3		2	E	W	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.68	753.9	29.75	755.7	66.9	19.4	53	W			2		5		WSW	0.071	1.8	Cloudy	Lair, Director.
Chartres, Normal School	29.18	741.2	29.73	755.2	60.8	16	98	SSW			3		9		*E	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.52	749.9	29.84	757.8	63.9	17.7	60	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.6	29.88	758.9	67.5	19.7	53	W			1		8		SW	0.068	1.6		Alluard, Director.
Commercy, Normal School.	28.98	736.1	29.82	757.3	64.2	17.9	72	W			3		8cn		W	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.80	731.6	29.95	760.6	78.1	25.6	44	SW			3		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.08	738.7	29.82	757.3	74.5	23.6	55	NNW			2		8kn		SSW	0	0	Very cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.68	753.9	29.89	759.2	62.6	17.0	76	SW			3		8		W	0.126	3.2	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.54	750.4	29.84	758.0	63.5	17.5	62	NW			3		2	W	WSW	0.098	2.5	Slightly cl'dy	Poirrier, Director
Lons-Le-Saulnier, N. School	29.02	737.2	29.93	760.1	59.2	15.1	72	W			2	10c		W	W	0	0	Covered	A. Baudry, Director.
Lorient, Naval Observatory	29.73	755.1	29.88	757.6	61.5	16.4	72	WSW			3			W	SW	0.169	4.3		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.60	751.9	29.86	758.5	74.7	23.7	66	WSW			1		2			0	0	Partly cl'dy	E. Stephan, Director
Mirecourt, Normal School	28.81	731.7	29.82	757.4	66.6	19.2	56	NE			1		5		NE	0.20	5.	Cloudy	Barbier, Director
Nismes, Normal School	29.65	753.1	29.84	758.0	83.1	28.4	50	SW			3		2		S	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.89	733.8	29.90	759.5	80.6	27	50	SE			1	c		SE	SE	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.09	637.2			44.1	6.7	97	W			8		9			0.079	2.0	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.3	29.93	760.1	69.1	20.6	62	W			2		8	W	W	0.28	7.	¾ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.69	754.1	29.78	756.3	64.9	18.3	51	S			1		2	SW	W	0.067	1.7	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.62	752.4	29.65	753.2	55.4	13.0	84	WSW			3		8	WSW	WSW	0.114	2.90	Raining	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.63	752.6	29.80	756.8	65.8	18.8	48	SSW			3				WSW	0.012	0.3		E. Renou, Director.
Tarbes, Normal School	28.89	733.9	29.93	760.3	71.6	22	74	W			2		2	W	SW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.29	743.9	30.01	762.3	65.8	18.8	67	NW			1		9			0	0		M. Julier Mercadier.
Versailles, Observatory	29.31	744.4	29.80	756.9	63.3	17.4	49	WNW			4					0.040	1.02		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.22	742.3	29.92	760.0	64.4	18	90	W			1		2		W	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	757.0	29.83	757.7	82.4	28										0	0		L'Abbé Marc[illegible]sl.
Lyons Obs'y (Park Station)	29.28	743.6	29.88	759.0	65.3	18.5	76	NE			1		10		WSW	0.171	4.35	Covered	Ch. André, Director.
Mont-Louis	24.86	631.5	30.18	766.5	60.8	16.0	76	SSE	23.0	10.3			8			0	0		M. Cave.
Nice			29.91	759.7	77.4	25.2	74	SSE			3		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.51	749.5			69.3	20.7	46	SW			4		5		WSW	0	0		Marié Davy, Director.
Perpignan	29.81	757.1	29.91	759.8	70.2	21.2	53	NW			1		9			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.60	571.6			48.6	9.2		SW			2		0			0	0	Clear	Gen'l de Nansouty.
Tours	29.72	754.8	29.91	759.8	69.3	20.7	43	W			3		8		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.70	754.4	29.72	755.0	72.1	22.3	78	SSW	2.7	1.2			10n			2.020	51.3	Raining	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft., Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft., Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (0-1)	Clouds. Amount. Up'er (0-10)	Clouds. Amount. Low'r (0-10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.99	736.3	29.83	757.6	75.0	23.9	45	SW			4		4	W		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.58	751.4	29.75	755.6	74.1	23.4		S			2		6			0	0		Prof. Dr. Arndt.
Breslau	29.28	743.8	29.81	757.2	72.3	22.4	51	WSW			2		6			0.053	1.35		Royal University Obs'ry.
Carlsruhe	29.37	746.0	29.79	756.6	62.6	17.0	92	SW			0		10	SW		0.571	14.5	Raining	Albert Senz.
Cassel	29.16	740.6	29.76	755.9	73.8	23.2	49	SW			4		7	SW		0.064	1.63		Dr. H. Möhl.
Crefeld	29.54	750.3	29.70	754.4	68.0	20.0	50	SW			5		9			0	0		Director Lose.
Emden			29.60	751.7	65.3	18.5	69	W			1		5			0.197	5.0	Thunder-storm	Prof. Dr. Prestel.
Frankfort on the Main	29.39	746.4	29.74	755.5	73.0	22.8		SSW			3		8			0	0		Physical Society.
Freienwalde on the Oder	29.69	754.2	29.73	755.2	72.7	22.6	51	W			2		9ks	W		0.	0		Dr. Assmann.
Friedrichshafen	28.41	721.7	29.80	756.8	68.7	20.4	75	SW			3		10	SW		1.067	27.1		M. Wilhelm.
Hamburg	29.59	751.5	29.65	753.2	70.0	21.1	62	S			3		7ck	SW		0	0	Fair	Captain F. Hegemann.
Kiel	29.63	752.6	29.65	753.6	67.1	19.5	62	SSW			2		10			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.65	753.2	29.73	755.2	69.8	21.0	39	W			2		6			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.34	745.2	29.74	755.4	75.9	24.4	44	WSW			1		7	WSW		0	0		Prof. Bruhns, Privy Counsellor.
Memel	29.70	754.3	29.74	755.5	64.4	17.8	58	WSW			6		5cs						Skalweit.
Munich (München)	28.03	712.0	29.88	759.0	74.7	23.6	40	W			2		6	W		0.126	3.2		Dr. C. Larg.
Neufahrwasser	29.74	755.3	29.75	755.7	63.1	17.3	66	NNE			2		10			0	0		A. Lothes.
Posen	29.53	750.0	29.80	757.0	73.6	23.1	49	SSE			1		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.29	744.0	29.83	757.6	66.5	19.4	73	W			3		10			0	0		Imp. University Observatory.
Stuttgart	28.84	732.5	29.73	755.2	74.8	23.8	33	W			3		10			0.110	2.8	Raining	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.32	719.3	29.76	755.9	72.8	22.4	52	SW	2	1			9ck	W	W	0.402	10.2	Hazy	T. Hopfner.
Wustrow	29.71	754.5	29.73	755.1	66.4	19.1	59	NNW			2		6s			0.220	5.6	Thunder-storm	E. Schmitz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.1	29.94	760.5	86.5	30.3		SW			1.5							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.4	29.47	748.6	87.1	30.6	71	SSW	17.0	7.6			9			0	0	D. clouds	
Deesa	29.05	737.8	29.50	749.4	93.3	34.1	50	SSE	19.1	8.5			6	Calm	WSW	0.52	13.2	D. clouds	
Bombay	29.58	751.4	29.62	752.4	80.5	26.9	93	SW	17.0	7.6			10		WSW	0.57	14.5	Overcast	
Poona	27.81	706.4	29.66	753.4	77.3	25.2	74	WSW					9		WSW	0	0	D. clouds	
Lahore	28.73	729.7	29.45	748.0	90.1	32.3	62	NE	6.4	2.9			6			0.10	2.5	D. clouds	
Belgaum	27.23	691.7	29.79	756.7	70.1	21.2	88	SW	19.0	8.5			10	SW	SW	0.24	6.1	D. clouds	
Roorkee	28.60	726.6	29.49	748.9	84.2	29.0	75	S	4.4	2.0			2			1.12	28.4	D. clouds	
Agra	28.95	735.2	29.50	749.4	83.7	28.7	85	Calm					8		E	0	0		
Nagpur	28.55	725.2	29.58	751.4	79.7	26.5	89	Calm	6.5	2.9			9		SE	1.73	43.9	Gloomy	
Lucknow	29.12	739.7	29.50	749.2	80.3	26.8	96	SW	4.4	2.0			10			1.38	35.0	Overcast	
Allahabad	29.20	741.6	29.50	749.3	90.6	32.6	72	NE	2.3	1.0			9			0	0	D. clouds	
Patna	29.31	744.5	29.49	749.0	79.9	26.6	88	SSW	0.6	0.3			10	SSW	SSW	0.29	7.4	Overcast	
Hazaribagh	27.00	701.1	29.61	752.0	76.8	24.9	90	E	6.6	3.0			10			1.45	36.8	Thunder-storm	
Cuttack	29.53	749.9	29.61	752.0	88.3	31.6	66	S	2.0	0.9			7					Thunder-storm.	
Calcutta (Alipore)	29.67	751.1	29.59	751.6	83.2	28.4	87	ESE	5.0	2.2			10	SW		0	0	Overcast	
Goalpara	29.24	742.7	29.62	752.5	79.8	26.6	91	Calm	1.6	0.7			8			1.17	29.7	D. clouds	
Chittagong	29.61	752.2	29.70	754.5	79.5	26.4	91	E	5.0	2.2			9			0.09	2.3	Gloomy	
Sibsagar	29.32	744.8	29.66	753.4	78.4	25.8	95	ENE	2.3	1.0			10	SW	SW	2.24	56.9	D. clouds	
Jubbulpore	28.20	716.4	29.56	750.7	79.8	26.6	87	SW	4.3	1.9			10		NE	0.74	18.8	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,305 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.5	29.86	758.4	78.1	25.6	61	E	1.5	0.8			5			0	0		Prof. Giovanni Clodig.
Milan	29.34	745.1	29.83	757.7	82.0	27.8	51	S			2		6	SW		0	0		Prof. Schiaparelli.
Padua	29.75	755.6	29.85	758.3	81.3	27.4	45	WSW	7.4	3.3			2	S		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.94	735.1	29.81	757.1	77.9	25.5	53	N	1.8	0.8			8	S		0	0		Prof. P. F. Denza.
Genoa	29.73	755.1	29.91	759.8	75.4	24.1	72	SE	11.2	5.0			4	SE		0	0		Prof. G. M. Garibaldi.
Mondovi	27.98	710.6	29.80	757.0	76.6	24.8	57	N			2		5	W		0	0		Prof. D. C. Bruno.
Pesaro	29.82	757.3	29.86	758.5	81.1	27.3	64	E	9.4	4.2			0			0	0		Prof. Luigi Guidi.
Florence	29.65	753.2	29.90	759.5	84.6	29.2	48	S			2		0			0	0		Cav. F. Meucci.
Leghorn	29.84	758.0	29.93	760.1	76.8	24.9	66	SSE			6		3			0	0		Prof. P. Monte.
Rome	29.80	756.8	29.97	761.1	82.6	28.1	39	SW	13.0	5.8			0			0	0		Prof. P. S. Ferrari.
Lecce	29.69	754.1	29.93	760.3	84.9	29.4	31	WSW	2.5	1.1			3			0	0		Prof. C. De Giorgi.
Cosenza	29.08	738.5	29.91	759.8	88.2	31.2	84	NW	2.5	1.1			0			0	0		Prof. D. Conti.
Cagliari	29.69	754.2	29.88	758.9	77.2	25.1	71	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.73	755.2	29.98	761.5	78.6	25.9	43	ENE	3.8	1.7			0			0	0		Prof. G. Cacciatore.
Syracuse	29.86	758.5	29.94	760.4	84.4	29.1	28	NE	9.8	4.4			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.4	30.02	762.5	81.3	27.4	48	ESE	1.3	0.6			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.94	760.5	73.3	22.9	92	WSW	2.6	1.2			5s			0.026	0.66	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.95	760.7	77.3	25.2	87	S	6.6	3.0			7s			0.340	8.64	Cloudy	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.82	757.4	29.89	759.2	72.0	22.2	90	NW	3.0	1.3			10s			0.005	0.13	Covered	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	26.02	635.6	29.99	761.8	60.8	16.0	65	E			1	0	5		E	0.21	5.4	½ clouded	Prof. L. Perez.
Leon	24.40	619.5	30.03	762.8	62.6	17.0	83	W			1	2c	1k	SE		0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.6	30.04	763.0	55.0	12.8	83	NW	0.4	0.2		9k	0	NE		0	0	Cloudy	The Staff.
Pabellon (Aguascalientes)					59.5	15.3	71	NW			2	2c	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.89	759.3	29.91	759.6	76.1	24.5	90	W			3	1	7	S	N	0.78	19.8	Rainy	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.10	764.6	64.0	17.8	75	E			1	5	0	E		0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.58	573.4	30.17	766.4	53.4	11.9	81	NE			2	1s	0			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.38	593.8	30.14	765.6	59.4	15.2	72	NW	1.8	0.5		1c	0	Calm		0	0	Pleasant	Prof. P. Spina.
Colima	28.31	719.1	29.93	760.3	78.8	26.0	83	SE			1	0	10		SE	0.46	11.6	Covered	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.57	751.1	29.86	758.4	76.8	24.9	91	NE			1	3	4			0	0	Hazy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,490 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.69	754.2	29.69	754.2	60.8	16.0		WSW								0.008	0.2		
Groningen	29.58	751.4	29.64	752.8	64.6	18.1		WSW			3					0.008	0.2		
Helder	29.63	752.5	29.63	752.5	61.0	16.1		SW			2					0	0		
Hellevoetsluis	29.67	753.6	29.67	753.6	61.3	16.3	71	SW			4					0.079	2.0		
Utrecht	29.63	752.5	29.67	753.7	66.4	19.1	72	SSW			4		8			0.047	1.2	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.52	749.7	29.57	751.1	56.8	13.8	78	NNW	4.5	2.0			2			0	0		
Brönö	29.37	746.1	29.41	747.1	49.6	9.8	57	N	11	5			2			0	0		
Christiania	29.28	743.8	29.42	747.3	68.9	20.5	51	SW	9	4			8			0.272	6.9		
Tromsö	29.60	751.8	29.64	752.9	45.3	7.4	59	NE	34	15			9			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Angra (Azores)	30.06	763.5	30.25	768.3	67.6	19.8	89	WNW	10.5	4.7			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.02	737.2	30.02	762.5	75.7	24.3	39	WNW	8.1	3.6			3			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.13	765.2	30.21	767.4	71.1	21.7	58	SW	6.3	2.8			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.12	765.0	68.9	20.5	64	WNW	12.5	5.6			9			0	0		The Staff.
Ponta Delgada (Azores)	30.21	767.3	30.28	769.1	76.3	24.6	46	NW	9.4	4.2			6			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. Gulf of Guinea			30.02	762.5	82.0	27.8		SSW			3		10		SSW	1		Overcast	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.02	762.4	65.3	18.5		WNW			3		10		WNW	1	WNW	Overcast	J.C. M. Cabrate, 1st Lt. J.T. d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.10	764.5	75.2	24.0		ENE			3		2		ENE	2	ENE	D. clouds	P. de Fair[illegible]. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.92	760.0	83.3	28.5		SW			1		10		SW	0		Overcast	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.35	745.4	29.75	755.6	75.6	24.2	52	SSW	4	2			8ck;ks						Astronomical Obs.
Wilna	29.37	745.9	29.77	756.1	70.3	21.3	44	SW	7	3			6					Heavy clouds	Astronomical Obs.
Dorpat	29.37	746.0	29.61	752.0	59.9	15.5	74	WSW	11	5			10n;ks						Prof. Dr. Weihrauch.
St. Petersburg	29.50	749.2	29.51	749.6	57.4	14.1	80	WSW	18	8			10n						Central Physical Obs.
Kieff	29.15	740.3	29.74	755.5	77.0	25.0	45	NW	7	3			8k;ks						Physical Cabinet.
Nikolaiev	29.76	755.8	29.83	757.6	80.4	26.9	55	SSW	13	6			8kn						Kurdakof.
Kertch																			Lagorio.
Moscow	29.22	742.2	29.74	755.5	70.2	21.2	54	S	7	3			6ks						Meteorological Obs.
Lugan	29.48	748.9	29.68	753.8	90.7	32.6	26	SE	4	2			2						Meteorological Obs.
Archangel	29.47	748.5	29.49	749.0	57.4	14.1	79	S	4	2			10						Capt. Sselliwerstow.
Tiflis	28.40	721.3	29.72	754.8	89.6	32.0	42	SE	4	2			3cs						Physical Observatory.
Astrakhan	29.83	757.6	29.74	755.5	86.2	30.1	51	S	2	1		1c							Capt. Wisganow.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.46	748.0	29.71	754.5	72.9	22.7	46	Calm	0	0			9						Physical Cabinet.
Ekaterinburg	28.82	732.1	29.76	755.8	65.1	18.4	37	WSW	4	2			10					Light clouds	Meteorological Obs.
Nukuss	29.67	753.7	29.89	759.3	89.8	32.1	25	NNE	9	4			1ks						
Tashkend	28.24	717.2	29.69	754.2	87.1	30.6	45	NW	0	0			0						Teich, A. M.
Barnaul	29.11	739.4	29.59	751.6	62.4	16.9	78	SW	4	2			10					Light clouds	Meteorological Obs.
Yeniseisk	29.34	745.1	29.61	752.1	77.0	25.0	47	ESE	4	2			10						Marks.
Irkutsk																			
Peking (China)	29.48	748.9	29.63	752.5	76.3	24.6	80	Calm	0	0			2k					Thunder-storm.	Physical Observatory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.78	756.3	29.87	758.8	55.4	13.0	91	Calm	0	0			10k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.77	756.1	29.87	758.8	73.8	23.2	59	S	2.9	1.31			8			0	0	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.95	760.8	30.01	762.2	71.2	21.8	68	NW	3.3	1.46		2	8	NW		0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.8			68.9	20.5	44	SW	7.2	3.24			7			0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.72	704.2	29.83	757.7	82.6	28.1	31	SW	16.4	7.33			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.69	754.2	29.84	757.8	89.6	32.0	36	NE	1.4	0.64			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.23	742.5	30.11	764.9	66.0	18.9	63	SW	7.4	3.3		3	4	W		0.020	0.5	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	759.0	29.95	760.7	80.8	27.1	75	ENE	7.6	3.4		0	1ks			0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.7	29.88	759.1	85.1	29.5	73	ENE	1.6	0.7		2cs	2s	E	W	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.7	30.04	763.1	73.2	22.9	67	WNW	16.4	7.3		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.89	759.3	29.98	761.6	82.8	28.2	76	SE	2.2	1.00		2s	3kn	SE	SE	0	0	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.37	746.0	29.41	747.0	52.9	11.6	.....	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.42	747.2	29.47	748.5	51.1	10.6	98	E	.....	.....	4	.....	6	.....	.....	0	0	.....	
Hernosand	29.42	747.2	29.47	748.5	51.4	10.8	93	ESE	.....	.....	2	.....	10	.....	.....	0.161	4.1	.....	
Stockholm	29.27	743.4	29.45	747.9	67.1	19.5	63	W	.....	.....	6	.....	9	.....	.....	0.193	4.9	.....	
Wisby	29.51	749.5	29.57	751.0	64.1	17.8	57	W	.....	.....	7	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.36	745.7	29.43	747.6	60.4	15.8	89	SE	4.9	2.2	.....	.....	10	.....	W	0.507	12.88	Light rain	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 36° 48′, W. 1° 25′	.....	29.88	758.9	80.1	26.7	.....	.....	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	D. clouds	Capt. M. von Krusenstiernd.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.26	717.7	29.85	758.1	68.4	20.2	75	W	.....	.....	2	.....	9	.....	.....	1.299	33.0	Raining	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.1	80.6	27.7	81	NNE	8.	3.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.97	761.3	102.2	39.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.1	91.8	33.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.76	755.9	29.87	758.7	81.9	27.7	59	NW	.....	.....	1	.....	5k;ks	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 1[illegible] weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.80	756.9	30.09	764.3	75	23.9	.....	SW	1	0.4	.....	2c	0	W	.....	0	0	Clear	W. R. Bigg.
Chatham, N. B	30.07	763.8	30.13	765.3	59	15.0	82	S	2	0.9	.....	10c	0	S	.....	0	0	Fair	G. A. Bain.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.3	61	16.1	83	S	4	1.8	.....	5cs	0	.....	.....	0.030	0.76	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.87	758.7	30.05	763.3	71.0	21.7	69	W	.....	.....	1	3cs	0	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	51.7	10.9	86	E	.....	.....	1	.....	10ks	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	30.03	762.7	30.05	763.3	53	11.7	93	SW	18	8.0	.....	.....	10n	.....	S	0.03	0.5	Light rain	J. McWilliams.
Fredericton, N. B	30.10	764.5	30.16	766.1	63.0	17.2	78	SE	5	2.2	.....	cs	0	.....	.....	0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba	28.92	734.6	29.72	754.9	58	14.4	94	E	14	6.3	.....	5k	5n	E	E	1.240	31.50	Cloudy	James Stewart.
Granton, Ontario	29.03	737.3	30.08	764.0	74	23.3	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.06	763.5	30.17	766.3	64	17.8	82	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.13	765.3	67.7	19.8	87	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.80	756.9	30.13	765.3	68	20.0	79	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	54.1	12.3	75	SW	4	1.8	.....	4k	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.91	759.7	30.10	764.5	68	20.0	76	SW	4	1.8	.....	5c	0	.....	.....	0	0	Cloudy?	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.41	747.0	30.07	763.8	74	23.3	70	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.09	764.3	72.7	22.6	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.39	746.5	30.06	763.5	66	18.9	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.11	764.8	30.16	766.1	60.1	15.6	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.08	764.0	70	21.1	84	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.78	756.4	30.10	764.5	57	13.9	79	NE	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.61	752.1	30.05	763.3	64	17.8	81	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.12	765.0	30.17	766.3	60	15.6	76	S	.....	.....	1	2c	0	NW	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.08	762.7	30.19	766.8	63	17.2	72	S	7	3.1	.....	1c	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.05	763.3	77	25.0	72	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.30	744.2	.....	.....	81	27.2	62	SW	10	4.5	.....	0	0	.....	.....	0.04	1.0	Clear	R. J. Cole.
Stratford, Ontario	28.86	733.0	30.08	764.0	72.2	21.2	73	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.13	765.3	30.17	766.3	60	15.6	81	N	1	0.4	.....	8k	2ks	W	NW	0.04	1.0	Fair	T. C. Hill.
*Toronto, Ontario	29.76	755.9	30.13	765.3	65	18.3	83	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	30.07	763.8	30.17	766.3	62.0	16.7	88	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.95	760.7	30.20	767.1	44.0	6.7	84	NE	.....	.....	.....	10k?	10s?	.....	.....	0.06	1.5	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.97	761.2	30.19	766.8	69	20.6	75	N	1	0.4		1c	0	Calm		0	0	Clear	
Alpena, Michigan	29.41	747.0	30.03	762.7	68	20.0	74	N	4	1.8		0	0			0	0	Clear	
Atcha, Aleutian Islands					43	6.1	100	Calm			0		10s		SE	0.05	1.3	Cloudy	
Atlanta, Georgia	28.95	735.3	30.06	763.5	70	21.1	75	W	11	4.9			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.14	765.5	30.16	766.1	73	22.8	76	SW	3	1.3		2c	Haze	Calm		0	0	Hazy	
Augusta, Georgia	29.94	760.5	30.14	765.5	72	22.2	62	S	1	0.4		5cs	Haze	NW	Calm	0	0	Fair	
Baltimore, Maryland	30.13	765.3	30.17	766.3	75	23.9	72	SE	2	0.9		2c	Sm'e	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	30.13	765.3	30.15	765.8	72	22.2	76	SW	2	0.9		8c;hz	Haze	Calm	Calm	0	0	Hazy	
Bismarck, Dakota	28.03	711.9	29.89	759.2	56	13.3	87	NW	3	1.3			10n		E	0.01	0.3	Light rain	
Boerne, Texas	28.52	724.4	29.78	756.4	73	22.8	76	S	6	2.7		5k	0	S		0	0	Fair	
Boise City, Idaho	27.26	692.4	30.22	767.6	47	8.3	62	W	1	0.4		0	0			Inap.	Inap.	Clear	
Boston, Massachusetts	30.01	762.2	30.16	766.1	76	24.4	52	N	4	1.8		1c	0	Calm		0	0	Clear	
Brackettville, Texas	28.80	731.5	29.78	756.4	78	25.6	95	SE	8	3.6			10s		SE	0	0	Cloudy	
Breckenridge, Minnesota	28.69	728.7	29.64	752.8	62	16.7	100	W	28	12.5			10n		Calm	0.67	17.0	Light rain	
Brownsville, Texas	29.88	758.9	29.93	760.2	84	28.9	68	SE	2	0.9		0	0			0	0	Clear	
Buffalo, New York	29.44	747.8	30.11	764.8	71	21.7	66	W	3	1.3		1cs	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					74	23.3	32	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.84	757.9	30.12	765.0	68	20.0	65	S	8	3.6		8c	Haze	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.67	753.6	30.05	763.3	70	21.1	90	E	7	3.1			10s		W	0.17	4.3	Cloudy	
Campo, California	27.34	694.4	29.91	759.7	38	3.3	63	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	74	23.3	86	E	4	1.8			10s		SE	0	0	Cloudy	
Cape Henry, Virginia	30.12	765.0	30.13	765.3	74	23.3	76	SE	8	3.6		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	77	25.0	82	SW	8	3.6		8k	0	W		0	0	Cloudy	
Cape May, New Jersey	30.12	765.0	30.15	765.8	71	21.7	85	S	1	0.4		0	Haze			0	0	Clear	
Castroville, Texas	29.17	740.9	29.84	757.9	79	26.1	75	SE	7	3.1		0	2s		S	0	0	Fair	
Charleston, South Carolina	30.06	763.5	30.11	764.8	76	24.4	73	NW	3	1.3		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	29.26	743.2	30.04	763.0	76	24.4	60	N	2	0.9		5c	0	Calm		0	0	Fair	
Chattanooga, Tennessee	29.31	744.5	30.08	764.0	73	22.8	76	S	4	1.8		1k	2s	E	Calm	0	0	Fair	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	52	11.1	6	N	20	8.9		0	0			0	0	Clear	
Chicago, Illinois	29.32	744.7	29.98	761.5	75	23.9	68	S	2	0.9		0	Haze			0	0	Clear	
Cincinnati, Ohio	29.45	748.0	30.07	763.8	74	23.3	63	SE	2	0.9		0	0			0	0	Clear	
Cleveland, Ohio	29.38	746.2	30.07	763.8	73	22.8	67	SE	7	3.1		0	Haze		Calm	0	0	Clear	
Coleman City, Texas	28.10	713.7	29.67	753.6	77	25.0	73	S	8	3.6		0	0			0	0	Clear	
Columbus, Ohio	29.26	743.2	30.05	763.3	80	26.7	51	SE	3	1.3		0	0			0	0	Clear	
Concho, Texas	27.98	710.7	29.56	750.8	77	25.0	69	S	14	6.3		0	0			0	0	Clear	
Corsicana, Texas	29.46	748.3	29.91	759.7	78	25.6	82	S	12	5.4		0	0			0	0	Clear	
Davenport, Iowa	29.30	744.2	29.91	759.7	70	21.1	85	S	10	4.5			10s		S	0.47	11.9	Cloudy	
Deadwood, Dakota	25.36	644.1			63	11.7	67	W	2	0.9		0	0			0.54	13.7	Clear	
Decatur, Texas	28.70	729.0	29.80	756.9	78	25.6	78	S	12	5.4		5c	0	W		0	0	Fair	
Denison, Texas	29.11	739.4	29.86	758.4	79	26.1	78	S	12	5.4		5cs	0	SW		0	0	Fair	
Denver, Colorado	24.78	629.4	30.00	762.0	61	16.1	26	SE	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	28.91	734.3	29.74	755.4	71	21.7	80	S	6	2.7			10s		S	0	0	Cloudy	
Detroit, Michigan	29.41	747.0	30.04	763.0	74	23.3	72	SW	1	0.4		0	0			0	0	Clear	
Dodge City, Kansas	27.14	689.3	29.25	742.9	78	25.6	65	S	12	5.4		2c	0	W		0	0	Fair	
Dubuque, Iowa	29.22	742.2	29.87	758.7	76	24.4	64	S	8	3.6			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.12	739.6	29.77	756.1	65	18.3	89	SW	4	1.8			10n		SW	0.30	7.6	Heavy rain	
Eagle Pass, Texa	29.15	740.4	29.84	757.9	79	26.1	78	SE	4	1.8			10s		Calm	0	0	Cloudy	
Eastport, Maine	30.11	764.8	30.17	766.3	57	13.9	75	NE	5	2.2		8c	0	W		0	0	Fair	
Edinburg, Texas					80	26.7	82	S			1	0	0			0	0	Clear	
El Paso, Texas	26.16	664.4			69	20.6		E	2	0.9		2c	1s	W	W	0	0	Fair	
Erie, Pennsylvania	29.41	747.0	30.09	764.3	77	25.0	65	S	6	2.7		0	0			0	0	Clear	
Escanaba, Michigan	29.29	744.0	29.91	759.7	70	21.1	70	S	7	3.1		5c	0	SW		0	0	Fair	
Florence, Arizona	28.38	720.8	29.98	761.5	80	26.7	34	W	1	0.4		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assinaboine																			
Fort Buford, Dakota	27.78	705.6			57	13.9	87	SW	3	1.3		5cs	0	SW		0.87	22.1	Fair	
Fort Craig, New Mexico	25.49	647.4	29.55	750.6	62	16.7	71	Calm			0	0	1s		Calm	Inap.	Inap.	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	67	19.4	69	SW	4	1.8		5ck	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.34	745.2	29.84	757.9	82	27.8	67	SE	12	5.4		2ck	0	S		0	0	Fair	
Fort Grant, Arizona	25.22	640.6	30.02	762.5	69	20.6	39	SE	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.84	757.9	79	26.1	78	S	12	5.4		0	0			0	0	Clear	
Fort Keogh, Montana	27.37	695.2			55	12.8	68	NW	4	1.8		0	0			0.59	15.0	Clear	
Fort McKavett, Texas	27.67	702.8	29.49	749.0	74	23.3	72	S	8	3.6		2cs	0	Calm		0	0	Clear	
Fort St. Michael, Alaska	29.63	752.6	29.66	753.4	38	3.3	100	S	9	4.0			10k		S	0	0	Cloudy	
Fort Shaw																			
Fort Sill, Indian Territory	28.62	726.9	29.65	753.1	79	26.1	74	S	14	6.3		10ck	0	Calm		0	0	Cloudy	
Fort Stevenson, Dakota	27.95	709.9			53	11.7	79	NW	12	5.4		4ck	4s	Calm	NW	0.26	6.6	Cloudy	
Fort Verde, Arizona					66	18.9	23	W			1	0	0			0	0	Clear	
Fort Yates																			
Fredericksburg, Texas	28.19	716.0	29.67	753.6	76	24.4	69	S	12	5.4		0	2ks		Calm	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	82	27.8	71	S	8	3.6		0	5ks		S	Inap.	Inap.	Fair	
Graham, Texas	28.78	731.0	29.77	756.1	79	26.1	74	S	6	2.7		0	0			0	0	Clear	
Grand Haven, Michigan	29.37	746.0	29.98	761.5	81	27.2	55	S	4	1.8		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.89	733.8	29.77	756.1	80	26.7	74	SW	10	4.5		2c	0	W		0	0	Fair	
Indianapolis, Indiana	29.27	743.4	30.01	762.2	75.5	24.2	64	SE	4	1.8		0	0			0	0	Clear	
Indianola, Texas	29.95	760.7	29.98	761.5	85	29.4	68	S	10	4.5		0	0			0	0	Fair	
Jacksboro, Texas	28.73	729.7	29.80	756.9	80	26.7	66	SE	10	4.5		5c	0	W		0	0	Fair	
Jacksonville, Florida	30.08	764.0	30.10	764.5	78	25.6	61	E	2	0.9		2ck	0	Calm		0	0	Cloudy	
Keokuk, Iowa	29.27	743.4	29.85	758.2	70	21.1	90	S	10	4.5			10s		S	0	0	Fair	
Key West, Florida	29.97	761.2	30.00	762.0	79	[illegible]	82	E	7	3.1		0	5ks		E	0.27	6.9	Fair	
Kittyhawk, North Carolina	30.10	764.5	30.13	765.3	71	[illegible]	90	SE	12	5.4		5ck	2ks	SE	SE	0	0	Fair	
Knoxville, Tennessee	29.12	739.6	30.08	764.0	73	[illegible]	63	E	8	3.6		5k	2ks	SW	Calm	0	0	Fair	
La Crosse, Wisconsin	29.10	739.1	29.79	756.7	73	[illegible]	81	S	14	6.3		5k	0	S		0	0	Fair	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	64	[illegible]	68	Calm	0	0		5ck	0	W		0	0	Clear	
Laredo, Texas	29.49	749.0	29.81	757.2	81	[illegible]	55	S	10	4.5		0	0			0	0	Clear	
Leavenworth, Kansas	28.95	735.3	29.73	755.1	75	[illegible]	82	S	9	4.0		1ck	0	SW		0	0	Clear	
Little Rock, Kansas																			
Los Angeles, California	29.57	751.1	29.90	759.4	61.0	[illegible]	82	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.49	749.0	30.02	762.5	78	[illegible]	54	E	4	1.8		5k	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.48	748.8	30.13	765.3	77	[illegible]	69	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Madison, Wisconsin	28.96	735.6	29.89	759.2	72	[illegible]	85	S	10	4.5		2c	0	NW		0	0	Fair	
Marquette, Michigan	29.14	740.1	29.80	756.9	77	[illegible]	69	SW	16	7.2		10c	0	SW		0	0	Cloudy	
Mason, Texas	28.32	719.3	30.00	762.0	78	[illegible]	65	SW	6	2.7		0	0			0	0	Clear	
Memphis, Tennessee	29.67	753.6	30.00	762.0	72	[illegible]	85	SE	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Milwaukee, Wisconsin	29.25	742.9	29.95	760.7	71	[illegible]	66	S	6	2.7		1c	Sm'e			0	0	Clear	
Mobile, Alabama	30.02	762.5	30.06	763.5	75	[illegible]	78	S	3	1.3		5ck	0	NW		0	0	Fair	
Montgomery, Alabama	29.84	757.9	30.06	763.5	77	[illegible]	65	SE	4	1.8			10ks		NW	0	0	Threatening	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.15	740.4	30.11	764.8	72	22.[illegible]	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.06	611.1	30.42	772.7	52	11.1	59	NW	12	5.4	.....	5c	0	NW	.....	0	0	Fair	
Nashville, Tennessee	29.54	750.3	30.05	763.3	76	24.4	73	Calm	0	0	.....	5ck	0	Calm	.....	0.02	0.5	Fair	
New Haven, Connecticut	30.04	763.0	30.16	766.1	75	23.[illegible]	64	NE	7	3.1	.....	2c	0	Calm	.....	0	0	Clear	
New London, Connecticut	30.10	764.5	30.15	765.8	75	23.9	68	N	2	0.9	.....	6cs	Haze	Calm	Calm	0	0	Fair	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	80	26.7	70	E	2	0.9	.....	1c	Haze	Calm	Calm	0	0	Hazy	
Newport, Rhode Island	30.10	764.5	30.15	765.8	70	21.1	75	SW	3	1.3	.....	2c	Haze	NE	.....	0	0	Fair	
New York, New York	29.99	761.7	30.16	766.1	75	23.9	76	Calm	0	0	.....	Haze	Sm'e	.....	.....	0	0	Dense smoke	
Norfolk, Virginia	30.08	764.0	30.13	765.3	79	26.1	74	SE	4	1.8	.....	0	0	.....	N	0	0	Clear	
North Platte, Nebraska	26.89	683.0	29.31	744.5	68	20.[illegible]	67	N	28	12.5	.....	2ck	2s	N	N	0	0	Fair	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	52.0	11.1	93	S	4	1.8	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Omaha, Nebraska	28.55	725.2	29.56	750.8	78	25.6	82	SE	5	2.2	.....	2ck	2s	SW	Calm	0	0	Fair	
Oswego, New York	29.83	757.7	30.14	765.5	69	20.[illegible]	75	SE	6	2.7	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	28.78	731.0	29.57	751.1	59	15.0	100	N	12	5.4	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Philadelphia, Pa	30.11	764.8	30.16	766.1	73	22.8	81	SW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.68	727.2	30.34	770.6	75	23.9	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.95	455.9	30.16	766.1	33	0.[illegible]	42	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Plocho, Nevada	.....	.....	.....	.....	49	9.4	18	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.33	745.0	30.12	765.0	65	18.3	84	W	1	0.4	.....	.....	8mo;fg	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.42	747.3	30.05	763.3	75	23.9	68	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.13	765.3	30.18	766.6	64	17.8	78	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Portland, Oregon	30.07	763.8	30.14	765.5	55.0	12.8	90	SE	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	59	15.0	43	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	77	25.0	65	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.54	750.3	29.89	759.2	67	19.4	37	NW	7	3.1	.....	1c	0	NW	.....	0	0	Clear	
Rio Grande City, Texas	29.73	755.1	29.94	760.5	78	25.6	82	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.52	749.8	30.11	764.8	74	23.3	68	W	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Roseburg, Oregon	29.61	752.1	30.19	766.8	44.7	6.9	96	Calm	0	0	.....	2ck	Fog	Calm	Calm	0	0	Foggy	
Sacramento, California	29.77	756.1	29.85	758.2	61	16.1	66	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.41	747.0	29.96	761.0	70	21.1	90	SE	11	4.9	.....	.....	10n	.....	SE	0.01	0.3	Light rain	
St. Marks, Florida	30.08	764.0	30.09	764.3	74	23.3	81	SE	6	2.7	.....	2ck;c	2s	E	E	0	0	Fair	
St. Paul, Minnesota	28.90	734.0	29.67	753.6	71	21.7	85	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Salt Lake City, Utah	25.74	653.8	30.07	763.8	50	10.0	32	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.26	743.2	29.82	757.4	78	25.6	78	SE	4	1.8	.....	5cs	0	Calm	.....	0.13	3.3	Fair	
San Diego, California	29.84	757.9	29.91	759.7	58	14.4	88	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.43	747.5	30.07	763.8	75	23.9	64	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.13	765.3	30.16	766.1	76	24.4	69	W	4	1.8	.....	2c	Haze	Calm	Calm	0	0	Hazy	
San Francisco, California	29.84	757.9	29.90	759.4	56	13.3	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	51	10.6	22	SE	3	1.3	.....	5c	0	W	.....	0	0	Clear	
Savannah, Georgia	30.04	763.0	30.14	765.5	75	23.9	72	W	2	0.9	.....	8c	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.78	756.4	29.99	761.7	79	26.1	82	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	24.30	617.2	30.32	770.1	59	15.0	40	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.10	764.5	30.13	765.3	76	24.4	73	SW	5	2.2	.....	2ck	Haze	N	Calm	0	0	Fair	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	30.03	762.7	30.16	766.1	77	25.0	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.85	682.0	29.85	758.2	74	23.3	59	SW	16	7.2	.....	.....	10ks	.....	Calm	0.15	3.8	Cloudy	
Thatcher's Island, Mass	30.13	765.3	30.18	766.6	61	16.1	94	N	12	5.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Toledo, Ohio	29.38	746.2	30.03	762.7	78	25.6	61	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	74	23.3	39	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.73	755.1	30.22	767.6	56.0	13.3	69	W	4	1.8	.....	8cs	0	W	.....	0	0	Fair	
Uvalde, Texas	28.99	736.3	29.78	756.4	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	78	25.6	78	S	2	0.9	.....	5k	2s	S	Calm	0	0	Fair	
Virginia City, Montana	24.32	617.7	29.80	756.9	44	6.7	60	W	10	4.5	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Visalia, California	29.49	749.0	29.86	758.4	54	12.2	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.04	763.0	30.15	765.8	76	24.4	73	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	61	16.1	40	W	.....	.....	2	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	75	23.9	68	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	46	7.8	40	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.12	765.0	30.15	765.8	68	20.0	79	W	3	1.3	.....	2cs	0	Calm	.....	0	0	Clear	
Yankton, Dakota	28.40	721.3	29.60	751.8	68	20.0	90	E	7	3.1	.....	.....	10n	.....	Calm	0.78	19.8	Light rain	
Yuma, Arizona	29.58	751.3	29.74	755.4	69	20.6	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.90	759.4	29.95	760.7	81	27.2	74	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	25.20	640.1	.....	.....	68.5	20.3	78	Calm	.....	.....	0	2ck	2ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I	29.81	757.2	29.89	759.2	79	26.1	82	E	.....	.....	.....	.....	.....	.....	.....	0.15	3.8	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.05	763.3	79	26.1	82	E	.....	.....	2	3c	5k	E	.....	0.200	5.08	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Plocho, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Plocho, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.11‡	764.8‡			80	26.7	87	NW	1	0.4			2		NW	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.91‡	759.7‡			73	22.8	88	Calm			0		9s		W	0	0			Cloudy	
Adams, N. 14° 58,′ W. 96° 30′	29.88‡	758.9‡			83	28.3	91	W			3		8		W			Long	W	Fair	
Alaska, N. 38° 27,′ W. 122° 45′	29.91‡	759.7‡			52	11.1	93	NNW			5					0	0	Mod'ate	W	Hazy	
Alliance, Havre, France	29.78‡	756.4‡			61	16.1	66	WNW			2		1		W					Pleasant	
Ashuelot, Nagasaki, Japan	29.91‡	759.7‡			77	25.0	91	S			1		8		S			Smooth		Pleasant	
Colorado, New York, N. Y.	30.20‡	767.1‡			74	23.3	72	SSW	1	0.4			2			0	0			Light fog	
Constellation, Hampton Roads, Va.	30.20‡	767.1‡			74.3	23.5	86	E			2		2		E					Hazy	
Constitution, League Island, Penn.	30.08‡	764.0‡			75	23.9	86	Calm			0		1		Calm					Light haze	
Despatch, N. 33° 30′, W. 67° 00′	30.13‡	765.3‡			71	21.7	100	ENE			3		10		E	9 h'rs	9 h'rs	Light	NE	Cloudy	
Enterprise, Cux Haven, Germany	29.68‡	753.9‡			64	17.8	78	SSE			2		7		SSE					Cloudy	
Franklin, Norfolk, Va.	30.14‡	765.5‡			75	23.9	81	ESE	2.4	1.1			2		ESE	0	0			Fair	
Hartford, Montevideo, Uruguay	30.00‡	762.0‡			52	11.1	93	SSE	10	4.5			10		S	0.80	20.3	Rough	S	Cloudy	
Kearsarge, New York, N.Y.	30.15‡	765.8‡			68	20.0	90	Calm			0		10							Foggy	
Marion, Off Port Royal, S. C.	30.12‡	765.0‡			79	26.1	91	Calm			0		8		Calm			Smooth		Cloudy	
Michigan, Erie, Pa.	30.06‡	763.5‡			80	26.7	66	NW			2		0							Clear	
Monocacy, Shanghai, China	29.70‡	754.4‡			74	23.3	95	SW			1		10							Cloudy	
Monongahela, Yokohama, Japan	29.86‡	758.4‡			72	22.2	??	NW			1		n			0	0			Overcast	
New Hampshire, Port Royal, S. C.	30.10‡	764.5‡			77	25.0	86	NNW	2	0.9			2		Calm	0	0			Hazy	
Palos, Shanghai, China	29.73‡	755.1‡			72	22.2	??	SW			1		10							Drizzling	
Passaic, Washington, D. C.					74	23.3	90	SE			1		0							Clear	
Pensacola, Iquique, Peru	29.98‡	761.5‡			61	16.1	71	SW	1	0.4			10			0	0	Smooth	SW	Overcast	
Portsmouth, Gardiner's Bay, Long Island, N.Y	30.16‡	766.1‡			69	20.6	90	NNW			1		2		Calm	0	0	Smooth		Clear	
Powhatan, New York, N. Y.	30.12‡	765.0‡			71	21.7	75	NNE			1		2		Calm	0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.89‡	759.2‡			78	25.6	57	NNE			2		0							Clear	
Ranger, Amoy, China	29.89‡	759.2‡			80	26.7	93	Calm			0		10					Smooth		Overcast	
Richmond, Nagasaki, Japan	29.89‡	759.2‡			79	26.1	86	S			1–2		5		S			Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.93‡	760.2‡			80	26.7	87	SE			1		0			0	0			Clear	
Santee, Annapolis, Md.	30.14‡	765.5‡			75	23.9	77	Calm			0		0			0	0			Clear	
Saratoga, N. 30° 08′, W. 61° 41′	30.21‡	767.3‡			79	26.1	91	SE			6		2		E	0	0	Mod'ate	E	D. clouds	
St. Louis, League Island, Pa.	30.15‡	765.5‡			70	21.1	90	Calm	0	0			5		NE	0	0			Misty	
Trenton, N. 50° 09′, W. 2° 21′	29.73‡	755.1‡			60	15.6	76	SW			3		0			0.02	0.5	Smooth		Clear	
Tuscarora, N. 30° 12′, W. 116° 04′	29.91‡	759.7‡			62	16.7	83	NW			0		10		Calm	0	0	Long	N;W	Overcast	
Vandalia, New York City, N. Y.	30.12‡	765.0‡			71	21.7	90	SSW			1		2		SW	0	0			Fair	
Wabash, Boston, Mass.	30.20‡	767.1‡			73	22.8	85	NW	3	1.3			5			0	0			Fair	
Wyoming, Venice, Italy	29.84‡	757.9‡			78	25.6	65	S			4		2		S			Smooth		Clear	
Wachusett, Donaldsonville, Louisania.	30.02‡	762.5‡			76	24.4	91	N			1		2		NE					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 26° 21′, W. 113° 32′ †.		29.98‡	758.9‡	64	17.8	94	NNW			4		8		NW	0	Mod'ate	NW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I. †.		30.10‡	764.5‡	56	13.3	87	N			1		4?		N				Raining	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer.
S. S. Gaelic, Capt. Davidson, Hong-Kong, China †.		29.80‡	759.2‡	86	30.0		SW			5		ks		SW	Slight			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 49° 38′, W. 12° 42′		29.60‡	753.4‡	55.0	12.8		WNW			4		5		WNW	1 hour	Mod'ate	WNW	Cloudy	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.73‡	755.1‡				SSW			3		8		W				Cloudy	Capt. G. Meyer.*

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 05′, W. 58° 38′		30.22‡	767.6‡	75	23.9	90	SSE			5		10		E	Heavy	Slight	SE	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 49° 18′, W. 11° 16′		29.60‡	751.8‡				W	14	6.3			2		WNW		Long	WNW	Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.09‡	764.3‡	82	27.8	58	SE	4	1.8			0			0			Clear	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 20° 55′, W. 63° 13′ †		30.03‡	762.7‡				ESE			5		8		ESE	Heavy	Rough	ESE	Cloudy	N. B. Foss.
Schooner Harry and Fred, N. 34° 32′, W. 70° 15′		30.02‡	762.5‡				ENE	16	7.2			5		E	0	Mod'ate	SE	Fair	Capt. George Gardner.
W. D. Hilton, N. 39° 30′ W. 74° 20′		30.14‡	765.5‡	70	21.1		SSW			3		Haze			0	Light	SE	Hazy	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Rouen, France †		29.84‡	757.9‡	58	14.4	88	W			4		10		SW				Heavy rain.	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 45′, W. 66° 54 †		30.15‡	766.6‡				Calm			0						Short	S	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 33 33′, W. 77° 18 †		30.16‡	766.1‡	77	25.0		NW			3						Smooth		Cloudy	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

The Heliotype Printing Co. 126 Pearl St. Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 25, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.01	762.1	82.4	28.0	61	NW			1		0			0	0	Clear	Kesxuche.
Algiers			30.09	762.8	83.8	28.8	53	WNW			4		0			0	0	Clear	Tourilliere.
La Calle			30.01	762.3	79.9	26.6	79	NNE			1		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.08	764.0															Gau.
Saida			29.99	761.8	90.5	32.5	32	N			3		0			0	0	Clear	Herbin.
Tebessa			29.99	761.7	103.1	39.5	17	W			4		5			0.012	0.3	Cloudy	Watrin.
Geriville			30.03	762.7	86.0	30.0	41	NW			4		2			0	0	Fair	Brugniaux.
Laghouat			29.95	760.8	105.1	40.6	24	SW			6		2			0	0	Fair	Bertrand.
Biskra			29.93	760.3	104.0	40.0	26	SE			1		0			0	0	Clear	Chauvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.22	742.1	29.72	755.0	88.2	31.2	39	SW			4		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.5	29.72	755.0	78.3	25.7	56	SW			3		6			0.335	8.5		Dr. Wierzbiski.
Eperies	28.92	734.6	29.75	755.7	79.5	26.4	72	S			3		4cs		N	0.575	14.60		Julius Mikolik.
Gratz	28.54	725.0	29.72	755.0	77.7	25.4	53	S			4		7			0.020	0.5		Andreas Rospini.
Hermannstadt	28.54	724.8	29.86	758.4	86.7	30.4	45	W			2		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.41	721.5	29.70	754.3	66.0	18.9		NNE			2		10			0.441	11.2		Prof. C. Wagner.
Lemberg	28.82	731.9	29.74	755.4	78.4	25.8	58	NE			3		7			0.008	0.2		Dr. T Stanecki.
Pola	29.71	754.7	29.82	757.4	81.3	27.4	67	SE			2		0			0	0		I.R.Hydrographic Office.
Szathmar	29.43	747.5	29.86	758.5	86.0	30.0	65	S			2		2			0	0		Julius Csics, S. J.
Szegedin	29.54	750.2	29.80	756.8	88.5	31.4	48	SE			1		3			0	0		Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	83.8	28.8	58	W			1		2			0	0	Almost clear	P. Busin.
Vienna	29.06	738.2	29.76	755.8	71.4	21.9	65	NNE			1		4			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:3 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.40	746.7	29.50	749.3	52.2	11.2		ESE	4	1.8			9			0.235	5.97	Overcast	W. Boswell.
Ardrossan	29.47	748.5	29.48	748.8	55	12.8		W			1		8					Overcast	Wm McNeil &G.Carrick
Armagh, Observatory			29.54	750.3	59.1	15.1		N	3	1.3			8					D. clouds	S. Call.
Bidston (Liverpool Obs)			29.54	750.3	57.1	13.9		W	29	13.0			3					Blue sky	John Hartnup.
Bolton (Sharples)			29.53	750.0	56.4	13.6		WSW	12	5.4			8					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.14	740.1	29.54	750.3	54.8	12.7		W			3		3			0.15	3.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.04	763.0	30.07	763.8	76	24.4		NE			2		10					Overcast	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.46	748.3	29.55	750.6	60.0	15.6		SSW			1		10					Overcast	H. Todd.
Cardington			29.56	750.8	64.0	17.8		W			1		7					D. clouds	John McLaren.
Chatham, School M. E.	29.46	748.3	29.59	751.6	55.8	13.2		Calm			0		7					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.50	749.3	29.54	750.3	53	11.7		NNE			2		3					D. clouds	J. Mac Gowan.
Dover	29.58	751.3	29.60	751.8	60	15.6		SW			4		4					½ clouded	J. Costello.
Falmouth, Observatory	29.49	749.0	29.71	754.6	59.7	15.4		WNW			3		5					D. clouds	The Staff.
Fort Napier (Natal)	27.64	702.0	29.93	760.2	70.0	21.1		E			2		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	83	28.3		E			1		4					D. clouds	
Galway, Queen's College			29.56	750.8	60	15.6		W			2		9					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	29.99	761.7	79.6	26.4		W			5		2					Blue sky	Sergt. Wm. Allen, A. H.
Glasgow, Observatory	29.28	743.7	29.48	748.8	57.8	14.3		WSW			2		9					Gloomy	D. G. Maclean. [C.
Great Yarmouth	29.57	751.1	29.58	751.3	56	13.3		SSW			2		6			Blank	Blank	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.41	747.0	29.58	751.3	58.5	14.7		SW			1		10					Raining	The Staff, for G.B.Airy.
Guernsey	29.45	748.0	29.67	753.6	56.5	13.6		WNW			3		7					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.75	755.6	29.87	758.7	62	16.7		SW			2		3ck			0.13	3.3	Fine	M. P. Moyle.
Holyhead	29.53	750.0	29.56	750.8	53	11.7		SW			4		10					Misty	John Tilston.
Jersey	29.42	747.3	29.71	754.6	57.0	13.9		WNW			5		5					D. clouds	J. Fisher.
Kew, Observatory	29.56	750.8	29.59	751.6	54.0	12.2		SW	7	3.1			9n					Showery	The Met'g'l Office.
Leicester, Museum	29.39	746.5	29.64	752.8	62.0	16.7		SW			1		5					D. clouds	Wm,J.Harrison,F.G.S.
Malta, Mediterranean	29.93	760.2	30.00	762.0	80.0	26.7		SE			3		0					Blue sky	A. King.
Nairn	29.40	746.7	29.49	749.0	59	15.0		Calm			0		10					Raining	W. D. Penny.
Nassau (Bahamas)			30.04	763.0	80.2	26.8		NE			1		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.38	746.2	29.56	750.8	63.7	17.6		SW			3		10ks;d		WSW	0.105	2.67	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.04	737.6	29.55	750.6	55.3	12.9		SSW			2–3		9					Gloomy	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.59	751.6	63	17.2		W			1		4					D. clouds	H. E. Bellamy.
Plymouth	29.58	751.3	29.66	753.4	64.1	17.8		NW			3		2					D. clouds	John Merrifield.
Prince Town	28.24	717.3	29.68	753.9	54.4	12.4		NW			4		4			Blank	Blank	Fine	W. H. Tooker.
*Roche's Point	29.59	751.6	29.70	754.4	59	15.0		WSW			3		5					½ clouded	Wm. Kennedy.
Saint Ann's Head	29.48	748.8	29.64	752.8	55	12.8		W			4		5					D. clouds	John C. Walker.
Sandwick Manse (Orkneys)			29.53	750.0	51.6	10.9		NE	13	5.8			10					Overcast	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.88	758.9	29.94	760.5	81.8	27.7		SW			1		0			0	0	Blue sky	Serg't W. H.Lyne.
Sheffield	29.28	743.7	29.55	750.6	61.9	16.6		SW			3		3			0.01	0.3	D. clouds	W. F. Cooper.
Silloth Rectory	29.47	748.5	29.50	749.3	62.3	16.8	68	W			4		2			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.14	740.1	29.54	750.3	57.4	14.1		W			2		8			Blank	Blank	Threatening	Rev. S. J. Perry.
Stratfield, Turgiss	29.38	746.2	29.59	751.6	58.4	14.7		SW			1		6					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.72	754.9	29.74	755.4	63	17.2		W			4		4					D. clouds	W. Newcombe.
Valencia, Observatory	29.66	753.4	29.68	753.9	58.1	14.5		W	12	5.4			6					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.98	761.5	30.02	762.5	57.4	14.1	93	NW	10	4.5		10	9			0.700	17.78	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.82	757.4	44.0	6.7	86	N			1		10kn			0	0	Covered	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.51	749.5	55.9	13.3		E			1		5k		W	0.13	3.3	Heavy cl'ds	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.21	767.3	73.0	22.8	64	ESE	17.5	7.8		0	4		ESE	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.81	757.2	51.1	10.6	68	NE	8	3.6			10			0	0	Threatening	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.54	750.3	55	12.8		N			3	0	0			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.52	749.8	48	8.9		NW			4	6	10	N		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
H. M. S. "Fawn," N. 40° 25′. E. 29° 10′			30.01‡	762.2‡	74	23.3		W			1		0					Blue sky	Capt. W. J. L. Wharton.
Barque Fedalma, N. 51° 40′, W. 23° 30′			29.35	745.5	55	12.8		WSW			3		10			3	Confused.	Raining	Capt. H. L. Fox.
S. S. Nizam, N. 42° 15′, W. 9° 30′			30.16‡	766.1‡	61	16.1		WNW			4		8					D. clouds	Capt. Barlow.
Algeria, N. 49° 45′, W. 27° 25′			29.56	750.8	50	10.0		WNW			6		10			5	Var.	Squally	Capt. Wm. Watson.
Astarte, N. 17° 55′, W. 32° 25′ *.			30.16‡	766.1‡	77	25.0		ENE			5		3					D. clouds	Capt. Parson.
British Peer, N. 36° 50′, W. 46° 20′			30.45‡	773.4‡	75.5	24.2		E			1		5					Misty	Capt. Greig.
Theophane, S. 31° 30′, E. 33° 40′			30.16‡	765.8‡	71.5	21.9		NNW			5		3					D. clouds	Capt. Raymond.
Agnes Wilson																			Capt. H. W. Dyke.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beau[illegible] distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather [illegible] carefully compared and corrected. ‡Correction for temper-

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	67.6	19.8	92	SE			1	4ck				0.8	20.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known: the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.0	29.65	753.2	64.8	18.2	52	W			4		2						
Fanöe	29.61	752.0	29.63	752.5	60.8	16.0	80	WSW			4		4						
Godthaab (Greenland)	29.60	751.9	29.65	753.0	42.1	5.6	88	NE			2		10						
Stykkisholm (Iceland)	29.76	755.8	29.80	756.9	49.6	9.8	79	NW			2		0						
Thorshavn (Faröe)	29.60	751.8	29.63	752.7	49.3	9.6	78	NE			3		7					Foggy	
Vestervig	29.53	750.0	29.70	754.3	59.4	15.2	78	SSW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.16	740.6	29.71	754.6	63.3	17.4	73	SW			3		5	SW		0.047	1.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.55	750.6	29.65	753.2	59.4	15.2	68	WSW			4		10			0.39	10.	Covered	Bonvallet, Director.
Arras, Engin'r School	29.41	746.9	29.66	753.3	56.7	13.7	78	SSW			4				SW	0.028	0.7	Thunder	Klein, Commandant.
Avignon, Normal School	29.81	757.1	29.89	759.1	77.9	25.5	34	W			1		5		W	0	0	Cloudy	Giraud, Director.
Bar-sur-Seine	29.17	741.0	29.72	754.8	62.1	16.7	65	SSW			2		8		SW	0.08	0.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.43	747.4	29.69	754.1	59.5	15.3	70	W			2		10		W	0.08	2.	Covered	Frere Eugene Marie.
Besançon, Normal School	28.94	735.1	29.81	757.1	66.0	18.9	64	S			2		5		S	0.106	2.7	Cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.02	737.0	29.94	760.4	57.7	14.3	86	SW			1		kn	SW	SW	0.04	1.	Thunder	Marlot, Director.
Bourges, Normal School	29.24	742.6	29.78	756.3	60.6	15.9	84	WSW			3		5	WSW	WSW	0.102	2.6	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.50	749.2	29.74	755.4	62.6	17.0	67	NW			2		2k		NW	0.345	8.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.51	749.6	29.91	759.6	79.9	26.6	41	W			1		2	W	W	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	29.58	751.3	29.65	753.1	65.1	18.4	71	WSW			2		5		W	0.31	8.	Cloudy	Lair, Director.
Chartres, Normal School	29.10	739.0	29.65	753.1	58.6	14.8	91	S			1		9		NNE	0.16	4.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.44	747.7	29.75	755.6	64.4	18.0	53	SW			3		8	SW	SW	0	0	Very cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Ob.	28.43	722.2	29.75	755.6	65.3	18.5	50	W			4		5		SW	0	0		Alluard, Director.
Commercy, Normal School.	28.91	734.4	29.75	755.7	60.1	15.6	63	W			3		8n		W	0.12	3.	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.82	732.0	29.96	761.0	81.1	27.3	42	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.16	740.6	29.91	759.6	66.2	19	84	E			1		5kn		NNW	0.213	5.40	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.66	753.3	29.87	758.6	61.5	16.4	73	SW			4		8		SW	0.276	7.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.41	747.1	29.71	754.7	61.2	16.2	67	S			3		8	NW	WSW	0.055	1.4	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.7	29.86	758.5	56.3	13.5	93	W			6		10	W	SW	0.244	6.20	Thunder-storm	A. Baudry, Director.
Lorient, Naval Observatory	29.69	754.0	29.79	756.6	61.2	16.2	71	WSW			3				NW	0.303	7.7		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.61	752.1	29.87	758.7	77.9	25.5	51	WSW			2		4			0	0		E. Stephan, Director
Mirecourt, Normal School	28.79	731.2	29.82	757.3	60.8	16	73	NE			3		2		NE	0	0	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.68	753.8	29.87	758.7	83.8	28.8	41	SW			3		2		SW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	28.91	734.2	29.94	760.4	70.7	21.5	61	W			1	c		W	W	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	24.97	634.2			44.9	5.5	100	W			10		9			0.031	0.8	Almost cov'd	Alluard, Director.
Rochefort, Naval Obs'y	29.84	757.9	29.87	758.7	65.1	18.4	62	W			4		5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	29.55	750.5	29.63	752.7	61.7	16.5	70	SW			1		8		W	0.114	2.9	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.67	753.6	29.70	754.4	61.9	16.6	75	WNW			3		1	WSW	WSW	0.372	9.44	Clear.	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.54	750.4	29.71	754.6	55.0	12.8	96	SW			1				SW	0.299	7.6		E. Renou, Director.
Tarbes, Normal School	28.89	733.8	29.93	760.1	73.4	23	59	W			4		2	WSW	SSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.28	743.7	30.00	762.0	69.6	20.9	57	NW			3		8			0	0		M. Julier Mercadier.
Versailles, Observatory	29.19	741.4	29.68	753.9	55.4	13.0	81	WNW			3					0.304	7.72		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.11	739.3	29.80	756.8	68.0	20	72	ESE			1		5		SW	0	0	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.81	757.2	29.84	757.9	81.3	27.4										1.22	31.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.22	742.1	29.83	757.6	63.0	17.2	81	SSW			1		10		SW	0.055	1.4	Threatening	Ch. André, Director.
Mont-Louis	24.82	630.4	30.13	765.4	62.6	17.0	45	SW	23.0	10.3			0			0	0		M. Cave.
Nice			29.86	758.5	77.4	25.2	76	WSW			1		10			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.42	747.3			52.7	11.5	100	SW			2		10			0.283	7.2	Heavy rain.	Marié Davy, Director.
Perpignan	29.80	757.0	29.91	759.7	75.7	24.3	47	S	9.4	4.2			4		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.55	572.8			50.5	10.3		SW			1		8			0	0	Fair	Gen'l de Nansouty.
Tours	29.57	751.0	29.76	756.0	62.6	17.0	62	SW			6		5		W	0.047	1.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai).	29.84	757.9	29.86	758.5	75.2	24.0	97	S	0.9	0.4			10			0.004	0.1	Covered	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0-10	Clouds. Amount. Up'er 0-10	Low'r 0-10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg	28.99	736.3	29.83	757.6	60.3	15.7	80	SW			2		10	W		0.157	4.0	Raining	Prof. Dr. Hoh.
Berlin	29.61	752.0	29.77	756.2	71.6	22.0		S			1		8			0.087	2.2		Prof. Dr. Arndt.
Breslau	29.31	744.5	29.84	757.9	64.4	18.0	79	SSE			2		10			0.267	6.77	Raining	Royal University Obs'ry.
Carlsruhe	29.34	745.2	29.76	755.8	60.4	15.8	93	W			1		10	SW		0.469	11.9	Thunder-storm	Albert Senz.
Cassel	29.13	740.0	29.73	755.1	67.3	19.6	61	WSW			3		7	W		0.099	2.53		Dr. H. Möhl.
Crefeld	29.50	749.4	29.67	753.5	69.4	20.8	46	S			5		8			0.16	4.		Director Lose.
Emden			29.66	753.3	65.8	18.8	56	W			1		1			0.220	5.6		Prof. Dr. Prestel.
Frankfort on the Main	29.33	745.0	29.69	754.1	68.9	20.5		SSW			2		7			0.043	1.1		Physical Society.
Freienwalde on the Oder	29.71	754.6	29.75	755.6	70.2	21.2	57	SSW			2		10ks	SW		0.039	1.0		Dr. Assmann.
Friedrichshafen	28.41	721.7	29.82	757.5	59.7	15.4	83	ESE			4		10	WSW		0.217	5.5		M. Wilhelm.
Hamburg	29.61	752.1	29.68	753.8	64.6	18.1	68	SW			3		10kn			0.217	5.5	Showery	Captain F. Hegemann.
Kiel	29.64	752.8	29.65	753.2	64.8	18.2	63	SSW			4		8			0.159	4.06		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.69	754.1	29.77	756.1	64.9	18.3	68	W			3		6			0.106	2.7		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.35	745.4	29.76	755.8	65.8	18.8	68	SSW			1		10	SW		Inap.	Inap.	Rainy	Prof. Bruhns, Privy Counsellor.
Memel	29.69	754.1	29.74	755.3	66.7	19.3	68	SW			3		7cs						Skalweit.
Munich (München)	28.03	712.0	29.88	759.0	56.5	13.6	88	SW			2		10			0.870	22.1		Dr. C. Larg.
Neufahrwasser	29.74	755.4	29.76	755.8	62.2	16.8	81	NNE			2		10	W		0.059	1.5		A. Lothes.
Posen	29.44	747.7	29.72	754.8	70.3	21.3	59	W			2		10			0.031	0.8		Dr. Magener.
Strassburg (in Alsace)	29.25	743.0	29.79	756.6	66.0	18.9	71	S			4		10			0.048	1.22	Raining	Imp. University Observatory.
Stuttgart	28.82	732.1	29.73	755.2	66.2	19.0	50	W			5		8	W		0.028	0.7		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.33	719.6	29.81	757.2	58.6	14.8	82	SSW	7	3			10		SW	0.591	15.0	Hazy	T. Hopfner.
Wustrow	29.69	754.2	29.72	754.8	62.2	16.8	64	NW			3		10ks			0.079	2.0		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.6	30.00	762.1	87.4	30.8		SW			2.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.8	29.49	749.0	86.9	30.5	66	NNW	14.0	6.3			3			0	0	D. clouds	
Deesa	29.06	738.1	29.52	749.8	87.8	31.0	64	W	17.3	7.7			9	SSW		0	0	D. clouds	
Bombay	29.60	751.8	29.64	752.7	79.3	26.3	94	W	28.0	12.5			10		SW	5.34	135.6	Raining	
Poona	27.81	706.4	29.68	753.8	73.7	23.2	92	WSW					10	Calm	WSW	0.62	15.7	Drizzling	
Lahore	28.64	727.5	29.36	745.6	94.1	34.5	57	NE	2.5	1.1			0			0	0	Blue sky	
Belgaum	27.24	692.0	29.80	756.9	70.8	21.6	94	SW	15.0	6.7			10		SW	1.09	27.7	Raining	
Roorkee	28.52	724.4	29.39	746.5	89.0	31.7	68	SE	2.5	1.1			3			0.12	3.0	D. clouds	
Agra	28.85	732.7	29.39	746.4	95.1	35.1	51	E					5		E	0	0		
Nagpur	28.50	723.9	29.53	749.9	82.5	28.1	75	Calm	5.4	2.4			8		NE	0.03	0.8	D. clouds	
Lucknow	29.10	739.1	29.47	748.6	80.3	26.8	87	NNW	3.4	1.5			10			1.08	27.4	Overcast	
Allahabad	29.17	740.9	29.48	748.8	83.1	28.4	91	Calm	2.1	0.9			10			0.41	10.4	Drizzling	
Patna	29.30	744.3	29.48	748.8	83.3	28.5	84	NNE	0.4	0.2			10	NNE	NNE	0	0	Overcast	
Hazaribagh	27.54	699.4	29.53	750.2	76.3	24.6	88	WNW	7.0	3.1			10			0.62	15.7	Thunder-storm	
Cuttack	29.46	748.4	29.54	750.4	85.4	29.7	74	S	3.0	1.3			5			0.01	0.3	D. clouds	
Calcutta (Alipore)	29.53	750.1	29.55	750.6	82.6	28.1	68	S	14.0	6.3			10		S	0	0	Overcast	
Goalpara	29.15	740.3	29.53	750.1	80.4	26.9	89	Calm	2.1	0.9			8			0.20	5.1	D. clouds	
Chittagong	29.53	750.0	29.62	752.4	80.7	27.1	89	SSE	6.8	3.0			10			0	0	Threatening	
Sibsagar	29.25	743.0	29.58	751.4	82.9	28.3	87	SW	1.2	0.5			10	SW	SW	0.13	3.6	D. clouds	
Jubbulpore	28.21	716.5	29.57	751.1	75.8	24.3	95	S	3.8	1.7			10		S	1.02	25.9	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.2	29.81	757.1	80.4	26.9	56	S	6.3	2.8			4			0.004	0.1		Prof. Giovanni Clodig.
Milan	29.20	741.6	29.69	754.1	84.6	29.2	36	WSW			4		4	SW		0	0		Prof. Schiaparelli.
Padua	29.64	752.8	29.74	755.5	82.0	27.8	47	SW	14.3	6.4			7	SW		0	0		Prof. Dott. Lorenzoni.
Moncalieri	28.43	722.2	29.69	754.2	78.8	26.0	46	WSW	3.8	1.7			6	E		0	0		Prof. P. F. Denza.
Genoa	29.67	753.6	29.85	758.3	72.5	22.5	76	SE	13.7	6.1			10	S		0	0		Prof. G. M. Garibaldi.
Mondovi	27.85	707.4	29.68	753.8	78.4	25.8	43	WNW			4		3	WSW		0	0		Prof. D. C. Bruno.
Pesaro	29.74	755.5	29.79	756.7	85.3	29.6	47	S	11.9	5.3			0			0	0		Prof. Luigi Guidi.
Florence	29.60	751.8	29.84	758.0	84.2	29.0	46	S			4		5	SW		0	0		Cav. F. Meucci.
Leghorn	29.80	756.8	29.88	758.9	77.4	25.2	68	S			4		7			0	0		Prof. P. Monte.
Rome	29.77	756.1	29.94	760.4	82.4	28.0	53	S	20.6	9.2			0			0	0		Prof. P. S. Ferrari.
Lecce	29.74	755.5	29.99	761.7	84.6	29.2	28	S	9.4	4.2			0			0	0		Prof. C. De Giorgi.
Cesenza	29.12	739.7	29.97	761.1	90.8	32.4	65	NW	1.3	0.6			0			0	0		Prof. D. Conti.
Cagliari	29.72	755.0	29.91	759.7	80.4	26.9	64	SE			2		3	W		0	0		Prof. A. Pacinotti.
Palermo	29.74	755.4	29.99	761.7	81.9	27.7	45	E	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.93	760.3	30.01	762.2	82.8	28.2	49	SW	8.7	3.9			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.49	749.0	30.04	763.1	81.9	27.7	35	SW	2.5	1.1			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.87	758.7	29.88	758.9	75.8	24.3	88	NNW	1.8	0.2			10s			0.722	18.34	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.73	755.1	29.93	760.2	77.1	25.1	90	SW	14.0	6.3			6s			0.030	0.76	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.72	754.9	29.78	756.4	76.7	24.8	83	S	5.4	2.4			10s			0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	26.02	685.5	29.99	761.5	61.7	16.5	78	NW			1	0	5		NW	0	0	½ clouded	Prof. L. Perez.
Leon	24.39	619.4	30.02	762.5	62.1	16.7	70	S			1	1c	0			0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.03	585.0	29.98	761.5	56.8	13.8	81	Calm	0	0		2c	4s	E		0.008	0.2	Fair	The Staff.
Pabellon (Aguascalientes)					59.5	15.3	70	W			1	1cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.89	759.3	29.91	759.6	77.0	25.0	89	W			1	2	2	S	E	0.004	0.1	Fair	Prof. M. M. Chávaro.
San Luis Potosi	24.18	614.1	30.05	763.3	64.0	17.8	67	E			1	0	0			0	0	Fine	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.55	572.7	30.11	764.9	55.4	13.0	71	NE			1	0	0			0	0	Very clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	56.3	13.5	64	Calm	0	0		4ck	0	Calm		0	0	Fair	Prof. P. Spina.
Colima	28.31	719.1	29.93	760.3	78.3	25.7	82	NE			1	0	9		W	0.75	19.0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	78.1	25.6	87	Calm			0	4	2	SE	SE	0	0	½ clouded	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.63	752.6	29.63	752.6	66.6	19.2		SSE								0.004	0.1		
Groningen	29.60	751.9	29.66	753.3	62.2	16.8		WSW			1					0.024	0.6		
Helder	29.62	752.3	29.62	752.3	60.8	16.0		SSW			3					0.075	1.9		
Hellevoetsluis	29.64	752.8	29.64	752.8	65.1	18.4	59	Calm			0					0.059	1.5		
Utrecht	29.61	752.1	29.66	753.3	64.2	17.9	57	S			3		8			0.031	0.8	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.38	746.2	29.43	747.6	53.2	11.8	81	SSW	10.1	4.5			10			0.276	7.0	Rain & fog	
Brönö	29.43	747.6	29.47	748.6	50.0	10.0	79	E	7	3			10			0	0		
Christiania	29.26	743.1	29.40	746.7	54.5	12.5	85	SSW	7	3			10			0.020	0.5	Raining	
Tromsö	29.67	751.1	29.61	752.2	60.4	15.8	48	S	13	6			8			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	30.08	763.9	30.26	768.7	69.4	20.8	83	WNW	11.2	5.0			3			0	0		Dr. J. A. Sampaio.
Campo Major	29.09	738.9	30.09	764.3	72.9	22.7	50	WNW	12.5	5.6			7	WNW		0	0		Dr. A. M. R. dos Santos.
Funchal (Madeira)	30.14	765.6	30.23	767.8	72.5	22.5	60	SW	4.9	2.2			2			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.80	756.9	30.15	765.8	70.2	21.2	58	NNW	9.8	4.4			7			0	0		The Staff.
Ponta Delgada (Azores)	30.21	767.4	30.28	769.2	73.0	22.8	60	WNW	9.8	4.4			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A. M. de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.03	762.8	81.5	27.5		SSW			3		10		SSW	1		Overcast	H. C. e Athayde. J. F. R. H. Bastos, Com'd't.
Mindello																			
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.03	762.7	62.6	17.0		WNW			3		10		WNW	1	WNW	Overcast	J. C. M. Cabrate, 1st Lt. J. T. d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.08	764.1	75.2	24.0		ENE			4		8		ENE	1		D. clouds	P. de Lair. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.93	760.1	84.4	29.1		SW			2		3		SW	1	SW	D. clouds. 6 hr's rain-fall.	J. G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.36	745.7	29.77	756.2	61.3	16.3	88	N	9	4			10n					Raining	Astronomical Obs.
Wilna	29.37	746.1	29.78	756.3	73.4	23.0	52	S	2	1			10						Astronomical Obs.
Dorpat	29.51	749.6	29.74	755.5	72.5	22.5	42	SW	4	2			6ck						Prof. Dr. Weihrauch.
St. Petersburg	29.72	754.8	29.73	755.2	61.5	16.4	79	WNW	11	5			7kn						Central Physical Obs.
Kieff	29.19	741.4	29.78	756.4	82.8	28.2	52	SW	7	3			5k;ks						Physical Cabinet.
Nikolaiev	29.85	758.3	29.93	760.1	88.7	31.5	46	SSW	4	2			2k						Kurdakof.
Kertch																			Lagorio.
Moscow	29.33	745.0	29.85	758.2	73.6	23.1	45	N	9	4			7ks						Meteorological Obs.
Lugan	29.54	750.3	29.73	755.2	89.6	32.0	38	W	9	4			3						Meteorological Obs.
Archangel	29.64	752.9	29.66	753.4	64.2	17.9	68	Calm	0	0			8k						Capt. Sseliwerstow.
Tiflis	28.50	723.8	29.83	757.7	82.4	28.0	44	NW	31	14			3k						Physical Observatory.
Astrakhan	29.85	758.1	29.76	756.0	89.4	31.9	38	SSW	18	8			8ks						Capt. Wisganow.
Krotkowo*	29.31	744.4	29.76	755.8	72.1	22.3	60	N	2	1			5k						Cand. Fatjanow.
Kasan	29.45	748.0	29.71	754.5	72.9	22.7	46	Calm	0	0			9						Physical Cabinet.
Ekaterinburg	28.71	729.2	29.64	752.8	63.3	17.4	87	WSW	9	4			10						Meteorological Obs.
Nukuss																			
Tashkend	28.15	715.1	29.61	752.0	87.4	30.8	55	Calm	0	0			0						Teich, A. M.
Barnaul	29.37	745.9	29.85	758.1	67.5	19.7	51	NW	0	0			3						Meteorological Obs.
Yeniseisk	29.44	747.8	29.72	755.0	56.8	13.8	91	WNW	4	2			10					Raining	Marks.
Irkutsk																			
Peking (China)	29.56	750.9	29.71	754.5	79.5	26.4	70	S	9	4			2k						Physical Observatory. Meteorological Obs.
Nertchinsk																			
Vladivostock	29.72	755.0	29.82	757.5	56.8	13.8	94	Calm	0	0			8k						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.82	757.4	29.92	760.6	75.6	24.2	65	S	2.8	1.25			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	67.5	19.7	95	NW	2.8	1.24			10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.0			69.3	20.7	48	SW	7.8	3.51			6			0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.1	29.91	759.7	83.7	28.7	34	W	11.3	5.05		1	1	NW		0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.74	755.3	29.88	758.9	92.3	33.5	47	SE	4.9	2.19			2			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.8	30.01	762.2	63.9	17.7	67	SW	8.7	3.9			9			0.276	7.0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	760.0	29.99	761.6	79.7	26.5	83	E	1.3	0.6		1c	0	NW		0.378	9.6	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.9	29.89	759.2	83.0	28.3	81	SE	8.9	4.0			9n		E	0	0	Covered	Federico Faura, S. J. Capt. C. Pulgazon, R. N., Dir.
San Fernando, Naval Obs'y	29.99	761.7	30.09	764.2	72.1	22.3	61	WNW	19.0	8.5		0	0			0	0		
San Juan de Porto Rico, W. I.	29.95	760.6	30.04	762.9	84.9	29.4	71	E	9.9	4.41		1c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.61	752.2	29.65	753.2	56.8	13.8		NE			2		10			0.315	8.0		
Umea	29.55	750.6	29.60	751.9	58.3	14.6	57	SE			2		6			0.079	2.0		
Hernosand	29.50	749.2	29.55	750.5	48.9	9.4	95	NE			4		10			0.031	0.8		
Stockholm	29.40	746.7	29.58	751.2	63.9	17.7	57	WSW			4		5			0.110	2.8		
Wisby	29.56	750.8	29.62	752.3	67.3	19.6	53	SW			4		3			0	0		
Sub-Series.																			
Upsala	29.46	748.2	29.53	750.1	63.3	17.4	68	S	18.3	8.2			5	SW;SSW	SSW	0.116	2.9	Showery	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 37° 26′, W. 0° 14′			30.08	764.1	74.8	23.8		SE			3		0					Blue sky	Capt. M. von Krusenstiernd.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.22	716.7	29.84	757.8	59.4	15.2	88	SE			1		10			0.787	20.0	Raining	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.
NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.00	762.0	86.0	30.0	33	SE	4	2.0			0			0	0		The Observatory.
Fao, Persian Gulf			29.94	760.4	102.2	39.0		NW			6		4						
Valona			30.14	765.6	91.0	32.5		S			2		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.76	755.9	29.88	758.9	82.4	28.0	64	NW			1		1k		SE	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.80	756.9	30.09	764.3	84	28.9		SW	1	0.4		0	0			0	0	Clear	W. R. Bigg.
Chatham, N. B	30.04	763.0	30.10	764.5	73	22.2	74	W	1	0.4		0	0			0	0	Clear	G. A. Blah.
Charlottetown, P. E. Island	30.07	763.8	30.11	764.8	67	19.4	78	SW	8	3.6		2c	0			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.96	761.0	77.3	25.2	77	W			1	0	0			0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.92	760.0	30.08	764.0	61	16.1	86	E			1	0	7s			0	0	Cloudy	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	30.04	763.0	30.06	763.5	54	12.2	90	NE	25	11.2			10s		Calm	0.14	3.6	Threatening	J. McWilliams.
Fredericton, N. B	30.10	764.5	30.16	766.1	69.3	20.7	77	S	3	1.3		c	0			0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba	28.96	735.6	29 77	756.1	55	12.8	80	SW	12	5.4		0	0			0.090	2.29	Clear	James Stewart.
Granton, Ontario	28.96	735.6	30.01	762.2	75	23.9	77	Calm	0	0	0	0	0			0	0	Clear	James Grant.
*Halifax, N. S	30.11	764.8	30.22	767 6	69	20.6	79	NW	5	2.2		2c	0	NW		0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.09	764.3	70.7	21.5	83	SW			2	0	0			0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.79	756.7	30.11	764.8	73	22.8	81	SW	4	1.8		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.09	764.3	30.12	765.0	60.4	15.8	91	E	2	0.9		5ck	0	SW		0	0	Fair	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.90	759.4	30.09	764.3	75	23.9	74	SW	2	0.9		0	Sm'e			0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.36	745.7	30.01	762.2	80	26.7	62	S	6	2.7		0	0			0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.36	745.7	30.08	764.0	74.2	23.4	75	Calm			0	0	0			0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.06	763.5	72	22.2	90	Calm	0	0		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S	30.10	764.5	30.15	765.8	65.1	18.4		NW	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.03	762.7	74	23.3	81	E	8	3.6		0	Haze			0	0	Clear	M. Payne.
*Quebec, Quebec	29.79	756.7	30.09	764.3	74	23.3	76	NW			1	0	0			0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.62	752.3	30.06	763.5	68	20.0	79	Calm	0	0		0	0			0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.12	765.0	30.17	766.3	58	14.4	81	SW			1	0	0			0	0	Clear	Dr. Gove.
St. John, N. B	30.03	762.7	30.20	767.1	54	12.2	90	S	12	5.4			Fog			0	0	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	29.99	761.7	78	25.6	66	S	12	5.4		10cs	0			0	0	Fair?	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.81	731.8	30.03	762.7	72.0	22.2	81	S	7	3.1		1cs	0			0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.08	764.0	30.12	765.0	70	21.1	77	SW	5	2.2		10k	0	NW		0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.08	764.0	71	21.7	76	Calm	0	0		2c	Haze	SW		0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.09	764.3	30.18	766.6	68.0	20.0	77	SW	5	2.2		0	0			0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.75	755.6	29.99	761.7	60.0	15.6	76	W				5k?	10s?			0	0	Fair?	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.97	761.2	30.19	766.8	75	23.9	70	S	7	3.1		0	Haze			0	0	Clear	
Alpena, Michigan	29.33	745.0	29.95	760.7	67	19.4	79	SE	4	1.8		2c	0	Calm		0	0	Clear	
Atcha, Aleutian Is., Alaska					43	6.1	100	NW			4		10s		NW	0	0	Cloudy	
Atlanta, Georgia	28.98	736.1	30.10	764.5	64	17.8	78	S	4	1.8			10s		Calm	0.23	5.8	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.17	766.3	67	19.4	100	NE	8	3.6			10s		E	Inap.	Inap.	Cloudy	
Augusta, Georgia	29.95	760.7	30.14	765.5	75	23.9	68	SW	4	1.8		2cs	Haze	NE	Calm	0	0	Fair	
Baltimore, Maryland	30.14	765.5	30.19	766.8	73	22.8	76	S	3	1.3			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	64	17.8	100	SE	9	4.0			10s; fg		Calm	0	0	Cloudy	
Bismarck, Dakota	28.12	714.2	29.98	761.5	58	14.4	69	W	2	0.9		5k	0	W		Inap.	Inap.	Fair	
Boerne, Texas	28.52	724.4	29.78	756.4	74	23.3	40	SW	4	1.8		2k	0	SW		0	0	Fair	
Boise City, Idaho	27.15	689.6	30.11	764.8	55	12.8	62	S	2	0.9		0	0			0	0	Clear	
Boston, Massachusetts	30.10	764.5	30.25	768.3	72	22.2	71	SW	6	2.7		0	1s		Calm	0	0	Clear	
Brackettville, Texas	28.82	732.0	29.81	757.2	77	25.0	77	E	7	3.1		0	8ks		SE	0	0	Fair	
Breckenridge, Minnesota	28.93	734.8	29.90	759.4	55	12.8	87	W	2	0.9		0	0			0.27	6.9	Clear	
Brownsville, Texas	29.86	758.4	29.91	759.7	78	25.6	73	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.40	746.7	30.06	763.5	77	25.0	61	SW	6	2.7		1k	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					76	24.4	34	S			1	2ck	0	E		0	0	Clear	
Burlington, Vermont	29.86	758.4	30.14	765.5	74	23.3	72	S	7	3.1		0	Haze		Calm	0	0	Clear	
Cairo, Illinois	29.61	752.1	29.99	761.7	72	22.2	90	SE	9	4.0			10n		SE	0.23	5.8	Light rain	
Campo, California	27.28	692.9	29.85	758.2	34	1.1	70	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.17	766.3	30.18	766.6	73	22.8	90	NE	5	2.2		1cs	8ks	Calm	NE	0.02	0.5	Cloudy	
Cape Henry, Virginia	30.16	766.1	30.18	766.6	71	21.7	85	Calm	0	0		5cs	2cs	Calm	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.14	765.5	30.15	765.8	75	23.9	77	NE	8	3.6		2c	0	NE		0	0	Fair	
Cape May, New Jersey	30.12	765.0	30.15	765.8	70	21.1	90	N	6	2.7			10ks		N	0	0	Cloudy	
Castroville, Texas	29.17	740.9	29.85	758.2	72	22.2	85	W	4	1.8		0	2ks		S	0	0	Fair	
Charleston, South Carolina	30.09	764.3	30.14	765.5	74	23.3	81	N	4	1.8		2ck	2s	E	Calm	0	0	Fair	
Charlotte, North Carolina	29.29	744.0	30.00	764.3	69	20.6	85	NE	5	2.2		2cs	8ks; s	Calm	S	0		Cloudy	
Chattanooga, Tennessee	29.34	745.2	30.12	765.0	69	20.6	70	S	10	4.5		2k	0	E		Inap.	Inap.	Fair	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	56	13.3	69	S	20	8.9		0	8s		S	0	0	Cloudy	
Chicago, Illinois	29.26	743.2	29.91	759.7	76	24.4	69	S	5	2.2		5cs	0	Calm		0	0	Fair	
Cincinnati, Ohio	29.43	747.5	30.06	763.5	76	24.4	69	SE	4	1.8		1c	Sme'	Calm	Calm	Inap.	Inap.	Clear	
Cleveland, Ohio	29.33	745.0	30.02	762.5	74	23.3	59	SE	8	3.6		0	0			0	0	Clear	
Coleman City, Texas	28.13	714.5	29.71	754.6	75	23.9	56	SW	7	3.1		0	0			0	0	Clear	
Columbus, Ohio	29.22	742.2	30.01	762.2	79	26.1	54	SE	5	2.2		0	0			0	0	Clear	
Concho, Texas	28.03	711.9	29.62	752.3	75	23.9	81	S	7	3.1		0	0			0	0	Clear	
Corsicana, Texas	29.53	750.0	29.97	761.2	76	24.4	82	S	4	1.8			10s		Calm	0	0	Cloudy	
Davenport, Iowa	29.28	743.7	29.88	758.9	73	22.8	90	E	4	1.8			10n		S	0.18	4.6	Light rain	
Deadwood, Dakota	25.31	642.9			52	11.1	73	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.80	731.5	29.91	759.7	77	25.0	77	E	8	3.6			10s		S	0	0	Cloudy	
Denison, Texas	29.09	738.9	29.84	757.9	74	23.3	95	S	17	7.6			10n		S	0.19	4.8	Light rain	
Denver, Colorado	24.78	629.4	30.00	762.0	63	17.2	67	S	12	5.4		0	0			0	0	Clear	
Des Moines, Iowa	29.01	736.8	29.84	757.9	70	21.1	75	N	3	1.3		2cs	0	NW		4.80	121.9	Clear	
Detroit, Michigan	29.34	745.2	29.98	761.5	76	24.4	69	S	2	0.9		Haze	0			0	0	Clear	
Dodge City, Kansas	27.32	693.9	29.50	749.3	66	18.9	79	NE	16	7.2		2c	0	W		0	0	Fair	
Dubuque, Iowa	29.18	741.1	29.84	757.9	71	21.7	90	SW	8	3.6			10s		Calm	0.55	14.0	Cloudy	
Duluth, Minnesota	29.23	742.4	29.88	758.9	66	18.9	84	NW	4	1.8		0	0			1.34	34.0	Clear	
Eagle Pass, Texas	29.17	740.9	29.85	758.2	78	25.6	73	E	4	1.8		1c	0	Calm		0	0	Clear	
Eastport, Maine	30.11	764.8	30.18	766.6	60	15.6	77	S	7	3.1		2c	Hz; fog	Calm	Calm; S	0	0	Hazy	
Edinburg, Texas					81	27.2	83	Calm			0	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.15	664.2			69	20.6		NE	4	1.8		1ck	0	W		0	0	Clear	
Erie, Pennsylvania	29.36	745.7	30.03	762.7	79	26.1	62	S	12	5.4		0	0			0	0	Clear	
Escanaba, Michigan	29.25	742.9	29.88	758.9	68	20.0	90	SW	6	2.7			10s		SW	0.77	19.6	Cloudy	
Florence, Arizona	28.36	720.3	29.96	761.0	75	23.9	40	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.85	707.4			53	11.7	73	SW	4	1.8		0	0			0	0	Clear	
Fort Craig, New Mexico	25.48	647.2	29.55	750.6	65	18.3	35	NW	5	2.2		5c	0	S		0	0	Fair	
Fort Davis, Texas	25.17	639.3	30.13	765.3	68	20.0	65	E	3	1.3			10c		Calm	0.30	7.6	Cloudy	
Fort Gibson, Indian Ter	29.34	745.2	29.85	758.2	82	27.8	67	S	4	1.8		10cs	0	S		0	0	Cloudy	
Fort Grant, Arizona	25.26	741.6	30.06	763.5	69	20.6	39	NW	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.88	758.9	76	24.4	69	Calm	0	0		0	8s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.35	694.7			56	13.3	80	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.70	703.6	29.54	750.3	71	21.7	71	SE	8	3.6		5c	0	Calm		0	0	Fair	
Fort St. Michael, Alaska	29.52	749.8	29.55	750.6	43	6.1	91	S	17	7.6		0	5ks		S	0	0	Fair	
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.68	728.5	29.72	754.9	79	26.1	70	SE	4	1.8		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.07	713.0			58	14.4	76	SW	2	0.9		4k	0	SW		0	0	Fair	
Fort Verde, Arizona					60	15.6	20	W			1	5k	0	W		0	0	Fair	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.23	717.0	29.73	755.1	70	21.1	53	S	10	4.5		0	5ks		Calm	0	0	Fair	
Galveston, Texas	29.93	760.2	29.97	761.2	81	27.2	70	S	4	1.8		5k	0	SE		0	0	Fair	
Graham, Texas	28.83	732.3	29.83	757.7	79	26.1	70	S	4	1.8		7cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.31	744.5	29.92	760.0	80	26.7	62	SW	12	5.4		2c	2s	NW	Calm	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	28.97	735.8	29.86	758.4	77	25.0	82	SE	8	3.6		0	5s		Calm	0	0	Fair	
Indianapolis, Indiana	29.24	742.7	29.97	761.2	77	25.0	63	S	6	2.7		5cs	0	Calm		0	0	Fair	
Indianola, Texas	29.43	760.2	29.96	761.0	84	28.9	75	S	3	1.3		2k	0	S		0	0	Fair	
Jacksboro, Texas	28.81	731.8	29.88	758.9	79	26.1	62	E	8	3.6		0	8s		E	0	0	Fair	
Jacksonville, Florida	30.09	764.3	30.11	764.8	79	26.1	90	E	3	1.3		5cs	0	Calm		0	0	Fair	
Keokuk, Iowa	29.22	742.2	29.80	756.9	72	22.2	95	W	3	1.3			10n		NW	0.63	16.0	Light rain	
Key West, Florida	29.98	761.5	30.01	762.2	81	27.2	78	E	6	2.7		5k	0	E		0	0	Fair	
Kittyhawk, North Carolina	30.15	765.8	30.17	766.3	70	21.1	95	NE	5	2.2		5cs	5ks	Calm	E	0	0	Cloudy	
Knoxville, Tennessee	29.15	740.4	30.13	765.3	68	20.0	72	W	10	4.5		0	Haze			0.05	1.3	Clear	
La Crosse, Wisconsin	29.14	740.1	29.84	757.9	70	21.1	90	N	4	1.8			10s		Calm	0.42	10.7	Cloudy	
La Mesilla, New Mexico	25.98	659.9	30.14	765.5	68	20.0	56	S	1	0.4		8ck	0	Calm		0	0	Cloudy	
Laredo, Texas	29.48	748.8	29.80	756.9	84	28.9	54	S	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.03	737.3	29.82	757.4	77	25.0	73	SE	2	0.9			10s			0.47	11.9	Cloudy	
Little Rock, Arkansas																			
Los Angeles, California	29.53	750.0	29.87	758.7	61.0	16.1	82	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.51	749.5	30.04	763.0	78	25.6	57	SE	7	3.1		8c	0	Calm		0	0	Fair	
Lynchburg, Virginia	29.50	749.3	30.16	766.1	72	22.2	80	E	1	0.4		10ck	Sm'e	E	Calm	0	0	Smoky	
Madison, Wisconsin	28.92	734.6	29.85	758.2	72	22.2	95	S	4	1.8			10s		SW	0.18	4.6	Cloudy	
Marquette, Michigan	29.16	740.7	29.82	757.4	74	23.3	81	Calm	0	0			10ks		S	0.07	1.8	Cloudy	
Mason, Texas	28.32	719.3	30.00	762.0	76	24.4	64	SW	5	2.2		2cs	0	Calm		0	0	Fair	
Memphis, Tennessee	29.68	753.9	30.00	762.0	73	22.8	90	SW	4	1.8			10n		Calm	0.15	3.8	Light rain	
Milwaukee, Wisconsin	29.18	741.1	29.87	758.7	68	20.0	79	E	3	1.3		8ck	Sm'e	Calm		0	0	Cloudy	
Mobile, Alabama	29.99	761.7	30.04	763.0	81	27.2	68	SE	8	3.6		8c	2s	N	S	0	0	Cloudy	
Montgomery, Alabama	29.90	759.4	30.13	765.3	70	21.1	90	SE	3	1.3			10n		Calm	0.96	24.4	Light rain	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.13	739.9	30.08	764.0	78	25.6	61	Calm	0	0		0	0			0	0	Clear	
Mt. Washington, N. H.	24.16	613.6	30.52	775.2	58	14.4	47	S	3	1.3		2c	0	Calm		0	0	Clear	
Nashville, Tennessee	29.54	750.3	30.05	763.3	74	23.3	59	SE	9	4.0		10cs	0	S		0	0	Cloudy	
New Haven, Connecticut	30.12	765.0	30.23	767.8	68	20.0	90	E	2	0.9		0	8s;Hz		Calm	0	0	Cloudy	
New London, Connecticut	30.21	767.3	30.26	768.6	73	22.8	76	SE	3	1.3		6ck	1ks	SE	SE	0	0	Fair	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	77	25.0	77	SE	4	1.8		5c	0	Calm		0	0	Fair	
Newport, Rhode Island	30.20	767.1	30.25	768.3	73	22.8	50	SE	2	0.9		2ck	0	Calm		0	0	Clear	
New York, New York	30.06	763.5	30.23	767.8	71	21.7	90	E	6	2.7			Fog		E	0	0	Foggy	
Norfolk, Virginia	30.13	765.3	30.19	766.8	74	23.3	76	SE	2	0.9			10s		E	0	0	Cloudy	
North Platte, Nebraska	27.10	688.3	29.59	751.6	61	16.1	77	E	12	5.4		5k	5s	SW	SE	Inap	Inap.	Cloudy	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	53.0	11.7	93	SW	1	0.4		8ck	0	SW		0.02	0.5	Cloudy	
Omaha, Nebraska	28.80	731.5	29.84	757.9	70	21.1	80	Calm	0	0		0	2s		Calm	0.36	9.1	Clear	
Oswego, New York	29.81	757.2	30.12	765.0	75	23.9	72	S	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	28.94	735.1	29.75	755.6	53	11.7	80	SW	10	4.5		0	0			0	0	Clear	
Philadelphia, Pa.	30.14	765.5	30.19	766.8	69	20.6	85	S	4	1.8		10cs	0	Calm		0	0	Cloudy	
Phœnix, Arizona	28.62	726.9	30.34	770.6	74	23.3	25	W	1	0.4		0	2ks		Calm	0	0	Fair	
Pike's Peak, Colorado	17.94	454.7	30.16	766.1	33	0.6	32	SW	26	11.6		5k	0	SW		0	0	Fair	
Pioche, Nevada					57	13.9	10	SW	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.31	744.5	30.09	764.3	75	23.9	60	E	6	2.7		0	0			0	0	Clear	
Port Huron, Michigan	29.35	745.5	29.98	761.5	75	23.9	64	S	7	3.1		10c	Haze	Calm		0	0	Cloudy	
Portland, Maine	30.17	766.3	30.22	767.6	69	20.6	80	S	4	1.8		0	0			0	0	Clear	
Portland, Oregon	30.02	762.5	30.10	764.5	57.0	13.9	89	N	1	0.4			10s		W	0.08	2.0	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	57	13.9	41	W			1	0	0			0	0	Clear	
Pilot Point, Texas	29.07	738.4	29.85	758.2	76	24.4	72	SE	10	4.5		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.02	762.5	30.03	762.7	76	24.4	73	E	11	4.9		2cs	0	W		0	0	Fair	
Red Bluff, California	29.46	748.3	29.80	756.9	70	21.1	44	N	6	2.7		0	0			0	0	Clear	
Rio Grande City, Texas	29.73	755.1	29.94	760.5	78	25.6	78	E	6	2.7		0	0			0	0	Clear	
Rochester, New York	29.49	749.0	30.08	764.0	76	24.4	64	SW	7	3.1		0	Haze			0	0	Clear	
Roseburg, Oregon	29.52	749.8	30.09	764.3	57	13.9	84	N	4	1.8			10s		Calm	0	0	Cloudy	
Sacramento, California	29.71	754.6	29.79	756.7	62	16.7	67	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.88	758.9	71	21.7	90	S	6	2.7			10s		Calm	0.19	4.8	Cloudy	
St. Marks, Florida	30.07	763.8	30.08	764.0	75	23.9	81	SE	4	1.8		2cs	2s	Calm	Calm	0	0	Fair	
St. Paul, Minnesota	29.95	737.9	29.84	757.9	69	20.6	75	NW	4	1.8		0	0			0.17	4.3	Clear	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	57	13.9	41	Calm	0	0			10ks		W	0	0	Cloudy	
San Antonio, Texas	29.26	743.2	29.82	757.4	75	23.9	77	Calm	0	0		0	0			0	0	Clear	
San Diego, California	29.83	757.7	29.90	759.4	59	15.0	82	NE	1	0.4			10s			0	0	Cloudy	
Sandusky, Ohio	29.37	746.0	30.00	762.0	77	25.0	61	S	10	4.5		Haze	0	Calm		0	0	Clear	
Sandy Hook, New Jersey	30.18	766.6	30.22	767.6	63	17.2	100	E	6	2.7			Fog		Calm	0	0	Foggy	
San Francisco, California	29.76	755.9	29.82	757.4	53	11.7	86	W	7	3.1		0	Fog		W	0	0	Clear	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	60	15.6	29	NE	2	0.9		1c	0	E		0	0	Clear	
Savannah, Georgia	30.06	763.5	30.15	765.8	77	25.0	77	N	2	0.9		8ck	0	Calm		0	0	Fair	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	77	25.0	77	S	2	0.9		2ck	5ks	Calm	Calm	Inap	Inap.	Fair	
Silver City, New Mexico	24.29	617.0	30.25	768.3	63	17.2	29	NW	4	1.8		0	2s		Calm	0	0	Fair	
Smithville, North Carolina	30.14	765.5	30.17	766.3	75	23.9	81	E	5	2.2		0	8s		Calm	Inap.	Inap.	Threatening	
Socorro, New Mexico																			
Springfield, Ill.																			
Springfield, Massachusetts	30.12	765.0	30.25	768.3	67	19.4	84	S	3	1.3			Fog			0	0	Foggy	
Stockton, Texas	29.91	683.5	29.91	759.7	75	23.9	56	SE	8	3.6			10s		SE	0	0	Cloudy	
Thatcher's Island, Mass.	30.21	767.3	30.26	768.6	62	16.7	94	SW	4	1.8			Fog			0	0	Foggy	
Toledo, Ohio	29.33	745.0	29.97	761.2	80	26.7	55	S	2	0.9		5c	0	N		0	0	Fair	
Tucson, Arizona					80	26.7	40	Calm	0	0		0	0			0	0	Clear	
Umatilla, Oregon	29.65	753.1	30.14	765.5	57.0	13.9	75	Calm	0	0			10s		W	0	0	Cloudy	
Uvalde, Texas	29.02	737.1	29.81	757.2	76	24.4	77	S	2	0.9		2c	0	NE		0	0	Clear	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	74	23.3	81	S	4	1.8			10s		S	0	0	Cloudy	
Virginia City, Montana	24.24	615.9	29.73	755.1	48	8.9	43	W	2	0.9		0	5s		W	0	0	Fair	
Visalia, California	29.40	746.7	29.76	755.9	57	13.9	66	E	2	0.9		0	0			0	0	Clear	
Washington, D. C.	30.07	763.8	30.18	766.6	70	21.1	85	E	2	0.9			10s;fg		Calm	0	0	Cloudy	
Wickenburg, Arizona					57	13.9	58	SE			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	77	25.0	82	Calm	0	0		10k	0	SE		1.06	26.9	Cloudy	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	53	11.7	42	E	4	1.8		0	0			0	0	Clear	
Wood's Holl, Mass.	30.22	767.6	30.26	768.6	72	22.2	75	SE	3	1.3		2ck	0	Calm		0	0	Clear	
Yankton, Dakota	28.73	729.7	29.98	761.5	63	17.2	83	Calm	0	0		5c	0	W		0.11	2.8	Fair	
Yuma, Arizona	29.58	751.3	29.74	755.4	71	21.7	58	W	1	0.4		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	81	27.2	78	Calm	0	0		0	0			0.19	4.8	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.22	640.6			68.0	20.0	80	Calm			0	3k	2ks			0	0		Thomas Herran.
Navassa, W. I.	29.91	759.7	29.99	761.7	80	26.7	82	E										Rainy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	82	27.8	79	NE			2	4ck	5k	E		0	0		O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.855 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.06‡	763.5‡			80	26.7	78	SE	13	5.8			5		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.83‡	757.7‡			78	25.6	82	SW			2		2k; hz		W	0	0			Fair	
Adams, N. 16° 24,′ W. 99° 12′	29.81‡	757.2‡			80	26.7	96	NW			3		5		NW			Smooth		Fair	
Alaska, San Francisco, Cal	29.81‡	757.2‡			52	11.1	100	Calm			0					0	0			Blue sky	
Alliance, Havre, France	29.67‡	753.6‡			57	13.9	75	WNW			2		8							Threatening	
Ashuelot, Nagasaki, Japan	29.91‡	759.7‡			77	25.0	95	SSW			4		8		SSW			Smooth		Fair	
Colorado, New York, N. Y.	30.25‡	768.3‡			68	20.0	95	NNE	1	0.4			10			0	0			Overcast	
Constellation, N. 36° 56,′ W. 75° 59′	30.25‡	768.3‡			71.2	21.8	90	Calm			0		10		Calm	0	0			Overcast	
Constitution, League Island, Penn	30.10‡	764.5‡			71	21.7	95	E			1		10		Calm					Cloudy	
Despatch, N. 34° 40′, W. 70° 05′	30.18‡	766.6‡			74	23.3	95	SSE			2		8		SW	5h'rs	5 h'rs	Light	SE	Cloudy	
Enterprise, Cux Haven, Germany	29.68‡	753.9‡			65	18.3	58	W			3		4		W					Clear	
Franklin, Norfolk, Va	30.12‡	765.0‡			74	23.3	81	Calm	0	0			8			0	0			Cloudy	
Hartford, Montevideo, Uruguay	29.87‡	758.7‡			51	10.6	86	S	9	4.0			10		S	1.10	27.9	Rough	S	Cloudy	
Kearsarge, New York, N.Y.	30.22‡	767.6‡			69	20.6	90	SE			2		10							Misty	
Marion, N. 33° 07′, W. 77° 19′	30.14‡	765.5‡			79	26.1	78	E			0–1		10		Calm			Smooth	SE	Cloudy	
Michigan, Erie, Pa	30.01‡	762.2‡			80	26.7	62	SW			4		0							Clear	
Monocacy, Shanghai, China	29.84‡	757.9‡			79	26.1	86	Var.			0–1		10							Rainy	
Monongahela, Yokohama, Japan	29.75‡	755.6‡			79	26.1	86	SW			2–3		ks			0	0			D. clouds	
New Hampshire, Port Royal, S. C	30.12‡	765.0‡			77	25.0	86	Calm	0	0			2		Calm	0	0			Clear	
Palos, Shanghai, China	29.84‡	757.9‡			76	24.4	100	Calm			0		10							Misty	
Passaic, Washington, D. C					70	21.1	100	NE			1		8		NE					Cloudy	
Pensacola, Iquique, Peru	30.01‡	762.2‡			60	15.6	76	Calm	0	0			10?			0	0	Smooth	SW	Clear?	
Portsmouth, New London, Conn	30.24‡	768.1‡			67	19.4	89	ESE			1		8		E	0	0	Smooth		Foggy	
Powhatan, New York, N. Y.	30.09‡	764.3‡			69	20.6	90	SSW			2		10		SW	0	0			Cloudy	
Quinnebaug, Constantinople, Turkey	29.97‡	761.2‡			75	23.9	68	Calm			0		0							Clear	
Ranger, Amoy, China	29.88‡	758.9‡			83	28.3	??	SSE			1		5		Calm			Smooth		Clear	
Richmond, Nagasaki, Japan	29.86‡	758.4‡			79	26.1	91	SW			4		10		SW			Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.90‡	759.4‡			75	23.9	90	SE			1		0			0	0			Clear	
Santee, Annapolis, Md	30.18‡	766.6‡			73	22.8	81	E			1		10		E	0	0			Overcast	
Saratoga, Off Bermuda, N. Atlantic	30.26‡	768.6‡			78	25.6	91	SSE			5		10		SE	0	0	Mod'ate	SE	Hazy	
St. Louis, League Island, Pa	30.16‡	766.1‡			70	21.1	90	ENE	2	0.9			10			0	0			Cloudy	
Trenton, Spit Head, Eng.	29.61‡	752.1‡			62	16.7	88	W			3–5		8		S;W	0	0	Smooth		Squally	
Tuscarora, N. 31° 30′, W. 116° 49′	29.87‡	758.7‡			63	17.2	89	NNW			1		10		Calm	0	0	Smooth		Overcast	
Vandalia, New York City, N. Y.	30.22‡	767.6‡			69	20.6	95	Calm			0		8		NE	0	0			Cloudy	
Wabash, Boston, Mass	30.24‡	768.1‡			74	23.3	68	SW	2	0.9			0			0	0			Hazy	
Wyoming, Venice, Italy	29.75‡	755.6‡			80	26.7	53	SSE			3–4		2		S			Smooth		Clear	
Wachusett, Morganzia, Louisiana	29.99‡	761.7‡			76	24.4	91	NE			1		8		NE					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 22° 24′, W. 110° 00′...†		29.96‡	761.0‡	68	20.0	95	W			3		4		WNW	0	Mod'ate	NW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitehurst.
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter...†		30.05‡	763.3‡	58	14.4	88	SE			1		4		SE				Foggy	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																		*	D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, Hong-Kong, China ...†		29.92‡	760.0‡	84	28.9		SE			2		k		SSE	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 49° 50′, W. 6° 27′		29.75‡	755.6‡	58.5	14.7	73	W			3		2		WNW	0	Smooth	WNW	Fair	S. Rislus, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.68‡	753.9‡				W			4		8		W				Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True Course Toward.	Barometer Reduced to Sea-Level. Inches.	Barometer Reduced to Sea-Level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 12′, W. 51° 41′		30.22‡	767.6‡	79	26.1	91	S			2		8		SW	Heavy	Slight	SW	Cloudy	Captain R. W. Sargent.
S. S. Ohio																			Wm. Shackford, Chief Officer.
S. S. Pennsylvania																			Capt. Harris.
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland, N. 50° 06′, W. 4° 15′		29.71‡	754.6‡				W	15	6.7			2		WNW		Mod'ate	W	Fair	Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.06‡	763.5‡	81	27.2	66	SSE	6	2.7			8ck		SW	0			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", N. 18° 50′, W. 64° 35′ †		30.11‡	764.8‡				ESE			5		2		ESE	0	Rough	ESE	Smoky	N. B. Foss.
Schooner Harry and Fred, N. 35° 57′, W. 70° 40′?		30.07‡	763.8‡				E	1	0.4			5		S	0	Long	SE	Fair	Capt. George Gardner.
W. D. Hilton, N. 39° —′, W. 73° —′		30.15‡	765.8‡	69	20.6		E			3				NE	Blank	Light	SE	Cloudy	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Rouen, France ‡		29.70‡	754.4‡	56	13.3	87	W			3		10		SW				Raining	Capt. P. Sandelin.
Sch'r A. A. Bowe, Capt. Beckwith, N. 42° 45′, W. 66° 54′ †		30.28‡	769.1‡				SW			2						Long	S	Foggy	L. Dunbar.
Schooner Henry Whitney, N. 34° 15′, W. 76° 02′ †		30.16‡	766.1‡	78	25.6		NNE			2						Small	E	Cloudy	Capt. Wm. Shepherd.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., BVT. ASSG'D, CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 26, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.00	761.9	76.3	24.6	71	NW			1		10			0	0	Covered	Kesxuche.
Algiers			29.99	761.8	77.4	25.2	62	NE			3		10			0	0	Covered	Tourilière.
La Calle			30.11	764.7	74.1	23.4	88	ENE			4		2			0	0	Fair	Foufrede.
Tunis																			Jacques.
Sfax			30.16	766.1															Gau.
Saida			30.02	762.4	101.3	38.5	19	SSW			5		10			0	0	Covered	Herbin.
Tebessa			30.07	763.8	92.3	33.5	27	W			2		10			0	0	Covered	Watrin.
Geriville			30.09	764.3	88.7	31.5	25	NNW			2		2			0	0	Fair	Brugnlaux.
Laghouat			30.02	762.4	105.4	40.8	23	SW			5		0			0	0	Clear	Bertrand.
Biskra			30.00	761.9	104.0	40.0	42	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.9	30.06	763.4	72.9	22.7	48	SE			2		3			Inap.	Inap.		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.9	29.93	760.1	59.2	15.1	77	WNW			4		8			0.720	18.3		Dr. Wierzbiski.
Eperies	28.99	736.4	29.84	757.9	69.8	21.0	63	NW			3		4cs;s		S	0	0		Julius Mikolik.
Gratz	28.82	731.9	30.02	762.4	72.5	22.5	39	SE			3		0			0.142	3.6		Andreas Rospini.
Hermannstadt	28.47	723.1	29.80	757.0	81.7	27.6	40	W			6		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.74	730.0	30.05	763.3	65.3	18.5		NW			2		2			0.413	10.5		Prof. C. Wagner.
Lemberg	28.84	732.5	29.8	756.9	61.9	16.6	87	NW			4		8			0.024	0.6		Dr. T Stanecki.
Pola	29.92	759.9	30.02	762.6	81.5	27.5	47	WSW			1		0			0	0		I.R.Hydrographic Office.
Szathmar	29.48	748.7	29.93	760.1	72.0	22.2	97	SW			5		2			0	0		Julius Osics, S. J.
Szegedin	29.76	755.9	30.03	762.8	69.1	20.6	58	N			4		8			0	0		Karl Stancel.
Trieste	29.93	760.2	30.03	762.8	79.9	26.6	64	W			1		2			0	0	Fair	P. Busin.
Vienna	29.36	745.8	30.00	763.5	68.7	20.4	42	W			4		2			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.40	746.7	29.49	749.0	60.0	15.6		S	20	8.9			3			0.119	2.79	Blue sky	W. Boswell.
Ardrossan	29.44	747.8	29.45	748.0	57	13.9		SSW			1		8					Overcast	Wm. McNeil & G. Carrick
Armagh, Observatory			29.38	746.2	52.9	11.6		SE	12	5.4			10					Raining	S. Call.
Bidston (Liverpool Obs)			29.50	749.3	54.4	12.4		SE	23	10.3			10					Raining	John Hartnup.
Bolton (Sharples)			29.54	750.3	51.4	10.8		SE	6	2.7			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	29.17	740.9	29.57	751.1	55.5	13.1		S			4		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	30.02	762.5	30.05	763.3	84.5	29.0		NE			3		8					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.59	751.6	29.68	753.9	55.0	12.8		S			1		10					Raining	H. Todd.
Cardington			29.65	753.1	57.0	13.9		S			3		10					Overcast	John McLaren.
Chatham, School M. E.	29.63	752.6	29.76	755.9	55.1	12.8		SW			3		10					Raining	J. Carmell, Sapper, R. E.
Donaghadee	29.41	747.0	29.46	748.3	50	10.0		SE			2		10					Overcast	J. Mac Gowan.
Dover	29.76	755.9	29.78	756.4	55	12.8		SW			4		10					Raining	J. Costello.
Falmouth, Observatory	29.46	748.3	29.68	753.9	60.0	15.6		SW			6		10					Overcast	The Staff.
Fort Napier (Natal)	27.71	703.8	30.00	762.0	73.0	22.8		E			3		0					Blue sky	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.76	755.9	29.99	761.7	82	27.8		SW			1		4					D. clouds	
Galway, Queen's College			29.34	745.2	56	13.3		SW			4		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.97	761.2	29.99	761.7	76.2	24.6		E			3		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.26	743.2	29.47	748.5	55.9	13.3		SW			1		10					Threatening	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.76	755.9	58	14.4		SSW			4		7					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.54	750.3	29.71	754.6	57.1	13.9		S			3		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.56	750.8	29.78	756.4	62	16.7		SW			4		7			Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.74	755.4	29.86	758.4	62	16.7		SW			4		6k			0.18	4.6	Fair	M. P. Moyle.
Holyhead	29.44	747.8	29.46	748.3	56	13.3		SW			5		10					Overcast	John Tilston.
Jersey	29.55	750.6	29.84	757.9	61.2	16.2		WSW			4		10					Gloomy	J. Fisher.
Kew, Observatory	29.67	753.6	29.70	754.4	57.4	14.1		S	22	9.8			10					Raining	The Met'g'l Office.
Leicester, Museum	29.37	746.0	29.62	752.3	55.0	12.8		S			4		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.96	761.0	30.03	762.7	82.0	27.8		N			1		0					Blue sky	A. King.
Nairn	29.38	746.2	29.47	748.5	54	12.2		SE			1		10					Overcast	W. D. Penny.
Nassau (Bahamas)			30.09	764.3	82.0	27.8		SE			1		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.42	747.3	29.61	752.1	55.2	12.9		S			6		10d		S	0.217	5.51	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.08	738.6	29.59	751.6	53.8	12.1		S			4		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.66	753.4	57	13.9		SW			3		10					Showery	H. E. Bellamy.
Plymouth	29.62	752.3	29.69	754.1	58.3	14.6		SW			3		10					Overcast	John Merrifield.
Prince Town	28.23	717.0	29.69	754.1	51.9	11.1		W			6		10					Drizzling	W. H. Tooker.
*Roche's Point	29.45	748.0	29.56	750.8	58	14.4		WSW			5		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.40	746.7	29.56	750.8	56	13.3		SW			6		10					Overcast	John C. Walker.
Sandwick Manse (Orkneys)			29.52	749.8	55.9	13.3		SE	12	5.4			8					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.79	756.7	29.85	758.2	83.0	28.3		SW			1		0			0	0	Blue sky	Serg't W. H. Lyne.
Sheffield	29.34	745.2	29.62	752.3	54.8	12.7		S			3		10			0.14	3.6	Raining	W. P. Cooper.
Silloth Rectory	29.46	748.3	29.49	749.0	55.2	12.9	77	SW			4		10			0.410	10.41	Raining	Francis Redford, A. M.
Stonyhurst, Observatory	29.14	740.1	29.55	750.6	52.7	11.5		SE			3		10					Raining	Rev. S. J. Perry.
Stratfield, Turgiss	29.48	748.8	29.70	754.4	57.4	14.1		SW			3		10					Raining	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.69	754.1	29.71	754.6	59	15.0		SW			7		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.44	747.8	29.47	748.5	58.9	14.9		SW	29	13.0			8					Squally	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.97	761.2	30.01	762.2	57.6	14.2	90	NW	11	4.9		6	8			0.013	0.33	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.32	744.7	44.0	6.7	87	N			2		k			0	0	Starlight	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.52	749.8	59.1	15.1		SW			2		10k			0.14	3.6	Cloudy	Andrew Gibb.
Mauritius, Observatory	30.02	762.5	30.22	767.5	72.0	22.2	65	ESE	20.5	9.2		3	2	NNW	SE	0.30	7.6	Fine	C. Meldrum.
Melbourne, Observatory	29.65	753.1	29.74	755.4	48.2	9.0	67	NNW	10	4.5			2	N		0.12	3.0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.45	748.0	56	13.3		S			3	3	3	S		0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.52	749.8	51	10.6		SE			4	10	10	E		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 30′. E. 28° 45′			29.92‡	760.0‡	78.5	25.8		NW			2		1					Blue sky	Capt. W. J. L. Wharton.
Barque Fedalma, N. 53° 30′, W. 20° 25′			29.13	739.9	55	12.8		SW			5		6			6	SW	D. clouds	Capt. H. L. Fox.
S. S. Nizam, N. 46° 23′, W. 6° 45′			29.91‡	759.7‡	63.5	17.5		SW			4		8					D. clouds	Capt. Barlow.
Agnes Wilson, N. 17° 40′, W. 87° 45′			29.84	757.9	84	28.9		E			5		6			5	ESE	Misty	Capt. H. W. Dyke.
Algeria, N. 48° 45′, W. 33° 15′			29.34	745.2	50	10.0		NNW			6		9			3	NNW	Overcast	Capt. Wm. Watson.
Astarte, N. 20° 25′, W. 38° 40′ *.			30.20‡	767.1‡	76.5	24.7		ENE			5		9					Showery	Capt. Parson.
British Peer, N. 38° 50′, W. 44° 55′			30.26‡	768.6‡	70.2	21.2		W			6		8					Raining	Capt. Greig.
Theophane, S. 32° 30′, E. 30° 50′			30.04‡	763.0‡	74.1	23.4		NE			2		0					Blue sky	Capt. Raymond.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	67.1	19.5	92	E			1	8cs				Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	58.8	14.6	75	NW			2		10					Raining	
Fanöe	29.75	755.7	29.77	756.2	59.9	15.5	81	WSW			4		5						
Godthaab (Greenland)	29.76	756.0	29.81	757.1	43.0	6.1	88	Calm			0		10					Foggy	
Stykkisholm (Iceland)	29.59	751.6	29.63	752.7	46.8	8.2	98	E			7		0						
Thorshavn (Faröe)	29.48	748.7	29.51	749.6	49.6	9.8	80	SE			2		10						
Vestervig	29.66	753.4	29.83	757.7	59 7	15.4	79	SW			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.41	747.1	29.97	761.1	61.5	16.4	89	S			2		10			0.047	1.2	Covered	Collignon, Director.
Amiens, Normal School	29.79	756.7	29.90	759.4	61.9	16.6	83	S			1		10			0	0	Covered	Bouvallet, Director.
Arras, Engin'r School	29.69	754.0	29.94	760.4	60.3	15.7	73	SW			6		10		W	0.209	5.3	Clear	Klein, Commandant.
Avignon, Normal School	30.02	762.4	30.10	764.4	81.0	27.2	33	NE			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.50	749.2	30.04	763.0	67.6	19.8	50	SW			1		8kn		SW	0.173	4.4	Very cloudy	G. Saillard, Director.
Beauvais, Normal School	29.68	753.9	29.94	760.5	64.4	18	69	S			2		10		S	0.226	5.75	Covered	Frere Eugene Marie.
Besançon, Normal School	29.21	742.0	30.08	764.1	69.1	20.6	47	S			4		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.24	742.7	30.17	766.3	76.5	24.7	37	S			3					0.31	8.		Marlot, Director.
Bourges, Normal School	29.48	748.8	30.02	762.5	68.4	20.2	73	SW			1		5	SW	SW	0.177	4.5	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.54	750.2	29.78	756.4	61.2	16.2	87	SW			4		10		SW	0.079	2.00	Misty	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.63	752.6	30.03	762.7	79.2	26.2	42	SW			3		0			0	0	Clear	September, Dir.
Caen, Normal School	29.78	756.4	29.85	758.2	63.0	17.2	83	S			4		10			0.008	0.2	Covered	Lair, Director.
Chartres, Normal School	29.39	746.5	29.95	760.6	63.5	17.5	92	S			4		9		SSW	0.51	13.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.63	757.6	30.14	765.5	68.9	20.5	57	S			4		10	W	W	0	0	Covered	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.3	30.02	762.6	72.1	22.3	28	E			1		2		W	0.047	1.2		Alluard, Director.
Commercy, Normal School	29.19	741.3	30.02	762.5	66.4	19.4	54	W			3		8kn		W	0.16	4.	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	29.03	737.3	30.17	766.3	78.1	25.6	31	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.36	745.7	30.11	764.7	72.3	22.4	47	W			1		0			0.012	0.30	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.81	757.1	30.02	762.5	65.1	18.4	75	SW			4		10			0.031	0.8	Covered	Mouillot, Director.
Le Mans, Normal School	29.68	753.9	29.98	761.6	60.4	15.8	91	S			4		8		S	0.134	3.4	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.19	741.3	30.09	764.2	71.8	22.1	58	SW			1		2c	W	W	0.142	3.60	Partly cl'dy.	A. Baudry, Director.
Lorient, Naval Observatory	29.82	757.5	29.92	760.0	63.0	17.2	90	SW			4				SW	0.236	6.0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin. Director.
Marseilles, Observatory	29.83	757.6	30.09	764.3	72.2	25.1	34	SW			0–1		1			0	0	Clear	E. Stephan, Director.
Mirecourt, Normal School	29.05	737.8	30.07	763.8	64.9	18.3	56	NW			1		2		NW	0.126	3.2	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.89	759.2	30.11	764.8	86.0	30	46	SW			3		1		SW	0	0	V. slightly cloudy	M. Boyer, Director.
Privas, Normal School	29.06	738.2	30.10	764.4	74.7	23.7	47	N			1	c		N	N	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.28	642.2			53.6	12.0	60	W			3		5			0.110	2.8	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.02	762.6	30.06	763.4	70.7	21.5	57	SW			2		5	W	W	0	0	½ covered	Lt. E. Decante, Director.
Rouen, Normal School	28.82	757.3	29.90	759.5	61.3	16.3	77	S			1		8		SW	0.091	2.3	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.79	756.7	29.82	757.5	68.7	20.4	72	SW			4		5	SW	SW	0.093	2.37	Cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.82	757.5	29.99	761.7	64.0	17.8	69	SSW			3				SSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.99	736.3	30.02	762.5	77.0	25	54	W			2		2	W	WSW	0	0	Slightly cl'dy	T. Huguet, Director.
Toulouse, Observatory	29.38	746.2	30.10	764.6	75.9	24.4	62	SE			1		0			0	0		M. Julier Mercadier.
Versailles, Observatory	29.48	748.9	29.98	761.4	62.2	16.8	66	SW			4					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.37	746.0	30.06	763.4	77.0	25	61	ESE			2		0			0.134	3.4	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	80.6	27										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.46	748.3	30.07	763.5	73.9	23.3	36	SE			1		0			0.089	2.25	Clear	Ch. André, Director.
Mont-Louis	24.82	630.4	30.13	765.4	64.4	18.0	46	SW	24.2	10.8			0			0	0		M. Cave.
Nice			30.04	763.1	76.3	24.6	63	SE			4		2			0	0		Dr. A. Nieper, Jr.
Paris, Montsouris Obs'y	29.70	754.3			64.2	17.9	64	SW			4		10		SW	0.083	2.1		Marié Davy, Director.
Perpignan	30.02	762.5	30.13	765.2	71.6	22.0	59	SE	11.2	5.0			2		SW	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.70	576.5			55.8	13.2		SW			1		2			0	0	Clear	Gen'l de Nansouty.
Tours	29.81	757.2	30.01	762.2	65.8	18.8	66	SSE			3		10		W	0.276	7.0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.85	758.2	29.87	758.8	75.4	24.1	97	SE	2.0	0.9		1cs				0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet; Commune de Gréasque, 322 m, or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,656.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.7	30.00	762.1	67.1	19.5	46	SW			4		7	SW		0	0		Prof. Dr. Hoh.
Berlin	29.74	755.5	29.91	759.7	67.6	19.8		SW			4		5			0.114	2.9		Prof. Dr. Arndt.
Breslau	29.43	747.4	29.95	760.8	62.4	16.9	77	W			7		5			0.504	12.81		Royal University Obs'ry.
Carlsruhe	29.63	752.6	30.05	763.2	66.9	19.4	56	SW			4		8	SW		0	0		Albert Senz.
Cassel	29.39	746.4	29.99	761.8	68.4	20.2	47	W			4		5	W		0.094	2.38		Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	69.6	20.9	46	SW			6		6k			0	0		Director Lose.
Emden			29.84	757.8	62.2	16.8	70	SW			2		10			0.094	2.4		Prof. Dr. Prestel.
Frankfort on the Main	29.67	753.5	30.03	762.7	68.9	20.5		SW			2		4			0.154	3.9		Physical Society.
Freienwalde on the Oder	29.84	757.8	29.87	758.8	66.4	19.1	58	WNW			5		3k	WNW		0.075	1.9		Dr. Assmann.
Friedrichshafen	28.66	728.0	30.07	763.8	63.7	17.6	62	WSW			3		2	W		0	0		M. Wilhelm.
Hamburg	29.81	757.2	29.88	759.0	60.3	15.7	85	WSW			6		10kn			0.087	2.2	Showery	Captain F. Hegemann.
Kiel	29.81	757.1	29.82	757.5	64.0	17.8	60	WSW			3		7			0.124	3.14		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.54	750.3	29.62	752.3	60.8	16.0	77	N			3		8			0.186	4.7		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.57	751.0	29.98	761.4	66.2	19.0	51	WSW			4		8	W		0.130	3.3		Prof. Bruhns, Privy Counsellor.
Memel	29.59	751.5	29.63	752.7	60.4	15.8	70	NW			4		10n					Squally	Skalweit.
Munich (München)	28.28	718.3	30.15	765.8	65.1	18.4	42	W			5		2			0.374	9.5	Raining	Dr. C. Larg.
Neufahrwasser	29.70	754.4	29.72	754.8	59.7	15.4	68	NNW			3		10			0.484	12.3		A. Lothes.
Posen	29.57	751.1	29.85	758.3	62.2	16.8	57	NW			6		10			0.165	4.2		Dr. Magener.
Strassburg (in Alsace)	29.53	750.1	30.07	763.7	68.4	20.2	53	S			4		6			0.189	4.79		Imp. University Observatory.
Stuttgart	29.09	738.9	30.00	762.1	68.9	20.5	42	SW			2		4	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.60	726.3	30.07	763.8	64.0	17.8	50	W	11	5			5ck		W	0.035	0.9		T. Hopfner.
Wustrow	29.81	757.1	29.83	757.7	61.2	16.2	71	WSW			5		3ks			0.059	1.5		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.93	760.2	93.2	34.0		S			2.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.34	745.2	29.39	746.4	86.6	30.3	70	WNW	19.0	8.5			5			0	0	D. clouds	
Deesa	29.00	736.6	29.47	748.5	79.6	26.4	91	S					10		SW	0.20	5.1	Drizzling	
Bombay	29.60	751.8	29.64	752.8	77.2	25.1	96	W	20.0	8.9			10		W	0.98	23.6	Raining	
Poona	27.79	705.9	29.66	753.3	73.3	22.9	88	W					10		W	1.87	47.5	Drizzling	
Lahore	28.63	727.1	29.34	745.3	90.1	32.3	62	Calm	3.7	1.6			2			0.88	22.4	Blue sky	
Belgaum	27.21	691.0	29.76	756.0	70.0	21.1	97	W	18.0	8.0			10		SW	1.14	29.0	Raining	
Roorkee	28.50	724.0	29.38	746.3	84.8	29.3	74	S	4.3	1.9			4			0.02	0.5	D. clouds	
Agra	28.84	732.4	29.39	746.5	81.7	27.6	83	SE					8		E				
Nagpur	28.47	723.2	29.51	749.6	76.9	24.9	93	WNW	8.5	3.8			9		E	1.63	41.4	Gloomy	
Lucknow	29.04	737.5	29.40	746.9	83.3	28.5	87	NW	4.0	1.8			10			0.26	6.6	Overcast	
Allahabad	29.12	739.5	29.42	747.2	85.9	29.9	78	Calm	3.2	1.4			7	S		0.04	1.0	D. clouds	
Patna	29.27	743.5	29.45	748.1	79.3	26.3	90	E	0.9	0.4			10	E	E	1.60	40.6	Drizzling	
Hazaribagh	27.49	698.3	29.49	749.1	76.0	24.4	89	WSW	6.7	3.0			10			0.12	3.0	Showery	
Cuttack	29.37	746.0	29.45	748.0	84.0	28.9	81	S	3.0	1.3			8			0.06	1.5	Drizzling	
Calcutta (Alipore)	29.45	747.9	29.47	748.5	81.7	27.6	91	SW	3.0	1.3			10	S	S	0	0	Overcast	
Goalpara	29.12	739.6	29.50	749.4	78.9	26.1	87	ESE	1.5	0.7			4		SW	0.76	19.3	D. clouds	
Chittagong	29.48	748.6	29.57	751.0	78.9	26.1	94	SSE	5.7	2.6			10			0.03	0.8	Raining	
Sibsagar	29.23	742.5	29.56	750.8	84.4	29.1	81	ENE	1.2	0.5			6			0.10	2.5	D. clouds	
Jubbulpore	28.11	713.9	29.46	748.2	79.3	26.3	89	S	5.0	2.2			9		NE	0.30	7.6	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.1	30.00	762.0	78.3	25.7	47	E	1 8	0.8			2			0	0		Prof. Giovanni Clodig.
Milan	29.49	749.1	29.99	761.7	82.8	28.2	20	SW			4		0			0	0		Prof. Schiaparelli.
Padua	29.90	759.4	30.00	762.1	80.6	27.0	37	S	1.8	0.8			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.12	739.6	29.98	761.6	79.2	26.2	29	ESE	3.8	1.7			0			0	0		Prof. P. F. Denza.
Genoa	29.87	758.8	30.06	763.5	74 5	23.6	53	SE	13.0	5.8			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.13	714.5	29.96	761.0	77.2	25.1	52	NNW			2		07	SW		0	0		Prof. D. C. Bruno.
Pesaro	29.97	761.2	30.02	762.4	79.7	26.5	36	NNE	6.3	2.8			0			0	0		Prof. Luigi Guidi.
Florence	29.84	758.0	30.09	764.3	79.7	26.5	33	W			4		0			0	0		Cav. F. Meucci.
Leghorn	29.99	761.8	30.08	763.9	77.5	25.3	71	W			4		0			0	0		Prof. P. Monte.
Rome	29.89	759.1	30.06	763.4	84.4	29.1	49	NW	6.9	3.1			0			0	0		Prof. P. S. Ferrari.
Lecce	29.79	756.7	30.04	762.9	85.1	29.5	38	ENE	18.6	8.3			1			0	0		Prof. C. De Giorgi.
Cosenza	29.17	740.9	30.01	762.2	92.1	33.4	65	NNW	4.3	1.9			0			0	0		Prof. D. Conti.
Cagliari	29.88	759.0	30.07	763.7	78.8	26.0	62	S			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.83	757.7	30.08	764.0	77.7	25.4	70	ENE	4.3	1.9			1			0	0		Prof. G. Cacciatore.
Syracuse	29.90	759.4	29.97	761.2	88.3	31 3	35	W	7.4	3.3			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.3	30.10	764.4	81.9	27.7	65	S	3.8	1.7			2			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.91	759.7	29.93	760.2	74.1	23.4	91	SW	4.5	2.0			10s;ks			0.462	11.73	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.77	756.1	29.96	761.0	72.8	22.7	95	SSW	2.2	1.0			9s			0.130	3.30	Cloudy	S. Takehayashi.
Tokei. (Yeddo) Observatory	29.83	757.7	29.90	759.4	71.2	21.8	92	ENE	5.8	2.6			10s;ck			0.055	1.40	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.05	636.3	30.03	762.7	60.8	16.0	64	SE			1	0	4		SE	0	0	Fair	Prof. L. Perez.
Leon	24.43	620.6	30.08	764.0	62.2	16.8	73	W			1	4c	0	S		0	0	Hazy	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.6	30.01	762.3	56.7	13.7	83	NW	1.1	0.5		7cs	2k			0	0	Fine	The Staff.
Pabellon (Aguascalientes)					61.3	16.3	70	NW			2	2cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.85	758.2	29.86	758.5	75.6	24.2	90	W			1	8	2	NE	W	0.26	6.6	Cloudy	Prof. M. M. Cházaro.
San Luis Potosi	24.19	614.3	30.06	763.6	64.0	17.8	65	E			1	3	0	W		0	0	Clear	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.55	572.8	30.10	764.4	59.0	15.0	60	Calm			0	1s	0			0	0	Clear	J. C. Castrillon.
Puebla (Catholic Institute)	23.39	594.0	30.15	765.8	55.6	13.1	62	Calm	0	0		8	0	E		0	0	Cloudy	Prof. P. Spina.
Colima	28.32	719.4	29.94	760.5	79.3	26.3	88	E			1	0	8		N	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.60	751.8	29.89	759.1	78.4	25.8	85	Calm			0		10		Calm	0	0	Covered	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft., Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft. San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,498 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.89	759.1	29.89	759.1	63.3	17.4		SSW								0.094	2.4		
Groningen	29.81	757.1	29.86	758.5	63.1	17.3		SW			4					0	0		
Helder	29.83	757.6	29.83	757.6	59.4	15.2		SSW			5					0.035	0.9		
Hellevoetsluis	29.87	758.6	29.87	758.6	64.0	17.8	62	S			4					0.098	2.5		
Utrecht	29.84	758.0	29.89	759.2	65.5	18.6	59	SW			4		8			0.024	0.6	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.56	750.8	29.61	752.2	54.3	12.4	77	SSE	10.3	4.6			10			0.039	1.0		
Brönø	29.50	749.3	29.54	750.3	59.0	15.0	62	NE	7	3			3			0	0		
Christiania	29.43	747.5	29.57	751.1	65.1	18.4	47	SSW	13	6			3			0.169	4.3		
Tromsö	29.50	749.3	29.54	750.4	55.8	13.2	60	NE	18	8			2			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.92	759.9	30.11	764.7	70.2	21.2	82	W	11.2	5.0			5			0	0		Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.02	762.6	82.4	28.0	22	WNW	3.8	1.7			2			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.10	764.4	30.18	766.6	71.6	22.0	67	SW	8.1	3.6			8			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.8	30.11	764.8	70.5	21.4	62	NNW	12.5	5.6			4			0	0		The Staff.
Ponta Delgada (Azores)	30.11	764.7	30.18	766.5	72.0	22.2	72	WSW	12.5	5.6			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.03	762.8	79.2	26.2		SSW			3		10		SSW	1		Overcast	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.00	762.0	62.6	17.0		NW			3		6		NW	1	NW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.04	763.0	73.0	22.8		ENE			4		5		NE	3	NE	D. clouds	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sâ da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.92	760.0	83.3	28.5		E			4		8		E	2	SE	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sâ da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.31	744.4	29.72	754.9	58.6	14.8	84	W	20	9			10n					Raining	Astronomical Obs.
Wilna	29.08	738.6	29.49	749.0	57.7	14.3	96	NW	9	4			10					Raining	Astronomical Obs.
Dorpat	29.26	743.3	29.50	749.3	57.0	13.9	90	N	7	3			10n					Thunder-storm.	Prof. Dr. Weihrauch.
St. Petersburg	29.50	749.3	29.52	749.7	63.9	17.7	78	E	9	4			10n						Central Physical Obs.
Kieff	28.89	733.9	29.47	748.6	89.6	32.0	31	S	18	8			9k;ks;cn]						Physical Cabinet.
Nikolaiev	29.76	755.8	29.83	757.6	86.9	30.5	41	S	31	14			0						Kurdakof.
Kertch																			Lagorio.
Moscow	29.14	740.1	29.66	753.3	73.9	23.3	71	S	7	3			8ks						Meteorological Obs.
Lugan	29.56	750.8	29.75	755.6	93.2	34.0	31	SW	13	6			5						Meteorological Obs.
Archangel	29.60	751.9	29.62	752.4	66.9	19.4	61	Calm	0	0			8ks						Capt. Sselliwerstow.
Tiflis	28.47	723.2	29.81	757.1	82.8	28.2	43	SE	4	2			5k						Physical Observatory.
Astrakhan	29.90	759.5	29.82	757.4	85.5	29.7	35	NNE	7	3			0						Capt. Wisganow.
Krotkowo*	29.35	745.6	29.80	756.9	74.8	23.8	43	N	7	3			6k						Cand. Fatjanow.
Kasan	29.47	748.5	29.72	754.9	73.8	23.2	47	WSW	4	2			5						Physical Cabinet.
Ekaterinburg	28.71	729.2	29.64	752.9	60.3	15.7	92	WSW	9	4			10n					Raining	Meteorological Obs.
Nukuss	29.63	752.6	29.85	758.2	89.6	32.0	45	NNW	4	2			9sn						
Tashkend	28.03	712.0	29.48	748.7	89.2	31.8	52	Calm	0	0			0						Teich, A. M.
Barnaul	29.19	741.4	29.67	753.5	70.3	21.3	46	SE	4	2			8					Light clouds	Meteorological Obs.
Yeniseisk	29.45	747.9	29.72	754.9	69.3	20.7	57	SE	2	1			1						Marks.
Irkutsk																			
Peking (China)	29.54	750.4	29.69	754.0	84.0	28.9	65	Calm	0	0			2ks						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.80	756.9	29.90	759.4	56.5	13.6	98	SE	7	3			10k					Raining	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, L. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	30.03	762.7	30.13	765.3	74.5	23.6	58	SSE	4.0	1.78			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.1	30.06	763.5	77.7	25.4	71	NW	2.6	1.17			0			0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.3			78.1	25.6	38	SW	6.1	2.71			0			0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Oservatory	27.85	707.5	29.95	760.8	89.6	32.0	28	SW	6.7	3.00			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.88	759.0	30.02	762.6	84.4	29.1	53	E	6.7	3.00		2	3	NE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.12	739.7	30.01	762.3	61.0	16.1	94	SW	12.5	5.6			10			0.075	1.9	Misty	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.7	30.05	763.3	75.1	23.9	88	Calm	0	0		9ck;cp	1ks	NNE		2.860	72.4	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	758.0	29.89	759.3	83.5	28.6	79	NE	0.7	0.3		4ck	3s	W	E	0.236	6.0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.6	30.00	762.0	79.5	26.4	59	NW	11.5	5.1		1	0	W		0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I	30.02	762.6	30.11	764.9	84.2	29.0	78	E	13.0	5.83		3c	3k	E	E	0.709	18.00	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	29.60	751.8	29.64	752.8	58.6	14.8	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.53	750.0	29.58	751.3	56.8	13.8	82	S	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.50	749.4	29.56	750.7	59.7	15.4	85	SSE	.....	.....	4	.....	5	.....	.....	0.217	5.5	.....	
Stockholm	29.44	747.8	29.62	752.3	66.6	19.2	45	W	.....	.....	2	.....	8	.....	.....	0	0	.....	
Wisby	29.58	751.4	29.64	752.9	57.6	14.2	90	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.51	749.6	29.59	751.5	66.7	19.3	52	WSW	8.3	3.7	.....	.....	4	S	W	0	0	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 38° 17′, E 0° 48′	.....	.....	30.17	766.4	75.4	24.1	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	D. clouds	Capt. M. von Krusenstiernd.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.48	723.5	30.08	763.9	68.7	20.4	50	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, — mm.; Thermometer, — Cent.; Relative Humidity, —per cent

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.3	87.8	30.7	28	S	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.96	761.0	102.2	39.0	.....	NW	.....	.....	6	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.0	88.3	31.3	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.63	752.6	29.74	755.4	89.2	31.8	66	SW	.....	.....	3	.....	2s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.69	754.1	29.98	761.5	71	21.7	.....	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	W. R. Bigg.
Chatham, N. B	30.06	763.5	30.12	765.0	54	12.2	87	NE	4	1.8	.....	.....	10s	.....	NE	0.33	8.4	Cloudy	G. A. Blair
Charlottetown, P. E. Island	30.05	763.3	30.09	764.3	65	18.3	91	SW	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.91	759.7	72.5	22.7	85	W	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.95	760.7	30.11	764.8	49.7	9.8	85	E	.....	.....	1	.....	10ks	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.99	761.7	30.01	762.2	46	7.8	95	SW	8	3.6	.....	.....	Fog	.....	W	0	0	Foggy	J. McWilliams.
Fredericton, N. B	30.04	763.0	30.10	764.5	57.1	13.9	94	NE	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy	Prof. Harrison.
*Fort Garry, Manitoba	28.95	735.3	29.75	755.6	56	13.3	93	W	5	2.2	.....	5k	5ks	W	W	0.050	1.27	Cloudy	James Stewart.
Granton, Ontario	28.92	734.6	29.96	761.0	75	23.9	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.05	763.3	30.16	766.1	73	22.8	81	NW	3	1.3	.....	5ck	2ks	NW	NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.95	753.1	30.00	762.0	74.8	23.8	81	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.65	753.1	29.98	761.5	70	21.1	85	SW	7	3.1	.....	10ck	0	Calm	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.09	764.3	30.13	765.3	57.8	14.3	75	SW	4	1.8	.....	6k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.78	756.4	29.97	761.2	70	21.1	90	SW	6	2.7	.....	.....	10n	.....	.....	0.10	2.5	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29 31	744.5	29.97	761.2	75	23.9	72	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.30	744.2	30.01	762.2	75.5	24.2	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.34	745.2	30.00	762.0	72	22.2	95	SW	5	2.2	.....	5c	0	N	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.11	764.8	30.16	766.1	55.0	12.8	.....	SE	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.00	762.0	73	22.8	90	SW	8	3.6	.....	5ck	Haze	W	.....	0	0	Fair	M. Payne.
*Quebec, Quebec	29.72	754.9	30.04	763.0	54	12.2	90	NE	.....	.....	3	.....	10n	.....	NE	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.51	749.5	29.95	760.7	67	19.4	82	W	2	0.9	.....	5ck	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.03	762.7	30.08	764.0	60	15.6	87	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.96	761.0	30.12	765.0	54	12.2	100	S	10	4.5	.....	.....	Fog	.....	.....	0.01	0.3	Dense fog	G. Murdock, C. E.
*Saugeen, Ontario	29.28	743.7	29.96	761.0	73	22.8	80	W	2	0.9	.....	0	Haze	.....	.....	0.02	0.5	Clear	K. Stewart.
Stayner, Ontario	29.21	741.9	29.95	760.7	75	23.9	81	SE	3	1.3	.....	5k	0	S	.....	0.05	1.3	Cloudy?	R. J. Cole.
Stratford, Ontario	28.75	730.2	29.96	761.0	72.8	22.7	80	SW	6	2.7	.....	2c;cs	0	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.14	765.5	30.17	766.3	61	16.1	71	SE	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.62	752.3	29.99	761.7	72	22.2	80	SW	6	2.7	.....	2cs	Haze	.....	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	30.02	762.5	30.12	765.0	74.0	23.3	51	SW	7	3.1	.....	0	8k	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.14	765.5	30.38	771.6	48.0	8.9	56	E	.....	.....	.....	10k?	10s?	.....	.....	Blank	Blank	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.08	764.0	70	21.1	80	S	3	1.3			10s		S	0	0	Cloudy	
Alpena, Michigan	29.34	745.2	29.96	761.0	67	19.4	95	S	4	1.8			8s		SE	0.45	11.4	Cloudy	
Atcha, Aleutian Is., Alaska					41	5.0	100	NW			4		10s		NW	0	0	Cloudy	
Atlanta, Georgia	29.04	737.6	30.14	765.5	73	22.8	67	S	6	2.7		5k	Haze	Calm	Calm	Inap.	Inap.	Fair	
Atlantic City, New Jersey	30.12	765.0	30.13	765.3	68	20.0	90	SW	11	4.9		5k	0	W		0.64	16.3	Fair	
Augusta, Georgia	30.02	762.5	30.22	767.6	74	23.3	72	SE	4	1.8		Haze	0	Calm		0	0	Clear	
Baltimore, Maryland	30.09	764.3	30.14	765.5	73	22.8	76	SW	8	3.6		5ck	Sm'e	Calm	Calm	0.42	10.7	Fair	
Barnegat, New Jersey	30.12	765.0	30.14	765.5	69	20.6	90	S	10	4.5		8ck	Haze	W	Calm	0.09	2.3	Fair	
Bismarck, Dakota	28.14	714.7	29.99	761.7	53	11.7	79	W	10	4.5		0	0			0.02	0.5	Clear	
Boerne, Texas	28.54	724.9	29.79	756.7	75	23.9	86	S	3	1.3		8k	0	S		0	0	Fair	
Boise City, Idaho	27.15	689.6	30.11	764.8	56	13.3	63	Calm	0	0		0	0			0	0	Clear	
Boston, Massachusetts	29.99	761.7	30.14	765.5	69	20.6	80	SW	11	4.9			10s		SW	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.83	732.3	29.82	757.4	76	24.4	82	E	7	3.1		0	2ks		SE	0	0	Fair	
Breckenridge, Minnesota	28.82	732.0	29.78	756.4	61	16.1	88	SW	5	2.2		0	0			0.23	5.8	Clear	
Brownsville, Texas	29.86	758.4	29.90	759.4	84	28.9	71	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.33	745.0	29.99	761.7	75	23.9	72	SW	6	2.7		2ck	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona					78	25.6	29	Calm			0	2ck	0	E		0	0	Clear	
Burlington, Vermont	29.75	755.6	30.02	762.5	74	23.3	68	S	15	6.7		0	Haze		Calm	0	0	Clear	
Cairo, Illinois	29.70	754.4	30.08	764.0	73	22.8	85	S	9	4.0			10s		S	0.01	0.3	Cloudy	
Campo, California	27.35	694.7	29.92	760.0	35	1.7	80	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	77	25.0	77	NE	1	0.4		5cs;k	1ks	SW	Calm	0	0	Fair	
Cape Henry, Virginia	30.18	766.6	30.20	767.1	73	22.8	81	S	7	3.1		0	2s		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.20	767.1	30.21	767.3	78	25.6	69	NE	4	1.8		2k	0	W		0	0	Fair	
Cape May, New Jersey	30.11	764.8	30.14	765.5	68	20.0	90	S	14	6.3		2ck	0	W		0.53	13.5	Clear	
Castroville, Texas	29.18	741.1	29.84	757.9	81	27.2	70	SE	2	0.9		0	0			0	0	Clear	
Charleston, South Carolina	30.14	765.5	30.20	767.1	79	26.1	74	NE	3	1.3		5k	0	E		0	0	Fair	
Charlotte, North Carolina	29.36	745.7	30.14	765.5	77	25.0	64	SW	6	2.7		0	Haze		Calm	0.20	5.1	Clear	
Chattanooga, Tennessee	29.88	746.2	30.16	766.1	69	20.6	85	Calm	0	0		10ck	0	NW		0	0	Cloudy	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	49	9.4	51	W	5	2.2		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.27	743.4	29.92	760 0	72	22.2	85	S	6	2.7			10s		S	0	0	Cloudy	
Cincinnati, Ohio	29.47	748.5	30.09	764.3	75	23.9	68	SW	8	3.6		9c;k	0	NW; SW		0	0	Cloudy	
Cleveland, Ohio	29.34	745.2	30.02	762.5	75	23.9	64	SW	6	2.7		8k	0	SW		0	0	Fair	
Coleman City, Texas	28.16	715.3	29.73	755.1	81	27.2	59	SE	8	3.6		0	0			0	0	Clear	
Columbus, Ohio	29.25	742.9	30.05	763.3	75	23.9	68	SW	3	1.3		0	Sm'e		Calm	0.01	0.3	Clear	
Concho, Texas	28.05	712.5	29.64	752.8	79	26.1	62	S	7	3.1		5k	0	S		0	0	Fair	
Corsicana, Texas	29.52	749.8	29.96	761.0	77	25.0	73	S	5	2.2		5ck	0	Calm		0	0	Fair	
Davenport, Iowa	29.27	743.4	29.87	758.7	72	22.2	90	SW	4	1.8			10s		Calm	0.03	0.8	Cloudy	
Deadwood, Dakota	25.43	645.9			53	11.7	67	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.80	731.5	29.90	759.4	78	25.6	73	S	12	5.4		0	0			0	0	Clear	
Denison, Texas	29.16	740.7	29.92	760.0	78	25.6	78	S	8	3.6		2c	0	SW		Inap.	Inap.	Fair	
Denver, Colorado	24.87	631.7	30.09	764.3	54	12.2	65	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	28.92	734.6	29.75	755.6	72	22.2	90	SE	4	1.8			10s		SE	0.08	2.0	Cloudy	
Detroit, Michigan	29.35	745.5	29.99	761.7	74	23.3	72	SW	6	2.7		5cs	0	W		0	0	Fair	
Dodge City, Kansas	27.34	694.4	29.53	750.0	68	20.0	84	E	16	7.2		1c	2ks	W	SE	0.38	9.7	Fair	
Dubuque, Iowa	29.16	740.7	29.82	757.4	73	22.8	81	E	5	2.2			10s		Calm	0.02	0.5	Cloudy	
Duluth, Minnesota	29.17	740.9	29.83	757.7	57	13.9	87	NE	6	2.7			10n		NE	0.12	3.0	Light rain	
Eagle Pass, Texa	29.16	740.7	29.85	758.2	79	26.1	74	SE	4	1.8		0	0			0	0	Clear	
Eastport, Maine	30.04	763.0	30.10	764.5	55	12.8	87	S	11	4.9			Fog		S	0	0	Foggy	
Edinburg, Texas					80	26.7	82	S			1	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.20	665.5			71	21.7		Calm	0	0		1c	2s	W	W	0	0	Fair	
Erie, Pennsylvania	29.33	745.0	30.00	762.0	78	25.6	65	SW	7	3.1		2c	0	W		0	0	Fair	
Escanaba, Michigan	29.29	744.0	29.92	760.0	64	17.8	94	E	3	1.3			Fog		E	0.25	6.3	Foggy	
Florence, Arizona	28.39	721.1	29.99	761.7	85	29.4	29	SW	1	0.4		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.95	709.9			48	8.9	77	W	8	3.6		5cs	0	NW		Inap.	Inap.	Fair	
Fort Craig, New Mexico	25.61	647.9	29.57	751.1	69	20.6	43	Calm	0	0		2k	2s	Calm	Calm	0	0	Fair	
Fort Davis, Texas	25.21	640.3	30.17	766.3	69	20.6	70	NE	3	1.3		5c	0	Calm		0	0	Fair	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	81	27.2	70	SE	5	2.2		2c	0	E		0	0	Fair	
Fort Grant, Arizona	25.26	641.6	30.06	763.5	69	20.6	48	NE	4	1.8		5k	0	W		0.08	2.0	Fair	
Fort Griffin, Texas	28.69	728.7	29.90	759.4	73	22.8	81	Calm	0	0		0	5s		Calm	0	0	Fair	
Fort Keogh, Montana	27.46	697.5			55	12.8	68	NW	1	0.4		0	0			0	0	Clear	
Fort McKavett, Texas	27.71	703.8	29.53	750.0	74	23.3	72	S	8	3.6		5c	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	29.49	749.0	29.53	750.0	43	6.1	100	SW	17	7.6			10n		SW	0.05	1.3	Raining	
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.70	729.0	29.74	755.4	76	24.4	73	SE	11	4.9		5ck	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	28.08	713.2			52	11.1	79	W	12	5.4		1c	0	Calm		0.48	12.2	Fair	
Fort Verde, Arizona					70	21.1	24	N			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.24	717.3	29.73	755.1	75	23.9	77	S	4	1.8		0	8ks		Calm	0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	761.7	82	27.8	79	SE	7	3.1		8ck;k	0	NW;E		0	0	Fair	
Graham, Texas	28.85	732.8	29.84	757.9	79	26.1	70	S	4	1.8		0	0			0	0	Clear	
Grand Haven, Michigan	29.33	745.0	29.94	760.5	76	24.4	73	S	12	5.4		0	5s		S	0	0	Fair	
Helena, Montana																			
Henrietta, Texas	28.95	735.3	29.84	757.9	76	24.4	82	S	7	3.1		2c	0	Calm		0	0	Fair	
Indianapolis, Indiana	29.27	743.4	30.02	762.5	72	22.2	80	S	7	3.1			10s		Calm	0	0	Cloudy	
Indianola, Texas	29.97	761.2	30.00	762.0	81	27.2	78	SE	3	1.3		0	2ks		SE	0	0	Fair	
Jacksboro, Texas	28.78	731.0	29.86	758.4	81	27.2	63	SE	8	3.6		0	0			0	0	Clear	
Jacksonville, Florida	30.16	766.1	30.18	766.6	78	25.5	73	E	3	1.3		2cs	0	W		0	0	Fair	
Keokuk, Iowa	29.26	743.2	29.84	757.9	72	22.2	95	SE	6	2.7			10n		SW	0.10	2.5	Light rain	
Key West, Florida	30.03	762.7	30.06	763.5	80	26.7	82	SE	6	2.7		8k	0	E		0.16	4.1	Cloudy	
Kittyhawk, North Carolina	30.19	766.8	30.21	767.3	73	22.8	85	W	5	2.2		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.22	742.2	30.20	767.1	68.5	20.3	79	SW	1	0.4		2k	8ks	SW	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.10	739.1	29.79	756.7	72	22.2	85	Calm	0	0		8k	0	Calm		0.05	1.3	Fair	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	71	21.7	45	Calm	0	0		2ck	0	W		0	0	Clear	
Laredo, Texas	29.52	749.8	29.84	757.9	80	26.7	55	SE	4	1.8		0	0			0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	74	23.3	72	S	3	1.3			10ks		SW	0.05	1.3	Threatening	
Little Rock, Arkansas																			
Los Angeles, California	29.60	751.8	29.93	760.2	59 0	15.0	82	NW	2	0.9			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.54	750.3	30.08	764 0	72	22.2	76	S	7	3.1			10s;sm'		Calm	0.01	0.3	Cloudy	
Lynchburg, Virginia	29.50	749.3	30.16	766.1	75	23.9	76	NW	2	0.9		1cs	Haze	N	Calm	Inap.	Inap.	Clear	
Madison, Wisconsin	28.90	734.0	29.83	757.7	72	22.2	85	SE	8	3.6		0	5s		SW	0	0	Fair	
Marquette, Michigan	29.22	742.2	29.89	759.2	67	19.4	64	NE	4	1.8		10c	0	N		0.48	12.2	Cloudy	
Mason, Texas	28.35	720.1	30.02	762.5	77	25.0	69	SE	3	1.3		0	0			0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.07	763.8	71	21.7	100	SE	6	2.7			10n		Calm	0.92	23.4	Light rain	
Milwaukee, Wisconsin	29.20	741.7	29.90	759.4	65	18.3	89	SE	7	3.1			Fog			0.17	4.3	Foggy	
Mobile, Alabama	30.06	763.5	30.11	764.8	76	24.4	86	NE	4	1.8			10s		E	0.04	1.0	Cloudy	
Montgomery, Alabama	29.93	760.2	30.16	766.1	75	23.9	76	NE	4	1.8		0	2s		Calm	0.31	7.9	Clear	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Upper 0—10	Lower 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.14	740.1	30.08	764.0	79	26.1	62	W	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	24.03	610.4	30.39	771.9	67	13.4	85	SW	12	5.4	.....	2c	5ks	Calm	SW	0	0	Clear	
Nashville, Tennessee	29.62	752.3	30.14	765.5	72	22.2	80	SE	3	1.3	.....	.....	10ks	.....	S	0.01	0.3	Cloudy	
New Haven, Connecticut	30.01	762.2	30.13	765.3	70	21.1	85	S	7	3.1	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
New London, Connecticut	30.12	765.0	30.16	766.1	67	19.4	89	SW	9	4.0	.....	.....	9s	.....	SW	0.02	0.5	Cloudy	
New Orleans, Louisiana	29.99	761.7	30.05	763.3	81	27.2	74	E	4	1.8	.....	2cs	1ks	Calm	Calm	0	0	Fair	
Newport, Rhode Island	30.13	765.8	30.18	766.6	68	20.0	90	S	6	2.7	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
New York, New York	29.97	761.2	30.14	765.5	67	19.4	94	SW	8	3.6	.....	.....	10ks	.....	E	0.12	3.0	Cloudy	
Norfolk, Virginia	30.14	765.5	30.20	767.1	79	26.1	70	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
North Platte, Nebraska	27.09	688.1	29.60	751.8	59	15.0	94	NW	3	1.3	.....	0	0	.....	.....	1.09	27.7	Clear.	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	54.5	12.5	93	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Omaha, Nebraska	28.70	729.0	29.74	755.4	67	19.4	84	NW	4	1.8	.....	.....	10s	.....	SW	0.24	6.1	Cloudy	
Oswego, New York	29.70	754.4	30.01	762.2	73	22.8	81	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.88	733.5	29.69	754.1	51	10.6	93	W	10	4.5	.....	0	5s	.....	SW	0.12	3.0	Fair	
Philadelphia, Pa.	30.08	764.0	30.14	765.5	71	21.7	90	SW	10	4.5	.....	5k	Haze	SW	Calm	0.71	18.0	Fair	
Phœnix, Arizona	28.64	727.4	30.34	770.6	79	26.1	33	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	33	0.6	42	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	.....	.....	.....	.....	55	12.8	22	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.30	744.2	30.07	763.8	72	22.2	71	SW	6	2.7	.....	0	0	.....	.....	0.12	3.0	Clear	
Port Huron, Michigan	29.34	745.2	29.96	761.0	74	23.3	81	S	6	2.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Portland, Maine	30.06	763.5	30.11	764.8	68	20.0	84	S	12	5.4	.....	5k	5s	SW	Calm	0	0	Cloudy	
Portland, Oregon	30.06	763.5	30.14	765.5	56.5	13.6	87	Calm	0	0	.....	0	8s	.....	N	0.01	0.3	Cloudy	
Prescott, Arizona	24.78	629.4	30.14	765.5	62	16.7	36	W	.....	.....	1	2k	0	W	.....	0	0	Fair	
Pilot Point, Texas	29.06	738.1	29.83	757.7	82	27.8	74	SE	16	7.2	.....	2k	0	S	.....	0	0	Fair	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	75	23.9	86	NE	7	3.1	.....	.....	10s	.....	W	0.28	7.1	Cloudy	
Red Bluff, California	29.47	748.5	29.81	757.2	71	21.7	41	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.77	756.1	29.98	761.5	80	26.7	74	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.40	746.7	29.98	761.5	75	23.9	72	SW	6	2.7	.....	2ck	0	SW	.....	0	0	Clear	
Roseburg, Oregon	29.54	750.3	30.11	764.8	54	12.2	87	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.74	755.4	29.82	757.4	63	17.2	67	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.40	746.7	29.96	761.0	71	21.7	90	S	14	6.3	.....	.....	10n	.....	Calm	0.23	5.8	Threatening	
St. Marks, Florida	30.14	765.5	30.15	765.8	76	24.4	77	SE	13	5.8	.....	0	9s	.....	SE	0	0	Cloudy	
St. Paul, Minnesota	28.98	736.1	29.76	755.9	67	19.4	79	NW	8	3.6	.....	2cs	8ks	Calm	SW	0	0	Cloudy	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	58	14.4	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.27	743.4	29.83	757.7	79	26.1	74	SE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
San Diego, California	29.89	759.2	29.96	761.0	63	17.2	83	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.39	746.5	30.03	762.7	74	23.3	68	SW	9	4.0	.....	10ck	0	SW	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.10	764.5	30.13	765.3	69	20.6	95	SW	16	7.2	.....	.....	10s	.....	W	0.04	1.0	Cloudy	
San Francisco, California	29.81	757.2	29.88	758.9	51	10.6	93	W	8	3.6	.....	0	Fog	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	57	13.9	41	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.12	765.0	30.21	767.3	80	26.7	74	NE	2	0.9	.....	2cs	Sm'e	E	Calm	0	0	Fair	
Shreveport, Louisiana	29.52	757.4	30.03	762.7	78	25.6	78	SE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Silver City, New Mexico	24.35	618.5	30.30	769.6	65	18.3	43	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.19	766.8	30.22	767.6	75	23.9	86	NE	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.98	761.5	30.11	764.8	68	20.0	84	S	7	3.1	.....	.....	10s	.....	S	0	0	Threatening	
Stockton, Texas	26.91	683.5	29.91	759.7	75	23.9	56	S	8	3.6	.....	5c	0	S	.....	0	0	Fair	
Thatcher's Island, Mass.	30.09	764.3	30.14	765.5	66	18.9	89	S	8	3.6	.....	2c	0	SW	.....	0	0	Clear	
Toledo, Ohio	29.34	745.2	29.99	761.7	75	23.9	72	W	4	1.8	.....	5ck	0	SW	.....	0.07	1.8	Fair	
Tucson, Arizona	27.46	697.5	30.01	762.2	75	23.9	56	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Umatilla, Oregon	29.67	753.6	30.16	766.1	55.0	12.8	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.03	737.3	29.82	757.4	75	23.9	81	Calm	0	0	.....	0	2s	.....	E	0	0	Clear	
Vicksburg, Mississippi	29.85	758.2	30.10	764.5	74	23.3	86	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Virginia City, Montana	24.24	615.7	29.72	754.9	47	8.3	62	SE	2	0.9	.....	2c	0	Calm	.....	0.02	0.5	Clear	
Visalia, California	29.46	748.3	29.83	757.7	59.5	15.3	62	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.03	762.7	30.14	765.5	73	22.8	76	SW	11	4.9	.....	5c;hz	0	Calm	.....	0.02	0.5	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	47	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.18	766.8	30.20	767.1	77	25.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	48	8.9	56	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Mass.	30.14	765.5	30.17	766.3	69	20.6	84	SW	10	4.5	.....	0	2ks	.....	SW	0	0	Fair	
Yankton, Dakota	28.62	726.9	29.85	758.2	64	17.8	78	SW	4	1.8	.....	2k	0	Calm	.....	0.12	3.0	Fair	
Yuma, Arizona	29.62	752.3	29.77	756.1	79	26.1	37	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.7	79	26.1	78	Calm	0	0	.....	10c	0	Calm	.....	2.57	65.3	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	66.5	19.2	85	Calm	.....	.....	0	5cs;k	4ks	.....	.....	0.09	2.3	.....	Thomas Herran.
Navassa, W. I.	29.92	760.0	30.00	762.0	81	27.2	74	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	81	27.2	83	SE	.....	.....	2	8cs	8ks	E	.....	0.390	9.91	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.16‡	766.1‡			81	27.2	96	SE	18	8.0			10		SE	0	0			Threatening	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.88‡	758.9‡			72.5	22.5	90	E			1		10kn		E	Slight	Slight			Light rain	
Adams. Acapulco, Mexico	29.77‡	756.1‡			83	28.3	91	Calm			0		10							Cloudy	
Alaska, San Francisco, Cal	29.87‡	758.7‡			52	11.1	93	SSW			2					0	0			Blue sky	
Alliance. Havre, France	29.87‡	758.7‡			62	16.7	83	SSW			4		10							Threatening	
Colorado, New York, N. Y	30.14‡	765.5‡			68	20.0	90	SSE	9	4.0			10		SSE	0.07	1.8			Hazy	
Constellation, N. 37° 12′, W. 74° 18′	30.27‡	768.8‡			69.8	21.0	95	S			2		2		Calm	0	0	Mod'ate	SE	Clear	
Constitution, League Island, Penn	30.04‡	763.0‡			74	23.3	100	SW			2		6†		W					Clear	
Despatch, N. 35° 23′, W. 73° 20′	30.25‡	768.3‡			76	24.4	77	W			2		8		Calm	1 h'r	1 h'r	Light	SE	Cloudy	
Enterprise, N. 56° 08′, E. 75 22′	29.73‡	755.1‡			62	16.7	77	SW			4–5		6		SW					Cloudy	
Franklin. Norfolk, Va	30.21‡	767.3‡			74	23.3	81	SSW	6.6	3.0			2		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay	30.09‡	764.3‡			48	8.9	92	WSW	6	2.7			10		W	0.05	1.3			Cloudy	
Kearsarge, New York, N.Y.	30.12‡	765.0‡			70	21.1	90	S			2–3		10							Cloudy	
Marion, N. 35° 31′, W. 75° —′	30.24‡	768.1‡			79	26.1	95	NNW			0–1		2		Calm			Smooth	SE	Clear	
Michigan, Erie, Pa	29.97‡	761.2‡			82	27.8	58	W			4		5		W					Fair	
Monocacy, Shanghai, China	29.87‡	758.7‡			78	25.6	86	SSE			1		5							Fair	
Monongahela, Yokohama, Japan	29.88‡	758.9‡			75	23.9	95	ENE			3		n			Very light	Very light			Overcast	
New Hampshire. Port Royal, S. C	30.20‡	767.1‡			78	25.6	82	NE	8	3.6			2		S	0	0			Clear	
Onward, Callao, Peru †	30.21‡	767.3‡			60	15.6	88	SE			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.85‡	758.2‡			76	24.4	100	S			1		0							Clear	
Passaic, Washington, D. C					73	22.8	90	SW			2		5		SW					Fair	
Pensacola, Iquique, Peru	30.06‡	763.5‡			60	15.6	76	SSE	1	0.4			2		SSE	0	0	Smooth	SW	Fair	
Portsmouth. New London, Conn	30.15‡	765.8‡			65	18.3	89	SSW			1		10		Calm			Smooth		Cloudy	
Powhatan, New York, N. Y.	30.08‡	764.0‡			69	20.6	96	S			2		8		Calm	0	0			Cloudy	
Quinnebaug, Constantinople, Turkey	29.90‡	759.4‡			75	23.9	72	S			1		0							Clear	
Ranger, Amoy, China	29.93‡	760.2‡			81	27.2	87	Calm			0		10		Calm			Smooth		Overcast	
Richmond, N. 33° 00′, E 129° 30′	29.90‡	759.4‡			76	24.4	91	W			1–2		10		W			Long	W	Cloudy	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			77	25.0	95	Calm			0		2			0	0			Fair	
Santee, Annapolis, Md	30.12‡	765.0‡			73	22.8	81	SW			1		2			0.18	4.6			Clear	
Saratoga, Murray, Bermuda, N. Atlan.	30.31‡	769.9‡			78	25.6	91	S			3		8		NE	0	0	Smooth		D. clouds	
St. Louis, League Island, Pa	30.12‡	765.0‡			69	20.6	95	SSW	10	4.5			8		SW	0.87	22.1			Cloudy	
Trenton, Spit Head, Eng.	29.73‡	755.1‡			58	14.4	88	WSW			5–6		10		SW	0.01	0.3	Smooth		Drizzling	
Tuscarora, N. 33° 09′, W. 118° 02′	29.93‡	760.2‡			64	17.8	89	N			2		8		Calm	0	0	Smooth		D. clouds	
Vandalia, New York City, N. Y.	30.13‡	765.3‡			68	20.0	84	SSW			2		10		S					Cloudy	
Wabash, Boston, Mass	30.14‡	765.5‡			70	21.1	80	SW	6	2.7			10			0	0			Overcast	
Wyoming, Venice, Italy	29.95‡	760.7‡			76	24.4	56	Calm			0		2		S			Smooth		Clear	
Wachusett, Miss. river at mouth of Red river.	30.01‡	762.2‡			79	26.1	86	N			1		2		N					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 20° 02′, W. 106° 12′...†		29.92‡	760.0‡	78	25.6	100	Var.			2		6		ESE	0	Small	WNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, Olympia, Washington Ter.†		30.14‡	765.5‡	54	12.2	87	Calm			0		2						Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, Hong-Kong, China ....†.		29.90‡	759.4‡	84	28.9		SSE			3		k		SSE	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 50° 39′, W. 0° 08′		29.78‡	756.4‡	57.0	13.9	87	S			6		10			2 h'rs	Smooth	SW	Drizzling	S. Rizius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.90‡	759.4‡				W			5		10		WSW				Raining	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 42° 18′, W. 45° 12′		30.08‡	764.0‡	76	24.4	91	N			5		8		NE	Light	Heavy	NNW	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.12‡	65.0‡	80	26.7	74	SE	5	2.2			8k		SE	0			Cloudy	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.10‡	764.5‡				E			6		8		E	Blank	Rough	E	Smoky	N. B. Foss.
Schooner Harry and Fred, N. 36° 44′, W. 71° 02′		30.07‡	763.8‡				Calm	0	0			2		SW	0	Long	SE		Capt. George Gardner
W. D. Hilton, Delaware Bay		30.12‡	765.0‡	70	21.1		SW			5				SW	Blank			Fair	Capt. N. B. Horner.
Nordmaklold of Sundsvall, Sweden		29.82‡	757.4‡	60	15.6	82	SW			2		10		SW				Raining	Capt. P. Sandelin.
Rouen, France†.		30.19‡	766.8‡				SSW			6				S		Long	SE	Foggy	L. Dunbar.
Schr. A. A. Rowe, Capt. Beckwith, N. 42° 47′, W. 67° 10′†.		30.28‡	767.8‡	79	26.1		Var.			1						Swell	SE	Clear	Capt. Wm. Shepherd

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog, and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 128 PEARL ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 27, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.03	762.7	73.0	22.8	81	N			2		10			0	0	Covered	Kesxuche.
Algiers			29.93	760.3	81.3	27.4	58	ENE			3		0			0	0	Clear	Tourillere.
La Calle			30.07	763.8	81.9	27.7	81	ENE			2		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.19	766.8															Gau.
Saida			30.03	762.8	97.3	36.3	24	SE			6		8			0	0	Very cloudy	Herbin.
Tebessa			30.09	764.3	100.4	38.0	17	E			1		5			0.161	4.1	Cloudy	Watrin.
Geriville			30.12	765.0	85.6	29.8	36	SE			2		5			0	0	Cloudy	Brugniaux.
Laghouat			30.04	763.1	104.0	40.0	23	E			4		0			0	0	Clear	Bertrand.
Biskra			30.06	763.4	104.0	40.0	38	SE			2		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.55	750.6	30.08	763.9	81.3	27.4	46	SE			3		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.97	761.2	72.2	22.2	69	WNW			3		8			0.026	0.7		Dr. Wierzbiski.
Eperies	29.12	739.6	29.96	760.9	76.3	24.6	48	S			2		6ks;cs		SE	0	0		Julius Mikolik.
Gratz	28.86	733.0	30.05	763.3	78.1	25.6	48	SW			3		3			0	0		Andreas Rospini.
Hermannstadt	28.71	729.3	30.09	764.2	75.9	24.4	36	NW			1		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.77	730.7	30.05	763.2	76.5	24.7		NNW			3		2			0	0		Prof. C. Wagner.
Lemberg	28.97	735.9	29.93	760.1	69.3	20.7	60	NW			2		9			0.106	2.7		Dr. T Stanecki.
Pola	29.98	761.6	30.09	764.3	81.5	27.5	61	WNW			3		0			0	0		I.R.Hydrographic Office.
Szathmar	29.61	752.0	30.05	763.3	76.3	24.6	90	SW			3		5			0	0		Julius Csics, S. J.
Szegedin	29.81	757.2	30.08	764.0	80.2	26.8	48	W			1		4			0	0		Karl Stancel.
Trieste	30.02	762.5	30.12	765.1	82.4	28.0	63	WNW			1		1			0	0	Fair	P. Busin.
Vienna	29.36	745.8	30.04	762.9	79.7	26.5	43	WSW			4		3			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.44	747.8	29.54	750.3	51.0	10.6		SSE	14	6.3			10			0.045	1.15	Raining	W. Boswell.
Ardrossan	29.38	746.2	29.39	746.5	57	13.9		S			6		9					Raining	Wm McNeil &G.Carrick
Armagh, Observatory			29.30	744.2	62.0	16.7		S	21	9.4			10					Showery	S. Call.
Bidston (Liverpool Obs)			29.59	751.6	64.7	18.2		S	25	11.2			4					Overcast?	John Hartnup.
Bolton (Sharples)			29.63	752.6	60.3	15.7		S	12	5.4			10					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.27	743.4	29.66	753.4	64.0	17.8		SW			5		10			0.21	5.3	Overcast	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	85	29.4		NE			3		3					D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.73	755.1	29.82	757.4	65.5	18.6		SW			3		10					Overcast	H. Todd.
Cardington			29.80	756.9	57.4	14.1		SW			5		10					Overcast	John McLaren.
Chatham, School M. E.	29.78	756.4	29.90	759.4	68.2	20.1		SW			6		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.53	745.0	29.37	746.0	61	16.1		SW			7		10					Overcast	J. Mac Gowan.
Dover	29.91	759.7	29.94	760.5	62	16.7		SW			3		3					¼ clouded	J. Costello.
Falmouth, Observatory	29.51	749.5	29.74	755.4	60.2	15.7		SSW			6		10					Overcast	The Staff.
Fort Napier (Natal)	27.62	701.5	29.91	759.7	71.0	21.7		E			2		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.73	755.1	29.96	761.0	87	30.6		SW			2		3					D. clouds	
Galway, Queen's College			29.22	742.2	61	16.1		SW			5		8					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.88	758.9	29.94	760.5	75.8	24.3		E			3		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.22	742.2	29.42	747.3	59.7	15.4		SSE			4		10					Raining	D. G. Maclean.
Great Yarmouth	29.85	758.2	29.86	758.4	64	17.8		SSE			4		6					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.71	754.6	29.88	758.9	66.6	19.2		SW			4		10					Overcast	The Staff, for G.B.Airy.
Guernsey	29.66	753.4	29.88	758.9	65	18.3		SSW			4		6					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.74	755.4	29.86	758.4	61	16.1		S			6		10k			0.2	5.	Gloomy	M. P. Moyle.
Holyhead	29.50	749.3	29.52	749.8	59	15.0		SSW			6		10					Misty	John Tilston.
Jersey	29.67	753.6	29.96	761.0	64.8	18.2		SSW			3		5					D. clouds	J. Fisher.
Kew, Observatory	29.83	757.7	29.87	758.7	65.5	18.6		SSW	28	12.5			10					Gloomy	The Met'g'l Office.
Leicester, Museum	29.49	749.0	29.74	755.4	65.0	18.3		SW			6		10					Overcast	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	81.0	27.2		NE			1		0					Blue sky	A. King.
Nairn	29.28	743.7	29.37	746.0	60	15.6		SE			1		10					Overcast	W. D. Penny.
Nassau (Bahamas)			30.07	763.8	76.0	24.4		SE			1		10					Drizzling	C. S. Duncombe.
Nottingham, Observatory	29.55	750.6	29.74	755.4	66.8	19.3		SSW			6		10k;d		SW	0.021	0.54	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.20	741.7	29.71	754.6	62.5	16.9		S			6		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.82	757.4	62	16.7		S			5		10					Drizzling	H. E. Bellamy.
Plymouth	29.72	754.9	29.79	756.7	59.4	15.2		SE			6		10					Gloomy	John Merrifield.
Prince Town	28.34	719.8	29.79	756.7	54.5	12.5		S			7		10					Foggy	W. H. Tooker.
*Roche's Point	29.38	746.2	29.48	748.8	57	13.9		SW			6		10					Overcast	Wm. Kennedy.
Saint Ann's Head	29.44	747.8	29.60	751.8	57	13.9		S			6		10					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.43	747.5	57.9	14.4		SE	35	15.6			10					Misty	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.92	760.0	29.98	761.5	80.8	27.1		NE			3		1			0	0	Blue sky	Serg't W. H.Lyne.
Sheffield	29.44	747.8	29.71	754.6	62.7	17.1		S			5		10			0.02	0.5	Overcast	W. F. Cooper.
Silloth Rectory	29.50	749.3	29.52	749.8	61.6	16.4	86	SW			6		10			0.136	3.45	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	29.24	742.7	29.64	752.8	60.6	15.9		SE			5		10					Misty	Rev. S. J. Perry.
Stratfield, Turgiss	29.66	753.4	29.87	758.7	62.2	16.8		S			3-4		10					Showery	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.74	755.4	29.76	755.9	61	16.1		SW			6		10					Raining	W. Newcombe.
Valencia, Observatory	29.25	742.9	29.28	743.7	59.6	15.3		S	49	21.9			10					Gloomy	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.19	766.8	30.23	767.8	57.8	14.3	61	S	7	3.1		8	5			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			29.55	750.6	45.0	7.2	78	NW			1		10kn			0.07	1.8	Light rain	FrancisAbbott,F.R.A.S.
Leith, Restalrig Park			29.47	748.5	65.0	18.3		SW			4		9k			0.16	4.1	Cloudy	Andrew Gibb
Mauritius, Observatory	30.02	762.5	30.21	767.3	72.0	22.2	75	ESE	18.0	8.0			7		ESE	0.05	1.8	Cloudy	C. Meldrum.
Melbourne, Observatory	29.90	759.4	29.99	761.7	47.0	8.3	82	NW	16	7.2			10			0.09	2.3	Threatening	R. L. J. Ellery.
Monach Lt-house(Hebrides)			29.21	741.9	54	12.2		SSE			6		10			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.57	751.1	53	11.7		SE			6	10	10	SE		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series.

Vessels.	Barometer. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 30′. E. 28° 45′			30.00‡	762.0‡	76.8	24.9		NNE			6		6					Squally	Capt. W. J. L. Wharton.
Barque Fedalma, N. 54° 15′, W. 18° 20′			28.66	728.0	55	12.8		WNW			6		9			6	Confused.	Misty	Capt. H. L. Fox.
S. S. Nizam, N 50° 20′, W. 8° 03′			29.89‡	759.2‡	58	14.4		SW			4		10					Overcast	Capt. Barlow.
Agnes Wilson, N. 20° 10′, W. 86° 55′			29.92	760.0	83	28.3		E			5		7			4	E	Misty	Capt. H. W. Dyke.
Algeria, N. 47° 00′, W. 39° 25′			29.77	756.1	52	11.1		NW			6		8	W		5	Var.	Showery	Capt. Wm. Watson.
Astarte, N. 22° 40′, W. 35° 05′ *			30.28‡	767.8‡	77.2	25.1		ENE			4		3					D. clouds	Capt. Parson.
British Peer, N. 39° 45′, W. 43° 30′			30.13‡	765.3‡	67.5	19.7		WSW			3		10					Overcast	Capt. Greig.
Theophane, S. 33° 35′, E. 29° 35′			30.05‡	763.3‡	69	20.6		SW			5		1					Blue sky	Capt. Raymond.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	68.4	20.2	91	SE			2	7cs				0.5	13.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.77	756.1	29.82	757.3	63.1	17.3	42	WNW			6		5						
Fanöe	29.87	758.7	29.89	759.2	60.8	16.0	80	WSW			6		1						
Godthaab (Greenland)	29.75	755.7	29.80	756.8	39.0	3.9	90	NNE			2		10					Foggy	
Stykkisholm (Iceland)	29.54	750.3	29.58	751.4	50.7	10.4	68	E			7		8						
Thorshavn (Faröe)	29.48	748.7	29.51	749.6	51.8	11.0	89	ESE			4		10						
Vestervig	29.79	756.6	29.96	760.9	60.1	15.6	85	W			2		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.53	750.0	30.08	764.0	70.5	21.4	80	SW			1		2		SW	0.008	0.2	Slightly cl'dy	Colignon, Director.
Amiens, Normal School	29.90	759.5	30.01	762.2	77.0	25	53	S			1		2		NE	0	0	Slightly cl'dy	Bouvallet, Director.
Arras, Engin'r School	29.76	755.9	30.01	762.3	72.5	22.5	55	SW			6				W	0	0		Klein, Commandant.
Avignon, Normal School	30.05	763.2	30.13	765.2	86.4	30.2	46	SSW			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.50	749.4	30.04	762.9	79.0	26.1	45	W			1		2cn		W	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.76	756.0	30.02	762.5	72.5	22.5	58	SSE			1		10		SW	0	0	Covered	Frere Eugene Marie.
Besançon, Normal School	29.22	742.3	30.07	763.8	83.5	28.6	50	S			1		0			0	0	Clear	A. Carré, Director.
Bourg-en-Bresse, N. School	29.25	742.9	30.19	766.7	85.5	29.7	44	SE			3					0	0		Marlot, Director.
Bourges, Normal School	29.48	748.9	30.02	762.4	76.3	24.6	57	SSW			1		2	SW	SW	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.60	751.7	29.84	757.9	63.7	17.6	81	SW			6		10		SW	0.030	0.75		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.68	753.9	30.08	764.1	77.0	25	61	E			3		5	E	E	0	0	Cloudy	September, Dir.
Caen, Normal School	29.89	759.3	29.97	761.1	74.5	23.6	76	SSW			3		2		SSW	0.110	2.8	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.47	748.4	30.01	762.2	78.8	26	69	SSW			1		2	SSW	SSW	0	0		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	756.0	30.07	763.8	77.7	25.4	52	SW			2		2	WSW	WSW	0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.69	728.7	29.95	760.8	87.8	31.0	33	N			1		2		SW	0	0		Allnard, Director.
Commercy, Normal School.	29.23	742.4	30.04	763.0	79.3	26.3	46	W			1		5k		W	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	29.06	738.1	30.20	767.1	86.0	30.0	31	W			1		2		SW	0	0		L. Kina, Director.
Grenoble, Normal School	29.36	745.7	30.10	764.4	78.4	25.8	44	SE			1		0			0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.81	757.2	29.90	759.4	77.7	25.4	53	SE			1		2		SE	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.74	755.4	30.04	763.1	72.5	22.5	59	WSW			4		0			0.063	1.6	Clear	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.20	741.7	30.09	764.2	83.3	28.5	42	S			1		0			0	0	Very clear	A. Baudry, Director.
Lorient, Naval Observatory	29.92	759.9	30.02	762.4	64.4	18.0	84	S			4				S	0.031	0.8		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.87	758.7	30.13	765.4	75.4	24.1	57	W			2		1			0	0	Partly clo'dy	E. Stephan, Director
Mirecourt, Normal School	29.07	738.3	30.07	763.7	76.0	24.8	51	NW			1		1		NW	0	0	Clear	Barbier, Director
Nismes, Normal School	29.90	759.5	30.10	764.4	85.6	29.8	53	SW			1		1		SW	0	0	V. slightly Cloudy	M. Boyer, Director.
Privas, Normal School	29.13	739.8	30.13	765.4	86.0	30	37	E			1					0	0	Clear	Cantier, Director.
Puy de Dome (Summit) Obs	25.36	644.2			64.4	18.0	48	SW			2		5			0	0	Cloudy	Allnard, Director.
Rochefort, Naval Obs'y	29.99	761.8	30.02	762.6	81.0	27.2	54	E			1		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.92	760.0	30.00	762.1	76.1	24.5	52	S			1		2		SW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.8	29.95	760.6	74.3	23.5	54	SW			6		1	SW	SW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.1	30.05	763.3	75.9	24.4	59	S			2				WSW	0	0		E. Renou, Director.
Tarbes, Normal School	28.95	735.3	29.98	761.4	78.8	26	69	W			2		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.34	745.3	30.07	763.7	78.1	25.6	67	SSE			4		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.56	750.8	30.05	763.3	73.4	23.0	52	SW			2		0			0	0	Clear	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.38	746.3	30.05	763.2	89.6	32	35	SE			3		0			0	0	Clear	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.88	759.0	29.91	759.7	82.4	28										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.47	748.5	30.05	763.3	85.6	29.8	32	SSE			2		0			0	0	Clear	Ch. André, Director.
Mont-Louis	25.08	637.0	30.39	772.0	68.0	20.0	41	SSW	15.0	6.7			0			0	0		M. Cave.
Nice			30.18	766.5	78.1	25.6	69	SSE			2		0			0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	756.0			75.9	24.4	57	S			3		0			0	0		Marié Davy, Director.
Perpignan	30.01	762.3	30.12	765.0	74.8	23.8	71	SE	7.4	3.3			7		NE	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.78	578.5			59.4	15.2		W			1		3			0	0	Clear	Gen'l de Nansouty.
Tours	29.83	757.7	30.03	762.7	77.0	25.0	54	SSW			1		1		WNW	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai).	29.85	758.1	29.87	758.7	77.9	25.5	96	SSE	1.3	0.6			2k			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–7	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.4	30.03	762.7	74.5	23.6	49	SW			2		4	W		0	0		Prof. Dr. Hoh
Berlin	29.81	757.2	29.98	761.4	70.7	21.5		S			2		6			0.110	2.8		Prof. Dr. Arndt.
Breslau	29.49	749.0	30.02	762.5	69.6	20.9	59	W			4		6			0	0		Royal University Obs'y.
Carlsruhe	29.66	753.4	30.08	763.9	77.4	25.2	57	SW			2		2	SW		0	0		Albert Senz.
Cassel	29.48	748.7	30.09	764.2	75.2	24.0	43	W			4		4	W		0	0		Dr. H. Möhl.
Crefeld	29.85	758.2	30.01	762.3	77.0	25.0	49	SW			2		5k			0.12	3.		Director Lose.
Emden			29.93	760.3	70.2	21.2	63	W			2		5			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.71	754.6	30.07	763.8	76.8	24.9		W			2		4			0	0		Physical Society.
Freienwalde on the Oder	29.89	759.2	29.93	760.2	71.8	22.1	51	W			5		7cs;k	S;W		0.161	4.1		D. Assmann.
Friedrichshafen	28.73	729.8	30.12	765.1	71.6	22.0	72	SSW			4		0			0	0		M. Wilhelm.
Hamburg	29.89	759.3	29.96	761.0	66.2	19.0	64	W			6		8k	W		0.571	14.5	Fair	Captain F. Hegemann.
Kiel	29.92	759.9	29.93	760.3	65.1	18.4	58	W			8		5			0.386	9.79		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.74	755.5	29.83	757.6	56.3	13.5	92	W			5		8			0.059	1.5		Prof. E. Luther
Köslin																			H. Müller.
Leipsic Observatory	29.63	752.5	30.03	762.8	71.1	21.7	57	W			5		7	W		0	0	Stormy	Prof. Bruhns, Privy Counsellor.
Memel	29.75	755.7	29.80	756.9	61.0	16.1	77	W			5–6		10n						Skalweit.
Munich (München)	28.34	719.7	30.21	767.3	77.2	25.1	38	W			5		8	SW		0	0		Dr. C. Larg.
Neufahrwasser	29.83	757.6	29.84	758.0	60.8	16.0	81	NW			4		9			0.220	5.6		A. Lothes
Posen	29.70	754.3	29.98	761.4	68.5	20.3	69	NW			6		7			0.024	0.6		Dr. Magener.
Strassburg (in Alsace)	29.57	751.0	30.09	764.3	81.1	27.3	48	S			2		4			0	0		Imp. University Observatory.
Stuttgart	29.15	740.3	30.04	763.0	78.4	25.8	57	N			1		5	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.65	727.6	30.10	764.4	73.2	22.9	49	WNW	4	2			6ck		WNW	0	0	Hazy	T. Hopfner.
Wustrow	29.89	759.3	29.92	759.9	64.0	17.8	70	W			5		3s			0.161	4.1		E. Schütz, Director.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 481 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.93	760.2	91.6	33.1		NE			4.0							Clear	Dr. J. F. J. Schmidt.

NOTE.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.34	745.3	29.39	746.5	86.6	30.3	66	WNW	17.0	7.6			5			0	0		D. clouds
Deesa	28.97	735.7	29.42	747.3	93.8	34.3	81	SW					3	WNW		0	0		Misty
Bombay	29.62	749.9	29.56	750.8	81.1	27.3	94	W	21.0	9.4			10		SW	0.97	24.6		Raining
Poona	27.74	704.5	29.60	751.9	72.6	22.6	94	WSW					10	Calm	WSW	1.08	27.4		Drizzling
Lahore	28.66	728.0	29.37	746.1	93.2	34.0	69	Calm	2.5	1.1			2			0	0		Blue sky
Belgaum	27.16	689.9	29.71	754.7	70.3	21.3	95	SW	10.0	4.5			10	SW	SW	2.24	56.9		Raining
Roorkee	28.53	724.6	29.40	746.9	85.8	29.9	65	SE	5.8	2.6			4			0	0		D. clouds
Agra	28.82	732.1	29.37	746.0	87.7	30.9	67	E					8		E	0	0		
Nagpur	28.44	722.3	29.47	748.6	77.5	25.3	91	SW	7.8	3.5			9		E	0.38	9.6		Gloomy
Lucknow	29.05	738.0	29.42	747.4	81.3	27.4	96	E	3.2	1.4			10			0	0		Overcast
Allahabad	29.10	739.1	29.41	746.9	82.1	27.8	91	NE	1.9	0.8			9			0.88	22.4		D. clouds
Patna	29.24	742.8	29.42	747.3	83.1	28.3	89	E	1.4	0.6			10	E	E	0.45	11.4		Overcast
Hazaribagh	27.45	697.2	29.43	747.4	79.8	26.6	83	E	5.2	2.3			10			0.02	0.5		Showery
Cuttack	29.38	746.4	29.47	748.4	80.4	26.9	87	SSW	4.0	1.8			7			0.43	10.9		D. clouds
Calcutta (Alipore)	29.41	747.0	29.43	747.5	79.8	26.6	96	SSE	1.0	0.4			7	S		0.12	3.0		Showery
Goalpara	29.13	739.9	29.52	749.7	79.3	26.3	93	ESE	5.0	2.2			6			2.51	63.8		D. clouds
Chittagong	29.45	748.1	29.54	750.4	81.9	27.7	86	ESE	6.2	2.8			9			0	0		Threatening
Sibsagar	29.22	742.3	29.56	750.7	82.2	27.9	88	SW	1.4	0.6			10	W	W	0.05	1.3		D. clouds
Jubbulpore	28.06	712.8	29.40	746.8	82.6	28.1	81	S	6.7	3.0			10		N	0.55	14.0		Overcast

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,365 ft., or 412 m.. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.71	754.5	30.10	764.4	84.2	29.0	43	S	1.8	0.8			1			0	0		Prof. Giovanni Clodig.
Milan	29.61	752.1	30.15	765.7	84.9	29.4	27	SW			2		0			0	0		Prof. Schiaparelli.
Padua	30.00	762.0	30.11	764.7	82.2	27.9	37	W	3.1	1.4			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.23	742.4	30.09	764.3	80.6	27.0	27	SSE	3.1	1.4			0			0	0		Prof. P. F. Denza.
Genoa	29.97	761.2	30.15	765.9	75.2	24.0	58	SW	4.9	2.2			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.26	717.9	30.10	764.4	78.3	25.7	28	NE			1		0			0	0		Prof. D. C. Bruno.
Pesaro	30.07	763.6	30.11	764.8	76.6	24.8	62	N	7.4	3.3			0			0	0		Prof. Luigi Guidi.
Florence	29.89	759.2	30.14	765.5	81.5	27.5	36	W			2		0			0	0		Cav. F. Meucci.
Leghorn	30.07	763.7	30.15	765.8	75.4	24.1	59	W			2		0			0	0		Prof. P. Monte.
Rome	29.93	760.1	30.10	764.4	88.7	31.5	28	N	7.4	3.3			0			0	0		Prof. P. S. Ferrari.
Lecce	29.80	756.8	30.04	763.0	81.3	27.4	45	N	16.1	7.2			0			0	0		Prof. C. De Giorgi.
Cosenza	29.19	741.3	30.02	762.6	86.9	30.5	62	NNW	1.8	0.8			0			0	0		Prof. D. Conti.
Cagliari	29.95	760.6	30.13	765.3	79.5	26.4	60	Calm	0	0			0			0	0		Prof. A. Pacinotti.
Palermo	29.87	758.6	30.11	764.9	81.0	27.2	62	ENE	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.98	761.6	30.06	763.5	77.4	25.2	50	NNW	16.1	7.2			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.3	30.10	764.4	82.0	27.8	65	ESE	4.3	1.9			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	72.4	22.4	93	Calm	0	0			0			0.175	4.44	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.81	757.2	30.00	762.0	72.4	22.4	87	SW	2.2	1.0			9s			0.030	0.76	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.89	759.2	29.96	761.0	69.0	20.6	96	E	4.4	2.0			10n			2.050	52.07	Rainy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.06	636.5	30.06	763.5	58.6	14.8	56	SE			1	0	2		Calm	0	0	Clear	Prof. L. Perez.
Leon	24.43	620.4	30.08	762.7	65.3	18.5	66	NE			1	1c	0			0	0		Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.1	30.04	763.1	56.3	13.5	81	Calm	0	0		2s	0	Calm		0.45	11.5		The Staff.
Pabellon (Aguascalientes)					63.1	17.3	57	N			2	0	0			0	0	Pleasant	M. V. de Leon, M. E
Tlacotalpam	29.85	758.3	29.87	758.6	75.4	24.1	93	NW			1		10		NE	0.36	9.2	Rainy	Prof. M. M. Chàzaro.
San Luis Potosi	24.22	615.1	30.10	764.5	64.4	18.0	60	E			1	5	0	W		0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.56	573.0	30.11	764.9	58.3	14.6	59	E			1	0	0			0	0	Pleasant	J. O. Castrillon.
Puebla (Catholic Institute)	23.40	594.4	30.17	766.2	57.2	14.0	87	NW	2.2	1.0		7cs	0	NE		Inap.	Inap	Cloudy	Prof. P. Spina.
Colima	28.32	719.3	29.93	760.3	79.7	26.5	86	E			1		10			0.02	0.5	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.59	751.6	29.88	758.9	79.0	26.1	83	SW			1	0	9		SE	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.00	762.1	30.00	762.1	70.7	21.5		SSW								0.024	0.6		
Groningen	29.93	760.1	29.98	761.5	66.9	19.4		WSW			3					0.075	1.9		
Helder	29.95	760.7	29.95	760.7	63.3	17.4		SSW			4					0	0		
Hellevoetsluis	29.98	761.6	29.98	761.6	72.5	22.5	62	SW			2					0	0		
Utrecht	29.95	760.7	30.00	761.9	72.5	22.5	60	SW			4		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.67	753.6	29.72	755.0	62.6	17.0	68	NNW	5.8	2.6			2			0	0		
Brönö	29.73	755.1	29.77	756.1	47.5	8.6	87	SW	4	2			9			0	0		
Christiania	29.56	750.7	29.70	754.3	64.8	18.2	50	NNW	2	2			5			0	0		
Tromsö	29.64	752.8	29.68	753.9	46.0	7.8	67	NE	18	8			10			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.81	757.2	30.00	762.0	66.6	19.2	70	W	11.9	5.3			2			0	0		Dr. J. A. Sampaio.
Campo Major	28.95	735.3	29.92	759.9	86.5	30.3	26	NW	3.8	1.7			10	SSW		0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.05	763.3	30.14	765.5	72.7	22.6	63	SE	3.8	1.7			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.61	752.2	29.97	761.1	73.4	23.0	54	NNW	29.8	13.3			6	SW		0	0		The Staff.
Ponta Delgada (Azores)	29.96	761.0	30.03	762.8	65.1	18.4	78	NE	1.3	0.6			10			0.091	2.3		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Portuguese Naval Series. Vessels.																			
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.06	763.5	84.2	29		SSW			2		9		SSW	0	S	Overcast	H. C. e Athayde. J. F. R. R. Bastos, Com'd't.
Mindello																			
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.05	763.2	64.8	18.2		NNW			3		10		NW	1	NNW	Overcast	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.07	763.8	76.6	24.8		E			2		3		E	1	E	D. clouds	P. de Fairia. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.93	760.2	82.4	28.0		E			3		5		E	1	E	D. Clouds, 1 hour	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.51	749.5	29.93	760.1	59.5	15.3	85	NW	4	2			10n					Raining	Astronomical Obs.
Wilna	29.35	745.4	29.75	755.7	66.0	18.9	48	W	11	5			7						Astronomical Obs.
Dorpat	29.24	742.7	29.47	748.6	67.6	19.8	44	NW	11	5			5ck						Prof. Dr. Weihrauch.
St. Petersburg	29.11	739.4	29.13	739.8	55.2	12.9	94	NNW	29	13			10n					Raining	Central Physical Obs.
Kieff	29.21	741.9	29.82	757.4	68.2	20.1	44	NW	18	8			6k;ks						Physical Cabinet.
Nikolaiev	29.90	759.4	29.97	761.2	72.9	22.7	48	NW	22	10			4k						Kurdakof.
Kertch																			Lagorio.
Moscow	28.74	730.0	29.27	743.4	61.0	16.1	88	S	13	6			9ks					Raining	Meteorological Obs.
Lugan	29.47	748.6	29.67	753.6	78.1	25.6	40	W	22	10			5			Blank	Blank		Meteorological Obs.
Archangel	29.29	743.9	29.31	744.4	58.8	14.9	97	ENE	13	6			10					Heavy rain.	Capt. Sseliwerstow.
Tiflis	28.43	722.0	29.78	756.5	72.5	22.5	79	Calm	0	0			10						Physical Observatory.
Astrakhan	29.80	756.9	29.72	754.8	90.5	32.5	23	SSW	9	4			0						Capt. Wisganow.
Krotkowo*	29.14	740.2	29.58	751.4	79.9	26.6	45	S	13	6			4k						Cand. Fatjanow.
Kasan	29.26	743.3	29.52	749.7	74.8	23.8	57	S	13	6			6						Physical Cabinet.
Ekaterinburg	28.73	729.6	29.66	753.4	57.9	14.4	77	Calm	0	0			8						Meteorological Obs.
Nukuss	29.40	746.8	29.62	752.4	84.6	29.2	38	NNW	18	8			1k						
Tashkend	28.04	712.1	29.48	748.7	89.6	32.0	46	SE	0	0			2						Teich, A. M.
Barnaul	29.14	740.2	29.61	752.1	76.5	24.7	50	N	4	2			5					Light clouds	Meteorological Obs.
Yeniseisk	29.43	747.6	29.71	754.7	65.7	18.7	74	W	9	4			4						Marks.
Irkutsk																			
Peking (China)	29.50	749.4	29.65	753.0	88.9	31.6	52	Calm	0	0		5c							Physical Observatory.
Nertchinsk																		Foggy	Meteorological Obs.
Vladivostock	29.80	756.8	29.89	759.3	58.6	14.8	96	SE	4	2			10n						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	80.1	26.7	49	ENE	2.2	1.00		1c				0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.88	759.0	29.94	760.4	93.6	34.2	46	SE	2.6	1.17			0			0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.4			88.2	31.2	30	SW	6.7	2.99			0			0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.1	29.87	758.8	91.4	33.0	30	SE	6.7	3.00			10			0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.87	758.7	30.01	762.3	88.2	31.2	43	NE	7.2	3.20			3			0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.05	737.9	29.92	760.0	69.8	21.0	75	SW	10.5	4.7			1			0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	77.9	25.5	90	ENE	1.1	0.5		9c;cs	1ks	S		0.386	9.8	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.9	29.93	760.2	81.5	27.5	78	E	7.2	3.2			10n		E	0.402	10.2	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.8	29.93	760.2	85.6	29.8	46	ESE	17.8	8.0		0	7		E	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	30.09	764.2	30.18	766.5	84.6	29.2	71	E	9.4	4.20		2s	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.47	748.4	29.50	749.4	66.6	19.2		SW			2		5			0	0		
Umea	29.52	749.7	29.57	751.0	57.2	14.0	82	NW			2		7			0.378	9.6		
Hernosand	29.51	749.5	29.56	750.8	63.0	17.2	72	NE			4		6			0	0		
Stockholm	29.46	748.2	29.63	752.7	67.6	19.8	48	WSW			6		5			0	0		
Wisby	29.62	752.3	29.68	753.8	61.5	16.4	73	W			6		0			0	0		
Sub-Series.																			
Upsala	29.54	750.2	29.61	752.1	60.3	15.7	73	N	4.5	2.0			9	SSW	W	0.046	1.18	Rainy	Nils Ekholm.
Naval Series.																			
Corvette Saga, N. 38° 57′, E. 0° 58′			30.17	766.2	78.3	25.7		NNE			1		3					Blue sky	Capt. M. von Krusenstiernd.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.53	725.1	30.10	764.6	78.8	26.4	43	NW			2		0			0	0	Clear	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.01	762.2	75.0	23.9	70	NE	19	8.5			7		N	0	0		The Observatory.
Fao, Persian Gulf			29.95	760.7	102.2	39.0		NW			1		0						
Valona			30.15	765.9	82.8	28.2		W			1		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.52	749.8	29.63	752.7	89.4	31.9	61	SW			3		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.57	751.1	29.86	758.4	71	21.7		SW	7	3.1			8s			0.11	2.8	Fair	W. R. Bigg.
Chatham, N. B	29.94	760.5	30.00	762.0	50	10.0	93	NE	4	1.8			10n		NE	0.03	0.8	Cloudy	G. A. Blah
Charlottetown, P. E. Island	29.92	760.0	29.96	761.0	58	14.4	94	NW	3	1.3			10s			0	0	Cloudy	H J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.83	757.7	74.6	23.7	76	W			3		9s			0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.83	757.7	30.00	762.0	47.6	8.7	97	SE			3		10n			0.17	4.3	Foggy	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.89	759.2	29.91	759.7	46	7.2	99	NE	7	3.1			Fog		Calm	0.15	3.8	Foggy	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.00	762.0	54.0	12.2	91	NE	4	1.8			10s			0.07	1.8	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.00	736.6	29.81	757.2	55	12.8	90	NW	14	6.3		5k	5ks	NW	NW	0.050	1.27	Cloudy	James Stewart.
Granton, Ontario	28.85	732.8	29.90	759.4	70	21.1	95	Calm			0		10n			0.29	7.4	Overcast	James Grant.
*Halifax, N. S	29.87	758.7	29.97	761.2	70	21.1	80	NW	3	1.3		0	2ks		NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.56	750.8	29.90	759.4	74.6	23.7	89	NW			1	0	0			0.99	25.1	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.56	750.8	29.89	759.2	67	19.4	86	W	6	2.7		2ck	8ks	W	W	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.93	760.2	29.97	761.2	50.1	10.1	96	E	4	1.8			10n			0	0	Misty	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.65	753.1	29.84	757.9	71	21.7	82	S	1	0.4			10ks		W	0.06	1.5	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.1	29.84	757.9	67	19.4	97	W	7	3.1			10n		W	0.32	8.1	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.86	758.2	74.7	23.7	73	W			1	8k	0			0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.91	759.7	69	20.6	100	SW	4	1.8		10ck	0			0.12	3.0	Fair	H. Morgan.
Port Hastings, N. S	29.86	758.4	29.91	759.7	58.0	14.4		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.92	760.0	72	22.2	95	W	8	3.6			10ks		W	0.25	6.3	Cloudy	M. Payne.
*Quebec, Quebec	29.61	752.1	29.93	760.2	51	10.6	93	E			3		10n		E	0.18	4.6	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.33	745.0	29.77	756.1	66	18.9	94	Calm	0	0			8s		SW	0.19	4.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.89	759.2	29.94	760.5	55	12.8	95	SE			1		Fog			0	0	Foggy	Dr. Gove.
St. John, N. B	29.80	756.9	29.97	761.2	56	13.3	100	S	1	0.4			Fog			0.15	3.8	Dense fog	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.91	759.7	70	21.1	90	SW	12	5.4			10ks		S	0.16	4.1	Cloudy	K. Stewart.
Stayner, Ontario	29.12	739.6	29.85	758.2	77	25.0	73	SW	1	0.4		5k	0	W		0.42	10.7	Fair	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.80	759.2	76.6	21.4	96	W	7	3.1			10n			0.579	14.71	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.94	760.5	29.98	761.5	52	11.1	94	N	6	2.7			10n			Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	29.52	749.8	29.89	759.2	73	22.8	88	SW	10	4.5		2ck?	10ks?	W	W	0.19	4.8	Cloudy	Magnetic Observatory.
Windsor, N. S	29.83	757.7	29.92	760.0	68.0	20.0	84	NE	4	1.8		4cs	0			0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	30.15	765.8	30.39	771.9	46.0	7.8	77	SE				10k?	10s?			0.20	5.1	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.75	755.6	29.96	761.0	76	24.4	77	S	4	1.8		1c	Haze	Calm		0.04	1.0	Clear	
Alpena, Michigan	29.20	741.7	29.81	757.2	70	21.1	90	SW	4	1.8		0	5s		SW	0.30	7.6	Fair	
Atka, Aleutian Is., Alaska					40	4.4	100	SE			1		10s		S	0	0	Cloudy	
Atlanta, Georgia	29.00	736.6	30.09	764.3	78	25.6	57	E	6	2.7		0	Haze		Calm	0	0	Clear	
Atlantic City, New Jersey	30.04	763.0	30.05	763.3	69	20.6	95	SW	8	3.6		0	Haze			0	0	Clear	
Augusta, Georgia	29.99	761.7	30.18	766.6	74	23.3	76	S	2	0.9		Haze	Haze	Calm	Calm	0	0	Hazy	
Baltimore, Maryland	30.02	762.5	30.07	763.8	78	25.6	73	S	4	1.8		0	2s;hz		Calm	0	0	Fair	
Barnegat, New Jersey	30.02	762.5	30.04	763.0	80	26.7	70	W	8	3.6		0	Haze		Calm	0	0	Clear	
Bismarck, Dakota	28.17	715.5	30.03	762.7	54	12.2	79	NW	10	4.5		1cs	Haze	W		0	0	Clear	
Boerne, Texas																			
Boise City, Idaho	27.23	691.6	30.19	766.8	54	12.2	61	SE	3	1.3		0	0			0	0	Clear	
Boston, Massachusetts	29.82	757.4	29.96	761.0	80	26.7	66	W	5	2.2		1c	Haze	Calm	Calm	0.14	3.6	Clear	
Brackettville, Texas	28.80	731.5	29.77	756.1	80	26.7	74	E	6	2.7		0	8ks		SE	0	0	Fair	
Breckenridge, Minnesota	28.90	734.0	29.88	758.9	53	11.7	86	SW	2	0.9		10cs	0	S		0	0	Cloudy	
Brownsville, Texas	29.86	758.4	29.91	759.7	85	29.4	72	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.23	742.2	29.89	759.2	73	22.8	81	SW	8	3.6			10s		SW	0.06	1.5	Cloudy	
Burkes, Arizona					74	23.3	22	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.62	752.3	29.89	759.2	74	23.3	76	S	10	4.5		5c;ck	Haze	W	Calm	0	0	Fair	
Cairo, Illinois	29.68	753.9	30.05	763.3	76	24.4	86	S	6	2.7			10s		S	0.01	0.3	Cloudy	
Campo, California	27.38	695.4	29.96	761.0	46	7.8	69	N	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.18	766.6	30.19	766.8	78.5	25.8	76	W	5	2.2		5cs	1ks	W	Calm	0	0	Fair	
Cape Henry, Virginia	30.10	764.5	30.11	764.8	77	25.0	69	SW	16	7.2		1ck	Haze	SW	Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.17	766.3	30.19	766.8	76	24.4	82	NW	6	2.7		2cs	0	SW		0	0	Fair	
Cape May, New Jersey	30.02	762.5	30.05	763.3	72	22.2	81	W	6	2.7		0	Haze			0	0	Clear	
Castroville, Texas	29.19	741.4	29.86	758.4	80	26.7	78	S	4	1.8			10s		S	0	0	Cloudy	
Charleston, South Carolina	30.11	764.8	30.17	766.3	78	25.6	73	E	1	0.4		2k	0	E		0	0	Fair	
Charlotte, North Carolina	29.31	744.5	30.09	764.3	79	26.1	66	W	7	3.1		0	Haze		Calm	0.01	0.3	Clear	
Chattanooga, Tennessee	29.34	745.2	30.12	765.0	73	22.8	72	Calm	0	0		5ck	0	SW		0	0	Fair	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	55	12.8	50	N	12	5.4		0	0			0	0	Clear	
Chicago, Illinois	29.25	742.9	29.90	759.4	76	24.4	77	SW	3	1.3		5c	0	W		0.07	1.8	Fair	
Cincinnati, Ohio	29.42	747.3	30.05	763.3	74	23.3	81	SE	6	2.7			10ks		SW	0.54	13.7	Threatening	
Cleveland, Ohio	29.26	743.2	29.95	760.7	74	23.3	76	S	10	4.5			10ks		SW	0.23	5.8	Cloudy	
Coleman City, Texas	28.17	715.5	29.73	755.1	81	27.2	55	SE	4	1.8		0	0			0	0	Clear	
Columbus, Ohio	29.19	741.4	29.98	761.5	74	23.3	81	SW	3	1.3			10s		W	0.10	2.5	Cloudy	
Concho, Texas	28.04	712.2	29.65	753.1	77	25.0	69	S	8	3.6		0	0			0	0	Clear	
Corsicana, Texas	29.51	749.5	29.96	761.0	78	25.6	86	S	4	1.8		1c	5s	W	S	0	0	Fair	
Davenport, Iowa	29.32	744.7	29.92	760.0	73	22.8	85	SW	8	3.6			10s		SW	0	0	Cloudy	
Deadwood, Dakota	25.44	646.2			54	12.2	87	Calm	0	0			10s		W	0.51	13.0	Cloudy	
Decatur, Texas	28.81	731.8	29.92	760.0	78	25.6	78	S	12	5.4		0	0			0	0	Clear	
Denison, Texas	29.17	740.9	29.92	760.0	79	26.1	78	SE	9	4.0		2k	0	SE		0	0	Fair	
Denver, Colorado	24.82	630.4	30.04	763.0	58	14.4	64	NW	8	3.6		2ck	0	NW		0	0	Fair	
Des Moines, Iowa	29.01	736.8	29.84	757.9	71	21.7	85	SW	5	2.2		2c	2s	W	SW	0	0	Fair	
Detroit, Michigan	29.26	743.2	29.89	759.2	71	21.7	90	SW	4	1.8		5k	5s	W	Calm	0.07	1.8	Cloudy	
Dodge City, Kansas	27.26	692.4	29.42	747.3	70	21.1	75	S	16	7.2		2k	0	W		1.91	48.5	Fair	
Dubuque, Iowa	29.23	742.4	29.90	759.4	71	21.7	75	SW	3	1.3			10ks		Calm	0.03	0.8	Cloudy	
Duluth, Minnesota	29.18	741.1	29.83	757.7	61	16.1	71	SW	8	3.6		0	0			0.08	2.0	Clear	
Eagle Pass, Texa	29.14	740.1	29.82	757.4	80	26.7	74	SE	5	2.2		0	0			0	0	Clear	
Eastport, Maine	29.88	758.9	29.95	760.7	51	10.6	93	N	6	2.7			Fog		N	0	0	Foggy	
Edinburg, Texas					82	27.8	71	Calm			0	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.19	665.2			70	21.1		NW	4	1.8		2c	0	NW		0	0	Fair	
Erie, Pennsylvania	29.24	742.7	29.91	759.7	77	25.0	77	SW	10	4.5		5c	2ks	W	W	Inap.	Inap.	Fair	
Escanaba, Michigan	29.22	742.2	29.84	757.9	65	18.3	73	W	1	0.4		5c	0	SW		0.20	5.1	Fair	
Florence, Arizona	28.37	720.6	29.97	761.2	75	23.9	52	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.98	710.7			48	8.9	92	SW	1	0.4		2c	Fog	Calm	Calm	0	0	Fair	
Fort Craig, New Mexico	25.53	648.4	29.60	751.8	69	20.6	35	W	2	0.9		2k	0	W		Inap.	Inap.	Fair	
Fort Davis, Texas	25.20	640.1	30.16	766.1	67	19.4	79	Calm	0	0		5cs	0	Calm		0.15	3.8	Fair	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759.7	82	27.8	67	S	8	3.6		0	0			Inap.	Inap.	Clear	
Fort Grant, Arizona	25.24	641.1	30.04	763.0	72	22.2	38	NE	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.89	759.2	78	25.6	65	SE	6	2.7		0	0			0	0	Clear	
Fort Keogh, Montana	27.47	697.7			63	17.2	67	NW	5	2.2		0	0			0	0	Clear	
Fort McKavett, Texas	27.71	703.8	29.54	750.3	74	23.3	68	S	8	3.6		0	0			0	0	Clear	
Fort St. Michael, Alaska	29.63	752.6	29.66	753.4	38	3.3	100	SW	11	4.9			10n		SW	0.87	22.1	Raining	
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.72	729.5	29.76	755.9	77	25.0	77	S	11	4.9		0	0			0	0	Clear	
Fort Stevenson, Dakota	28.14	714.7			52	11.1	79	SW	8	3.6		4ck	0	Calm		0	0	Fair	
Fort Verde, Arizona					69	20.6	35	NW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.24	717.3	29.71	754.6	80	26.7	59	S	10	4.5		2k	0	Calm		0	0	Fair	
Galveston, Texas	29.95	760.7	29.99	761.7	82	27.8	79	SE	8	3.6		5k	0	SE		1.20	30.5	Fair	
Graham, Texas																			
Grand Haven, Michigan	29.26	743.2	29.88	758.9	67	19.4	89	W	5	2.2			Fog		Calm	0.03	0.8	Foggy	
Helena, Montana																			
Henrietta, Texas	28.97	735.8	29.86	758.4	75	23.9	72	S	6	2.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.23	742.4	29.97	761.2	76	24.4	82	SW	2	0.9			10s		SW	0	0	Cloudy	
Indianola, Texas	29.96	761.0	29.98	761.5	85	29.4	76	S	1	0.4		0	8ks		S	0	0	Fair	
Jacksboro, Texas	28.81	731.8	29.88	758.9	80	26.7	66	SE	10	4.5		2c	0	Calm		0	0	Clear	
Jacksonville, Florida	30.13	765.3	30.15	765.8	80	26.7	74	E	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.32	744.7	29.90	759.4	70	21.1	90	W	8	3.6			10n		W	0.02	0.5	Light rain	
Key West, Florida	30.03	762.7	30.06	763.5	77	25.0	86	NE	12	5.4			10s		NE	1.41	30.8	Cloudy	
Kittyhawk, North Carolina	30.13	765.3	30.16	766.1	77	25.0	73	W	11	4.9		0	0			0	0	Clear	
Knoxville, Tennessee	29.16	740.7	30.12	765.0	74	23.3	70	NE	2	0.9		1k	1s	Calm	Calm	0	0	Fair	
La Crosse, Wisconsin	29.18	741.1	29.89	759.2	64	17.8	83	W	1	0.4		8ck	0	S		Inap	Inap.	Fair	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	70	21.1	32	N	1	0.4		2k	0	W		0	0	Clear	
Laredo, Texas	29.52	749.8	29.84	757.9	84	28.9	54	E	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	29.07	738.4	29.88	758.9	70	21.1	80	SE	6	2.7			10ks		SW	3.06	77.7	Cloudy	
Little Rock; Arkansas																			
Los Angeles, California	29.64	752.6	29.96	761.0	60.0	15.6	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.49	749.0	30.02	762.5	80	26.7	59	SW	7	3.1		5c;ck	0	Calm;SW		Inap.	Inap.	Fair	
Lynchburg, Virginia	29.44	747.8	30.08	764.0	81	27.2	63	SW	4	1.8		2ck	0	SW		0	0	Fair	
Madison, Wisconsin	28.95	735.3	29.89	759.2	68	20.0	70	N	8	3.6		8c	0	W		Inap.	Inap.	Fair	
Marquette, Michigan	29.12	739.6	29.78	756.4	64	17.8	78	W	12	5.4		0	0			1.50	38.1	Clear	
Mason, Texas	28.36	720.3	30.02	762.5	79	26.1	66	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.72	754.9	30.05	763.3	81	27.2	70	S	6	2.7		0	0			Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.20	741.7	29.89	759.2	70	21.1	70	NW	7	3.1		8c	0	Calm		Inap.	Inap.	Fair	
Mobile, Alabama	30.07	763.8	30.12	765.0	76	24.4	91	E	8	3.6		1k	2s	S	E	0.68	17.3	Fair	
Montgomery, Alabama	29.93	760.2	30.15	765.8	78	25.6	77	SE	3	1.3		0	0			Inap.	Inap.	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.08	738.6	30.02	762.5	76	24.4	69	W	9	4.0		5k	0	W		0.06	1.5	Fair	
Mt. Washington, N. H.	23.94	608.1	30.30	769.6	53	11.7	73	NW	21	9.4		5c	0	NW		0	0	Fair	
Nashville, Tennessee	29.55	750.5	30.06	763.5	82	27.8	63	N	1	0.4		2cs	0	Calm		0.01	0.3	Fair	
New Haven, Connecticut	29.88	758.9	29.99	761.7	80	26.7	70	S	2	0.9		5c	Haze	Calm	Calm	0.07	1.8	Fair	
New London, Connecticut	29.96	761.0	30.01	762.2	75	23.9	72	W	4	1.8		0	Haze		Calm	0.09	2.3	Clear	
New Orleans, Louisiana	30.00	762.0	30.06	763.5	80	26.7	78	E	6	2.7		0	1ks		Calm	Inap	Inap.	Clear	
Newport, Rhode Island	29.96	761.0	30.01	762.2	69	20.6	85	SW	4	1.8		0	0			Inap	Inap.	Clear	
New York, New York	29.86	758.4	30.03	762.7	73	22.8	85	W	5	2.2		0	Sm'e			0	0	Clear	
Norfolk, Virginia	30.07	763.8	30.12	765.0	84	28.9	57	SW	7	3.1		0	0			0	0	Clear	
North Platte, Nebraska	27.02	686.3	29.48	748.8	64	17.8	78	NW	12	5.4		10k	0	W		0.10	2.5	Cloudy	
Olympia, Washington Ter.	30.03	762.7	30.07	763.8	54.0	12.2	55	N	2	0.9		0	0			0	0	Clear	
Omaha, Nebraska	28.76	730.5	29.80	756.9	72	22.2	55	S	16	7.2			10n		Calm	0.04	1.0	Light rain	
Oswego, New York	29.62	752.3	29.92	760.0	77	25.0	69	SW	4	1.8		5c	2s	SW	SW	0	0	Fair	
Pembina, Dakota	28.98	736.1	29.79	756.7	51	10.6	93	W	8	3.6		0	0			0	0	Clear	
Philadelphia, Pa.	29.99	761.7	30.04	763.0	75	23.9	81	SW	5	2.2		0	Haze		Calm	0	0	Clear	
Phœnix, Arizona	28.66	728.0	30.35	770.9	80	26.7	37	NE	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.99	456.9	30.20	767.1	34	1.1	16	NW	16	7.2		5cs	0	NW		0	0	Fair	
Ploche, Nevada					61	16.1	26	NW	5	2.2		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	29.99	761.7	75	23.9	72	SW	10	4.5		4k	6s	SW	SW	0	0	Cloudy	
Port Huron, Michigan	29.24	742.7	29.87	758.7	72	22.2	85	SW	9	4.0		0	8ks		W	0.20	5.1	Fair	
Portland, Maine	29.89	759.2	29.94	760.5	67	19.4	84	Calm	0	0		0	Haze			0	0	Clear	
Portland, Oregon	30.03	762.7	30.11	764.8	51.5	10.8	100	Calm	0	0			Fog		Calm	0	0	Foggy	
Prescott, Arizona	24.78	629.4	30.14	765.5	58	14.4	42	W			1	0	0			Inap	Inap.	Clear	
Pilot Point, Texas	29.99	738.9	29.87	758.7	77	25.0	69	SE	13	5.8		2k	0	S		0	0	Fair	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	73	22.8	90	E	8	3.6		5k	5s	Calm	E	0.18	4.6	Cloudy	
Red Bluff, California	29.52	749.8	29.86	758.4	72	22.2	54	W	1	0.4		0	0			0	0	Clear	
Rio Grande City, Texas	29.75	755.6	29.96	761.0	81	27.2	83	SE	6	2.7		0	0			0	0	Clear	
Rochester, New York	29.82	744.7	29.90	759.4	76	24.4	77	W	9	4.0		5ck	0	W		0	0	Fair	
Roseburg, Oregon	29.52	749.8	30.09	764.3	49	9.4	93	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.77	756.1	29.85	758.2	60	15.6	77	S	7	3.1		0	0			0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.02	762.5	74	23.3	72	SW	5	2.2			10n		Calm	0.34	8.6	Light rain	
St. Marks, Florida	30.12	765.0	30.14	765.5	75	23.9	81	SE	5	2.2		0	1s		S	0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.84	757.9	61	16.1	82	SE	2	0.9			10s		Calm	0	0	Cloudy	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	62	16.7	46	Calm	0	0		0	0			0	0	Clear	
San Antonio, Texas	29.28	743.7	29.84	757.9	79	26.1	79	SE	2	0.9		0	8s		SE	0	0	Cloudy	
San Diego, California	29.90	759.4	29.98	761.5	60	15.6	82	NE	3	1.3			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.81	744.5	29.94	760.5	76	24.4	77	SW	12	5.4		5k	5ks	SW	SW	0.12	3.0	Cloudy	
Sandy Hook, New Jersey	30.00	762.0	30.03	762.7	80	26.7	66	SW	8	3.6		0	Haze		Calm	0	0	Clear	
San Francisco, California	29.85	758.2	29.92	760.0	53	11.7	93	W	8	3.6			Fog		W	0	0	Dense fog	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	58	14.4	37	Calm	0	0		0	Haze		Calm	0	0	Clear	
Savannah, Georgia	30.09	764.3	30.18	766.6	81	27.2	70	NW	2	0.9		0	0			0	0	Clear	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	78	25.6	78	S	4	1.8		2ck	0	Calm		0	0	Fair	
Silver City, New Mexico	24.35	618.5	30.30	769.6	65	18.3	38	NW	4	1.8		0	0			0	0	Clear	
Smithville, North Carolina	30.18	766.6	30.22	767.6	76	24.4	82	Calm	0	0		0	5ks		S	0	0	Fair	
Socorro, New Mexico																			
Springfield, Ill																			
Springfield, Massachusetts	29.86	758.4	29.98	761.5	74	23.3	81	S	2	0.9			Fog			0.02	0.5	Foggy	
Stockton, Texas	29.91	683.5	29.91	759.7	76	24.4	64	SE	12	5.4		2c	0	S		0	0	Fair	
Thatcher's Island, Mass.	29.93	760.2	29.98	761.5	64	17.8	94	SW	11	4.9			Fog			Inap	Inap.	Clear	
Toledo, Ohio	29.28	743.7	29.93	760.2	75	23.9	77	W	12	5.4		8c;k	0	SW;W		Inap.	Inap.	Cloudy	
Tucson, Arizona	27.45	697.2	30.00	762.0	75	23.9	56	Calm	0	0		0	0			Inap	Inap.	Clear	
Umatilla, Oregon	29.70	754.4	30.19	766.8	56.0	13.3	69	SE	4	1.8		0	0			0	0	Clear	
Uvalde, Texas	29.03	737.3	29.82	757.4	79	26.1	78	SE	2	0.9			10ks		SE	0	0	Cloudy	
Vicksburg, Mississippi	29.85	758.2	30.10	764.5	77	25.0	82	SE	5	2.2		0	0			0.07	1.8	Clear	
Virginia City, Montana	24.37	619.0	29.85	758.2	44	6.7	68	Calm	0	0		0	0			0.14	3.6	Clear	
Visalia, California	29.48	748.8	29.84	757.9	60	15.6	68	SE	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.96	761.0	30.06	763.5	79	26.1	70	SW	3	1.3		Haze	1s	Calm	Calm	0	0	Clear	
Wickenburg, Arizona					65	18.3	44	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.12	765.0	30.19	766.8	76	24.4	77	SW	1	0.4		0	0			0	0	Clear	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	58	14.4	26	NE	13	5.8		0	0			0	0	Clear	
Wood's Holl, Mass.	29.96	761.0	30.00	762.0	68	20.0	84	SW	16	7.2		0	0			0	0	Clear	
Yankton, Dakota	28.67	728.2	29.92	760.0	58	14.4	94	N	11	4.9			10n		N	0.33	8.4	Heavy rain.	
Yuma, Arizona	29.63	752.6	29.79	756.7	76	24.4	52	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.																			J. B. Gordon.
Havana, Cuba, W. I.	29.96	761.0	30.01	762.2	77	25.0	86	Calm	0	0		10c	0	SE		0.48	12.2	Cloudy	Chas. Hasselbrink
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.	25.26	641.6			66.7	19.2	85	Calm			0	3c;cs	5ks			0.43	10.9		Thomas Herran.
Navassa, W. I.	29.95	760.7	30.03	762.7	75	23.9	100	E								0.05	1.3	Raining	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	78	25.6	86	SE			2	5k?	6ks?	E		1.700	43.18	⅜ Clouded.	O. J. Hering.
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.																			J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,500 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.; Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Ploche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.11‡	764.8‡			79	26.1	91	NE	7	3.1			2		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	29.95‡	760.7‡			71	21.7	92	NE			2		10n		NE	1.46	37.1			Light rain	
Adams, Acapulco, Mexico	29.76‡	755.9‡			82	27.8	100	W			2		5		W					Fair	
Alaska, San Francisco, Cal	29.91‡	759.7‡			53	11.7	93	WSW			2					0	0			Foggy	
Alliance, Havre, France	29.99‡	761.7‡			70	21.1	75	SW			1		1							Pleasant	
Ashuelot, N. 34° 50′, E. 132° 40′	29.97‡	761.2‡			74	23.3	81	E			2		2		Calm			Smooth		Fair	
Colorado, New York, N. Y.	30.05‡	763.3‡			74	23.3	81	SW	4	1.8			0			0	0			Misty	
Constellation, N. 38° 07′, W. 72° 00′	30.20‡	767.1‡			73.6	23.1	96	SW			4		0			0	0			Clear	
Constitution, League Island, Penn	29.93‡	760.2‡			79	26.1	91	SW			1		2		Calm					Clear	
Despatch, N. 37° 00′, W. 75° 40′	30.18‡	766.6‡			71	21.7	95	SW			4		2		Calm	0	0	Light	SW	Clear	
Enterprise, N. 59° 18′, E. 10° 40′	29.72‡	754.9‡			65	18.3	68	NNW			4		3		W					Clear	
Franklin, Norfolk, Va	30.14‡	765.5‡			79	26.1	77	SW	9.6	4.3			2		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay	30.11‡	764.8‡			45	7.2	76	N	3	1.3			0			0	0			Clear	
Kearsarge, New York, N.Y.	30.01‡	762.2‡			75	23.9	86	SW			1		2							Fair	
Marion, Hampton Roads, Va	30.11‡	764.8‡			76	24.4	100	SW			2		0					Smooth		Clear	
Michigan, Erie, Pa	29.90‡	759.4‡			78	25.6	73	WSW			4		10		W					Cloudy	
Monocacy, Shanghai, China	29.83‡	757.7‡			81	27.2	87	Calm			0		2							Fair	
Monongahela, Yokohama, Japan	29.91‡	759.7‡			73	22.8	85	E			0–1		n			Mod'ate	Mod'ate			Drizzling	
New Hampshire, Port Royal, S. C	30.19‡	766.8‡			80	26.7	78	NE	4	1.8			2		NE	0	0			Clear	
Onward, Callao, Peru †	30.25‡	768.3‡			62	16.7	83	SE			2		10					Long	W	Foggy	
Palos, Shanghai, China	29.86‡	758.4‡			78	25.6	91	Calm			0		5							Fair	
Passaic, Washington, D. C.					75	23.9	??	SW			2		0							Clear	
Pensacola, Iquique, Peru	30.10‡	764.5‡			63	17.2	67	Calm	0	0			5?		SE	0	0	Smooth	SW	Overcast?	
Portsmouth, New London, Conn.	30.00‡	762.0‡			72	22.2	85	S			1		2		S			Smooth		Clear	
Powhatan, New York, N. Y.	30.01‡	762.2‡			75	23.9	81	SSW			1		2		Calm	0	0			Clear	
Quinnebaug, Constantinople, Turkey	29.99‡	761.7‡			76	24.4	56	NNE			6		0							Clear	
Ranger, Amoy, China	29.97‡	761.2‡			79	26.1	91	Calm			0		10		Calm			Smooth		Cloudy	
Richmond, Gogo Sima, Japan	29.92‡	760.0‡			72	22.2	90	SE			0–1		2					Smooth		Clear	
Rio Bravo, Brownsville, Texas	29.91‡	759.7‡			80	26.7	100	SE			1		0			0	0			Clear	
Santee, Annapolis, Md	30.07‡	763.8‡			76	24.4	82	SW			2		2		W	0	0			Clear	
Saratoga, Murray, Bermuda, N. Atlan.	30.30‡	769.6‡			79	26.1	95	WSW			3		2		SW	0	0			D. clouds	
St. Louis, League Island, Pa	30.03‡	762.7‡			75	23.9	86	SW	6	2.7			2		SW	0	0			Clear	
Trenton, Spit Head, Eng.	29.92‡	760.0‡			61	16.1	77	SW			4–6		8		SW	0	0	Mod'ate	W	Squally	
Tuscarora, N. 34° 14′, W. 119° 49′	29.97‡	761.2‡			60	15.6	94	SW			1		10		SE	0	0	Smooth		Misty	
Vandalia, New York City, N. Y.	30.00‡	762.0‡			74	23.3	81	WSW			2		0			0	0			Clear	
Wabash, Boston, Mass	30.01‡	762.2‡			83	28.3	63	W	3	1.3			0			0.5	13.			Clear	
Wyoming, Venice, Italy	30.12‡	765.0‡			77	25.0	65	SE			2		2		SE			Smooth		Clear	
Wachusett, Near Natchez, Miss	30.00‡	762.0‡			78	25.6	86	E			2		2		W					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
NOTE.—†Aneroid. *The error of the barometer is not known.																			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 17° 48', W. 120° 30'....†		29.90‡	759.4‡	82	27.8	96	WNW			3		7		S	0	Small	NE	Misty	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, Seattle, Washington Ter...†		30.10‡	764.5‡	53	11.7	??	Calm			0		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, Hong-Kong, China.....†		29.94‡	760.5‡	82	27.8		SSE			5		ks		SSE	Slight			Showery	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.																			
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer, N. 33° 31', E. 5° 17'.		29.94‡	760.5‡	65.0	18.3	70	SW			4		2		SW	0	Smooth	SW	Fair	S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.93‡	760.2‡				W			4		8		W				Cloudy	Capt. G. Meyer.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.																			

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
American S. S. Co. Marine Series. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 45° 25′, W. 38° 52′		29.89‡	759.2‡	54	12.2	87	NW			7		10		NE	Light	Heavy	NW	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
Red Star Line Marine Series. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
Allan Line Marine Series. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
Marine Series,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.12‡	765.0‡	81	27.2	70	E	3	1.3	...		5k		E	0			D. clouds	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.17‡	766.3‡				E			5		2		ENE	0	Rough		Smoky	N. B. Foss.
Schooner Harry and Fred, N. 38° 30′, W. 71° 10′		30.02‡	762.5‡				SSW	17	7.6			0			0.25 in. or 6.3 mm	Long	SE	Clear	Capt. George Gardner.
W. D. Hilton, Philadelphia, Pa.†		30.04‡	763.0‡	75	23.9		SW			3		0						Clear	Capt. N. B. Horner.
Nordenskiöld of Sundsvall, Sweden, Rouen, France†		29.94‡	760.5‡	65	18.3	73	N			2		2		N				Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 42° 12′, W. 68° 30′†		29.96‡	761.0‡				WSW			6		0				Short	SW	Pleasant	L. Dunbar.
Schooner Henry Whitney, N. 37° 01′, W. 75° 14′†		30.18‡	766.6‡	76	24.4		SW			4		0				Smooth		Smoky	Capt. Wm. Shepherd

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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BULLETIN

OF

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TAKEN SIMULTANEOUSLY ON JUNE 28, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.07	763.8	80.6	27.0	70	NW			2		5			0	0	Cloudy	Kesxuche.
Algiers			29.96	760.9	90.3	32.4	39	W			4		0			0	0	Clear	Tourilliere.
La Calle			30.05	763.3	86.2	30.1	65	ENE			2		5			0	0	Cloudy	Foufrede.
Tunis																			Jacques.
Sfax			30.16	766.0															Gau.
Saida			30.05	763.3	99.7	37.6	22	SW			6		8			0	0	Very cloudy	Herbin.
Tebessa			30.08	764.0	97.3	36.3	13	N			4		0			0	0	Clear	Watrin.
Geriville			30.15	765.8	88.3	31.3	41	SE			1		0			0	0	Clear	Brugniaux.
Laghouat			30.07	763.6	101.8	38.8	19	NE			3		0			0	0	Clear	Bertrand.
Biskra			30.04	763.0	101.3	38.5	26	SE			1		0			0	0	Clear	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.54	750.4	30.07	763.6	84.6	29.2	39	E			2		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.34	745.1	30.08	763.9	73.4	23.0	58	WNW			2		5			0	0		Dr. Wierzbiski.
Eperies	29.17	740.8	30.00	762.1	77.4	25.2	42	N			2		7ks		S	0	0		Julius Mikolik.
Gratz	28.87	733.2	30.06	763.4	80.8	27.1	52	SE			2		0			0	0		Andreas Rospini.
Hermannstadt	28.61	726.7	29.97	761.3	77.4	25.2	47	NW			3		10			0	0		Prof. A. Gottschling.
Kremsmünster	28.73	729.6	29.99	761.7	82.8	28.2		ENE			2		0			0	0		Prof. C. Wagner.
Lemberg	29.02	737.2	29.98	761.4	67.5	19.7	61	NW			3		9			0	0		Dr. T Stanecki.
Pola	29.99	761.7	30.10	764 4	83.8	28.8	61	WNW			1		0			0	0		I.R.HydrographicOffice.
Szathmar	29.61	752.0	30.05	763.3	74.8	23.8	97	NW			3		6			0	0		Julius Csics, S. J.
Szegedin	29.77	756.2	30.04	763.0	81.0	27.2	44	Calm			0		4			0	0		Karl Stancel.
Trieste	30.02	762.4	30.12	765.0	83.1	28.4	66	W			1		0			0	0	Very clear	P. Busin.
Vienna	29.38	746.3	30.07	763.7	79.2	26.2	51	SE			1		0			0	0		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	29.35	745.5	29.44	747.8	57.8	14.3		S	22	9.8			4			0.010	0.25	Blue sky	W. Boswell.
Ardrossan	29.42	747.3	29.43	747.5	56	13.3		SSW			6		6					D. clouds	Wm. McNeil & G. Carrick
Armagh, Observatory			29.48	748.8	56.9	13.8		SW	11	4.9			10					Showery	S. Call.
Bidston (Liverpool Obs)			29.65	753.1	62.9	17.2		SW	36	16.1			3					Blue sky	John Hartnup.
Bolton (Sharples)			29.64	752.8	64.8	18.2		SW	42	18.8			5					Squally	Thomas Mackereth.
Bradford, Yorkshire	29.27	743.4	29.66	753.4	62.6	17.0		W			4		6			0.03	0.8	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.96	761.0	78.5	25.8		SE			1		8					Overcast	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.69	754.1	29.78	756.4	69.9	21.1		SW			2		5					D. clouds	H. Todd.
Cardington			29.76	755.9	69.0	20.6		SW			3		4					D. clouds	John McLaren.
Chatham, School M. E.	29.70	754.4	29.82	757.4	68.2	20.1		W			1		3					Blue sky	J. Carmell, Sapper, R. E.
Donaghadee	29.45	748.0	29.49	749.0	61	16.1		SW			6		8					D. clouds	J. Mac Gowan.
Dover	29.85	758.2	29.87	758.7	63	17.2		WSW			2		4					½ clouded	J. Costello.
Falmouth, Observatory	29.61	752.1	29.84	757.9	61.3	16.3		SW			5		8					Overcast	The Staff.
Fort Napier (Natal)	27.60	701.0	29.89	759.2	69.0	20.6		E			2		8					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.78	756.4	30.01	762.2	80	26.7		Calm			0		4					D. clouds	
Galway, Queen's College			29.46	748.3	59	15.0		SW			6		4					Blue sky	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.96	761.0	30.02	762.5	76.2	24.6		W			3		0					Blue sky	Sergt. Wm. Allen, A. H. [C.
Glasgow, Observatory	29.24	742.7	29.45	748.0	55.9	13.3		SW			7		10					Raining	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.77	756.1	65	18.3		WSW			2		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.65	753.1	29.81	757.2	70.6	21.4		SW			4		5					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.70	754.4	29.92	760.0	62.5	16.9		SW			4		3					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.78	756.4	29.96	759.4	64	17.8		SW			6		3ck			0.11	2.8	Fine	M. P. Moyle.
Holyhead	29.63	752.6	29.64	752.8	61	16.1		SSW			6		0					Blue sky	John Tilston.
Jersey	29.69	754.1	29.98	761.5	63.9	17.7		WSW			2		4					D. clouds	J. Fisher.
Kew, Observatory	29.78	756.4	29.82	757.4	66.8	19.3		SW	22	9.8			5					D. clouds	The Met'g'l Office.
Leicester, Museum.	29.48	748.8	29.72	754.9	66.8	19.3		SW			4		8					D. clouds	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.94	760.5	30.01	762.2	81.0	27.2		NE			2		0					Blue sky	A. King.
Nairn	29.23	742.4	29.32	744.7	64	17.8		SSW			4		5					½ clouded	W. D. Penny.
Nassau (Bahamas)			30.03	762.7	76.5	23.1		SE			2		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.54	750.3	29.72	754.9	69.3	20.7		S			6		3k		WSW	0.008	0.200	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.20	741.7	29.71	754.6	64.9	18.3		SW			6		8					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.80	756.9	65	18.3		SW			5		7					Squally	H. E. Bellamy.
Plymouth	29.77	756.1	29.84	757.9	63.1	17.3		SW			4		5					D. clouds	John Merrifield.
Prince Town	28.38	720.8	29.83	757.7	54.3	12.4		S			6		10					Squally	W. H. Tooker.
*Roche's Point	29.57	751.1	29.68	753.9	60	15.6		WSW			6		8			Blank	Blank	¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.56	750.8	29.72	754.9	57	13.9		SW			6		0					Blue sky	John C. Walker.
Sandwick Manse (Orkneys)			29.32	744.7	57	13.9		SSE	35	15.6			3					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.87	758.7	29.93	760.2	85.4	29.7		NE			2		2			0	0	Blue sky	Serg't W. H. Lyne.
Sheffield	29.44	747.8	29.71	754.6	66.4	19.1		SW			4		4			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.51	749.5	29.54	750.3	61.6	16.4	75	SW			8		4			0.038	0.96	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.26	743.2	29.67	753.6	62.8	17.1		SW			4		8					Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.62	752.3	29.83	757.7	66.7	19.3		SW			4–5		3					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	29.76	755.9	29.77	756.1	64	17.8		SW			6		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.54	750.3	29.56	750.8	59.3	15.2		SW	39	17.4			6					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	30.04	763.0	30.08	764.0	56.8	13.8	61	NNW	6	2.7		0	1			0	0	Fine	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.15	765.8	47.0	8.8	80	W			8		7k			0.02	0.5	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.49	749.0	61.9	16.6		SW			4		10k			0.08	2.0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.99	761.7	30.18	766.7	72.2	22.3	64	E	17.0	7.6			7		E	0.17	4.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.18	766.6	30.27	768.8	50.2	10.1	91	SW	6	2.7			8			0.11	2.8	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.16	740.7	55	12.8		SSW			7	10?	5	S		0.2	5.		J. Youngclaue.
North Unst (Shetland Is.)			29.47	748.5	54	12.2		S			6	2	4	S		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.																Sea or swell. Height scale 0-9	Direction from—		
H. M. S. "Fawn," N. 40° 30′. E. 28° 45′			29.99‡	761.7‡	77	25.0		N			4		0					Squally	Capt. W. J. L. Wharton.
Barque Fedalma, N. 55° 20′, W. 14° 20′			29.08	738.6	57	13.9		SW			8		4			7	SSW	D. clouds	Capt. H. L. Fox.
Agnes Wilson, N. 22° 35′, W. 85° 45′			29.96	761.0	85	29.4		SE			8		6			4	E	D. clouds	Capt. H. W. Dyke.
Algeria, N. 45° 05′, W. 46° 00′			29.92	760.0	52	11.1		E			8		10	WSW		3	N	Overcast	Capt. Wm. Watson.
Astarte, N. 24° 30′, W. 36° 15′ *			30.26‡	768.6‡	79	26.1		E			3		2					Blue sky	Capt. Parson.
Theophane, S. 34° 10′, E. 28° 00′			30.00‡	762.0‡	65	18.3		WSW			5		7					D. clouds	Capt. Raymond.
S. S. Amanda.																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
British Peer																			Capt. Greig.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
San José	26.20	665.5	29.92	760.0	67.6	19.8	91	SE			1	5c	1cs		E	0.6	15.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.88	759.0	29.93	760.2	72.7	22.6	61	SE			2		3						
Fanöe	29.74	755.3	29.76	755.8	73.6	23.1	72	S			6		9						
Godthaab (Greenland)	29.67	753.7	29.72	754.8	39.9	4.4	92	Calm			0		10					Foggy	
Stykkisholm (Iceland)	29.11	739.4	29.15	740.5	47.3	8.5	63	NE			9		8						
Thorshavn (Faröe)	29.27	743.5	29.31	744.4	57.2	14.0	86	SSE			4		3						
Vestervig	29.73	755.1	29.90	759.4	70.2	21.2	67	SE			4		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.45	747.9	30.00	761.9	70.5	21.4	76	SW			1		5		SW	0.362	9.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.80	756.8	29.91	759.6	69.8	21	57	NW			1		5		NE	0.693	17.6	Cloudy	Bonvallet, Director.
Arras, Engin'r School	29.67	753.7	29.92	760.0	65.7	18.7	61	NW			4				W	0	0		Klein, Commandant.
Avignon, Normal School	30.00	762.1	30.08	764.1	88.2	31.2	31	S			1		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.34	745.5	29.87	758.7	86.2	30.1	36	NW			1		2kn		W	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.65	753.1	29.91	759.6	69.8	21	66	NNW			1		5		SW	0.187	4.75	Cloudy	Frere Eugene Marie.
Besançon, Normal School	29.10	739.2	29.95	760.6	82.8	28.2	52	N			1		2		W	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.14	740.2	30.08	764.1	84.4	29.1	38	S			6					0	0		Marlot, Director.
Bourges, Normal School	29.40	746.8	29.92	760.0	79.5	26.4	66	SW			2		2	SW	SW	0	0	Slightly cl'dy	M. Gence, Director.
Brest, Naval Observatory	29.69	754.0	29.93	760.2	67.6	19.8	90	SW			4		6		SW	0.010	0.25		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.67	753.5	30.06	763.5	84.6	29.2	49	E			2		1		E	0	0	v. slightly cloudy	September, Dir.
Caen, Normal School	29.87	758.7	29.94	760.5	73.4	23	54	SW			1		2		W	0	0	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.46	748.3	30.00	761.9	81.1	27.3	69	NNW			1		6	SSW	SSW	0.24	6.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.6	29.89	759.1	85.5	29.7	36	SW			3		2			0	0	Slightly cl'dy	Jadot, Director.
Clermont-Fd., Puy de D. Ob	28.63	727.2	29.89	759.3	87.1	30.6	28	SW			1		5		WSW	0	0		Alluard, Director.
Commercy, Normal School.	29.04	737.6	29.84	758.0	86.9	30.5	40	SE			1		2s		SE	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.03	737.4	30.17	766.4	91.4	33.0	21	SW			2		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.25	743.0	29.97	761.3	85.6	29.8	37	NW			2		5ckn	W		0	0	Cloudy	Ablard, Director
La Roche-sur-Yon, N. School	29.84	757.8	30.04	763.1	74.5	23.6	63	W			1		2		W	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.69	754.1	29.99	761.7	71.2	21.8	58	NW			2		5	WNW		0.134	3.4	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.68	738.6	29.95	760.8	87.1	30.6	39	SW			6		0			0	0	Very clear	A. Baudry, Director.
Lorient, Naval Observatory	29.93	760.3	30.03	762.8	66.2	19.0	66	SW			3			W	SW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																	0		Galzin, Director.
Marseilles, Observatory	29.81	757.2	30.07	763.8	86.7	30.4	44	S			0–1		0			0	0		E. Stephan, Director
Mirecourt, Normal School	28.92	734.6	29.95	760.6	79.9	26.6	54	NNW			1		1		NW	0	0	Clear	Barbier, Director
Nismes, Normal School	29.89	759.2	30.08	764.0	90.3	32.4	52	SW			4		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.08	738.5	30.05	764.0	86.9	30.5	30	SW			1	c		SW	SW	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.28	642.2			65.1	18.4	46	SW			8		2	SW		0	0	Slightly cl'dy	Alluard, Director.
Rochefort, Naval Obs'y	30.03	762.8	30.07	763.6	76.3	24.6	60	W			1		0			0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	29.86	758.5	29.95	760.6	70.2	21.2	55	W			1		2		W	0.555	14.1	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.8	29.95	760.6	70.5	21.4	59	WNW			2		1	WSW	WSW	0	0	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.78	756.4	29.95	760.6	70.2	21.2	85	W			1				SW; WNW	0.024	0.6		E. Renou, Director.
Tarbes, Normal School	29.04	737.6	30.08	764.1	73.4	23	66	W			2		10			0	0	Covered	T. Huguet, Director.
Toulouse, Observatory	29.39	746.5	30.11	764.9	76.6	24.5	74	NW			2		5			0	0		M. Julier Mercadier.
Versailles, Observatory	29.46	748.2	29.95	760.7	71.2	21.8	75	NW			2					0.085	2.14		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.24	742.7	29.91	759.8	82.4	28	54	SE			3		2		S	0	0	Slightly cl'd	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.82	757.4	29.85	758.1	77.0	25										0.433	11.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.37	746.0	29.95	760.7	86.9	30.5	25	SSW			2	5c			SW	0	0	Cloudy	Ch. André, Director.
Mont-Louis	25.08	637.0	30.39	772.0	77.0	25.0	37	WSW	15.0	6.7			0			0	0		M. Cave.
Nice			30.15	765.7	83.5	28.8	72	Calm			1?		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.66	753.4			69.1	20.6	78	W			2		7			0.024	0.6		Marié Davy, Director.
Perpignan	29.91	759.8	30.02	762.5	84.2	29.0	49	SE	5.6	2.5			1						Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.75	577.9			61.0	16.1		SW			2		2			0.146	3.7		Gen'l de Nansouty.
Tours	29.80	757.0	30.00	762.0	75.2	24.0	54	WSW			3		5		W	0	0		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.80	756.9	29.82	757.5	78.1	25.6	93	SSE	10.5	4.7		4cs		N		0	0	Slightly cl'dy	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.5 ft., Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature, Inches.	Barometer. Corrected for instrum'tal error and temperature, Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.5	30.00	761.9	82.4	28.0	45	S			4		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.83	757.6	29.99	761.7	79.7	26.5	45	S			2		2			0	0		Prof. Dr. Arndt.
Breslau	29.58	751.4	30.11	764.9	75.2	24.0	54	SW			1		0			0	0		Royal University Obs'ry.
Carlsruhe	29.51	749.5	29.91	759.7	87.4	30.8	53	SSW			0		2	SW		0	0		Albert Sens.
Cassel	29.30	744.3	29.91	759.7	87.4	30.8	50	S			3		10	SW		0.213	5.40		Dr. H. Möhl.
Crefeld	29.69	754.1	29.85	758.2	69.4	20.8	84	SE			2		9			0.39	10.		Director Lose.
Emden			29.71	754.7	73.8	23.2	79	S			1		10			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.55	750.5	29.91	759.6	84.9	29.4		S			1		9			Inap.	Inap.		Physical Society.
Freienwalde on the Oder	29.98	761.4	30.02	762.4	80.2	26.8	43	S			3		2cs	W		0	0		Dr. Assmann.
Friedrichshafen	28.57	725.6	29.93	760.1	78.8	26.0	60	SW			2		2	SW		0	0		M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.1	79.2	26.2	60	SE			5		7c;ck	SSW		0	0	Fair	Captain F. Hegemann.
Kiel	29.82	757.3	29.83	757.7	76.1	24.5	65	SE			2		6			0	0		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.93	760.2	30.01	762.3	65.5	18.6	55	NW			5		2			0.008	0.2		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.56	750.8	29.96	760.9	86.0	30.0	63	SSE			2		3			0	0	Hazy	Prof. Bruhns, Privy Counsellor.
Memel	29.91	759.7	29.96	760.9	59.2	15.1	81	WNW			5		1cs						Skalweit.
Munich (München)	28.26	717.8	30.13	765.3	86.2	30.1	27	SE			2		1			0	0		Dr. C. Larg.
Neufahrwasser	30.03	762.8	30.05	763.2	69.4	20.8	60	NW			2		3			0	0		A. Lothes.
Posen	29.80	756.9	30.08	763.9	75.4	24.1	38	NW			5		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.38	746.4	29.90	759.4	89.1	31.7	41	S			2		3			0	0		Imp. University Observatory.
Stuttgart	28.97	735.7	29.82	757.5	92.8	33.8	40	SW			1		1			0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.56	725.3	29.97	761.1	84.7	29.3	39	SSW	11	5		3c				0	0		T. Hopfner.
Wustrow	29.94	760.5	29.97	761.1	77.4	25.2	63	SSE			4		3s			0.055	1.4		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.57	751.1	29.95	760.6	84.7	29.3		NE			5.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.8	29.49	749.1	87.7	30.9	68	SSW	10.0	4.5			9			0	0		D. clouds
Deesa	29.02	737.1	29.48	748.7	94.3	34.6	45	W	8.4	3.8			9		NNW	0.08	2.0		D. clouds
Bombay	29.60	752.0	29.64	752.9	80.4	26.9	91	W	22.0	9.8			10		WSW	0.43	10.9		Raining
Poona	27.80	706.1	29.66	753.4	73.8	23.2	86	WSW					10	Calm	WSW	2.35	59.7		Drizzling
Lahore	28.73	729.8	29.44	747.7	98.7	37.1	41	E	2.1	0.9			0			0	0		Blue sky
Belgaum	27.21	691.2	29.77	756.1	70.8	21.6	95	WSW	10.0	4.5			10		SW	3.09	78.5		Raining
Roorkee	28.62	726.9	29.49	749.1	87.4	30.8	67	SE	7.2	3.2			4			0	0		D. clouds
Agra	28.90	733.9	29.44	747.9	88.7	31.5	73	E					4		E	0	0		
Nagpur	28.47	723.0	29.50	749.2	79.7	26.5	83	W	9.2	4.1			6		E	1.21	30.7		Gloomy
Lucknow	29.12	739.5	29.49	748.9	82.8	28.2	87		3.2	1.4			8	WNW		0.48	12.2		D. clouds
Allahabad	29.15	740.3	29.45	748.1	83.1	28.4	92	Calm	2.5	1.1			10		E	2.41	61.2		Overcast
Patna	29.31	744.5	29.49	749.0	85.4	29.7	92	E	3.3	1.5			10	E	E	0.39	9.9		
Hazaribagh	27.50	698.4	29.49	749.1	76.8	24.9	91	S	8.2	3.7			10		SE	0.50	12.7		Raining
Cuttack	29.47	748.4	29.55	750.5	83.0	28.3	79	WSW	4.0	1.8			8			0.15	3.8		D. clouds
Calcutta (Allipore)	29.49	749.1	29.51	749.6	80.7	27.1	91	S	2.0	0.9			8	S		0	0		D. clouds
Goalpara	29.21	741.9	29.60	751.7	79.8	26.6	87	Calm	8.5	3.8			9			2.01	51.0		Raining
Chittagong	29.58	751.2	29.67	753.5	79.6	26.4	91	SE	8.9	4.0			9			0	0		Gloomy
Sibsagar	29.28	743.6	29.61	752.0	86.5	30.3	80	ENE	1.0	0.4			10			0	0		D. clouds
Jubbulpore	28.18	715.6	29.53	750.0	79.3	26.3	78	S	3.3	1.5			10		NE	0.40	10.2		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,351 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.06	763.5	88.5	31.4	36	S	1 8	0.8			1			0	0		Prof. Giovanni Clodig.
Milan	29.58	751.2	30.07	763.8	90.0	32.2	34	E			2		6	NW		0	0		Prof. Schiaparelli.
Padua	29.98	761.6	30.09	764.3	85.3	29.6	40	S	3.8	1.7			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.22	742.1	30.08	764.1	84.0	28.9	42	SW	2.5	1.1			0			0	0		Prof. P. F. Denza.
Genoa	29.94	760.4	30.12	765.1	79 9	26.6	51	SW	3.1	1.4			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.25	717.5	30.08	763.9	82.4	28.0	37	NW			4		0			0	0		Prof. D. C. Bruno.
Pesaro	30.07	763.7	30.11	764.9	80.2	26.8	54	N	7.4	3.3			0			0	0		Prof. Luigi Guidi.
Florence	29.85	758.1	30.10	764.4	89.6	32 0	23	S			2		0			0	0		Cav. F. Meucci.
Leghorn	30.00	762.1	30.09	764.2	76.6	24.8	79	NW			4		0			0	0		Prof. P. Monte.
Rome	29.96	759.4	30.07	763.7	91.4	33.0	30	W	4.9	2.2			0			0	0		Prof. P. S. Ferrari.
Lecce	29.78	756.3	30.02	762.5	82.6	28.1	32	WNW	24.8	11.1			0			0	0		Prof. C. De Giorgi.
Cosenza	29.16	740.6	30.00	762.0	90.0	32.2	63	NNW	2.5	1.1			0			0	0		Prof. D. Conti.
Cagliari	29.92	759.9	30.10	764.6	79.9	26.6	54	S			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.84	757.9	30.09	764.2	84.6	29.2	27	E	7.4	3.3			0			0	0		Prof. G. Cacciatore.
Syracuse	29.93	760.1	30.00	761.9	84.9	29.4	35	NNE	13.7	6.1			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.55	750.5	30.10	764.6	86.9	30.5	35	NW	1.3	0.6			0			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.99	761.7	30.00	762.0	72.7	22.6	92	Calm	0	0			0			0.015	0.38	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.03	762.7	72.6	22.6	93	SW	0.6	0.3			0			0.005	0.13	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.96	761.0	30.03	762.7	69.5	20.8	93	ENE	3.0	1.3			10n			0.080	2.03	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	24.98	634.5	29.94	760.5	60.8	16.0	57	SW			1	0	8		Calm	0	0	Cloudy	Prof. L. Perez.
Leon	24.35	618.5	29.96	760.9	63.5	17.5	70	NW			1	0	0			0	0	Fine	Prof. M. Leal.
Mexico, Central Obs'y	23.01	584.3	29.93	760.1	58.1	14.5	79	NE	4.5	2.0			10k		N	Inap.	Inap.	Covered	The Staff.
Pabellon (Aguascalientes)					63.0	17.2	73	Calm			0	1cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.84	757.9	29.85	758.2	75.6	24.2	93	S			1	5	0	NE		0.95	24.1	½ clouded	Prof. M. M. Cházaro,
San Luis Potosi	24.14	613.1	30.06	763.6	64.0	17.8	80	E			1	2	0	W		0	0	Clear	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.5	30.08	764.0	58.5	14.7	65	NE			1	0	0			0	0	Pleasant	J. C. Castrillon.
Puebla (Catholic Institute)	23.35	593.0	30.11	764.8	57.4	14.1	82	Calm	0	0		8	0	SE		0.82	20.9	Cloudy	Prof. P. Spina.
Colima	28.29	718.5	29.90	759.4	79.9	26.6	84	E			1	0	10		SW	0	0	Threatening	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.51	749.5	29.80	756.8	78.1	25.6	90	SE			1	0	9		SE	0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.6	29.87	758.6	68.7	20.4		W								0	0		
Groningen								S			0					0	0		
Helder	29.76	756.0	29.76	756.0	70.9	21.6		S			5					0	0		
Hellevoetsluis	29.83	757.7	29.83	757.7	67.5	19.7	72	W			4					0	0		
Utrecht	29.78	756.5	29.83	757.7	77.7	25.4	68	SW			3		8			0.028	0.7	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.58	751.4	29.64	752.8	62.6	17.0	80	S	7.8	3.5			10			1.638	41.6		
Brönö	29.64	752.8	29.68	753.8	57.6	14.2	65	N	7	3			3			0	0		
Christiania	29.66	753.3	29.80	756.9	68.0	20.0	66	SSW	13	6			10			0	0		
Tromsö	29.74	755.3	29.78	756.4	49.3	9.6	65	NE	25	11			0			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra (Azores)	29.91	759.7	30.10	764.5	67.3	19.6	81	WNW	7.4	3.3			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.09	738.8	30.07	763.8	81.0	27.2	38	WNW	8.1	3.6			0			0	0	Solar corona	Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.12	765.0	30.21	767.2	73.4	23.0	59	SW	3.8	1.7			10			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.80	756.9	30.15	765.8	72.9	22.7	64	SW	16.1	7.2			0			0	0		The Staff.
Ponta Delgada (Azores)	30.09	764.2	30.16	766.0	72.0	22.2	64	W	9.8	4.4			3			0.031	0.8		

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.06	763.5	83.3	28.5		SSW			2		4		SSW	2	S	Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.08	763.9	60.8	16.0		W			2		10		W	1	W	Overcast	J.C. M. Cabrate, 1st Lt.
Rio Duro																			J.T.d'Oliveria, Com'd't.
Rio Lima. Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.09	764.2	73.8	23.2		NE			4		4		NE	2	NE	D. clouds	P. de Fairia. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.93	760.1	84.2	29.0		ESE			3		5		ESE	1	SE	D. clouds	J.G. Felgo 2nd Lieut.

Note.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw	29.63	752.5	30.04	762.9	66.7	19.3	58	NW	9	4			9ks						Astronomical Obs.
Wilna	29.45	748.1	29.86	758.4	69.8	21.0	43	NW	11	5			5						Astronomical Obs.
Dorpat	29.43	747.4	29.66	753.3	70.2	21.2	46	WNW	11	5			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.43	747.5	29.45	747.9	57.9	14.4	75	NNW	16	7			10n						Central Physical Obs.
Kieff	29.16	740.7	29.78	756.5	58.1	14.5	90	NW	11	5			4k;ks;c;ckn]						Physical Cabinet.
Nikolaiev	29.83	757.7	29.90	759.5	75.4	24.1	45	NNW	18	8			4k						Kurdakof.
Kertch																			Lagorio.
Moscow	29.08	738.5	29.61	752.1	57.6	14.2	84	SSW	9	4			7n					Thunder-storm.	Meteorological Obs.
Lugan	29.51	749.6	29.71	754.7	70.9	21.6	50	WNW	13	6			9			Blank	Blank		Meteorological Obs.
Archangel	29.17	740.8	29.19	741.3	64.6	18.1	87	E	7	3			10						Capt. Sseliwerstow.
Tiflis	28.43	722.1	29.79	756.7	71.8	22.1	69	NW	4	2			10n					Raining	Physical Observatory.
Astrakhan	29.80	756.9	29.72	754.8	81.9	27.7	53	SSW	4	2			10ns			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.23	742.5	29.68	753.8	74.8	23.8	45	W	0	0			2k						Cand. Fatjanow.
Kasan	29.37	746.1	29.63	752.5	73.4	23.0	52	Calm	0	0			3						Physical Cabinet.
Ekaterinburg	28.80	731.5	29.73	755.1	70.5	21.4	63	SE	7	3			5cks						Meteorological Obs.
Nukuss	29.48	748.8	29.70	754.4	88.2	31.2	36	NNE	7	3			1ks						
Tashkend	28.15	715.1	29.60	751.9	90.3	32.4	55	Calm	0	0			0						Teich, A. M.
Barnaul	29.05	737.9	29.51	749.6	82.6	28.1	37	NE	2	1			4					Light clouds	Meteorological Obs.
Yeniseisk	29.52	749.9	29.80	756.9	73.9	23.3	48	N	2	1			1						Marks.
Irkutsk																			
Peking (China)	29.45	747.9	29.59	751.5	69.6	20.9	96	NW	7	3			10n					Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.85	758.1	29.95	760.6	59.2	15.1	100	SE	4	2			10n					Dense fog	
Nikolaievsk, on the Amoor.																			

Note.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	79.2	26.2	62	ENE	3.6	1.61			1ck			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.03	762.8	30.09	764.2	77.7	25.4	84	NW	2.9	1.31			10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6			82.4	28.0	33	S	3.7	1.67			0			0.039	1.0	Clear.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4	29.91	759.8	95.4	35.2	29	SW	6.7	3.00			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.82	757.5	29.97	761.1	97.3	36.3	31	E	3.5	1.56			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.16	740.6	30.04	762.9	68.0	20.0	67	SW	14.3	6.4			10			0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havána, Cuba, W. I.	29.90	759.5	29.97	761.1	79.0	26.1	88	SSE	2.2	1.0		6cs;ck	3ks	Calm	ESE	0.409	10.4	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands.	29.87	758.9	29.93	760.3	84.4	29.1	79	SSE	1.6	0.7		8ck	3ks	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.02	762.4	30.11	764.9	73.0	22.8	75	WNW	12.4	5.6		0	4		W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I	29.98	761.6	30.08	763.9	84.6	29.2	70	E	12.7	5.66		3s	4k	E	E	0	0	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.72	754.8	29.76	755.8	57.6	14.2	.....	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	29.76	756.0	29.82	757.3	59.0	15.0	52	SE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Hernosand	29.73	755.2	29.78	756.5	63.7	17.6	88	ESE	.....	.....	4	.....	1	.....	.....	0.008	0.2	.....	
Stockholm	29.67	753.7	29.85	758.2	71.4	21.9	41	W	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.80	757.0	29.86	758.5	63.7	17.6	61	W	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Uosala	29.73	755.1	29.80	757.0	73.8	23.2	53	W	7.4	3.3	.....	.....	4	.....	W	0.217	5.51	.....	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstiernd.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.39	721.2	29.93	760.2	86.0	30.0	45	SE	.....	.....	.....	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	761.9	75.2	24.0	49	ENE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.98	761.5	95.0	35.0	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.11	764.8	87.1	30.5	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.49	749.0	29.60	751.8	84.9	29.4	71	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.39	746.5	29.68	753.9	68	20.0	.....	SW	1	0.4	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.63	752.6	29.69	754.1	55	12.8	97	E	1	0.4	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	W. R. Bigg.
Chatham, N. B	29.65	753.1	29.70	754.4	65	18.3	91	W	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	G. A. Ball.
Charlottetown, P. E. Island	29.41	747.0	29.60	751.8	72.0	22.2	89	W	.....	.....	3	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.51	749.5	29.68	753.9	52	11.1	89	W	.....	.....	1	0	0	.....	.....	0.31	7.9	Clearing	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.65	753.1	29.68	753.9	44	6.7	99	NW	8	3.6	.....	.....	Fog	.....	Calm	0.41	10.4	Foggy	W. H. Bevis.
*Father Point, Quebec	29.66	753.4	29.73	755.1	66.0	18.9	89	SE	6	2.7	.....	.....	Fog	.....	.....	0.08	0.8	Foggy	J. McWilliams.
Fredericton, N. B	28.67	728.2	29.74	755.4	61	16.1	100	NW	.....	.....	1	.....	Haze	NW	.....	0	0	Hazy	Prof. Harrison.
*Fort Garry, Manitoba	29.13	739.5	29.94	760.5	50	13.3	97	N	1	0.4	.....	2c	10n	.....	.....	0.14	3.6	Overcast	James Stewart.
Granton, Ontario	29.65	753.1	29.76	755.9	60	15.6	92	S	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy	James Grant.
*Halifax, N. S	29.30	744.2	29.65	753.1	71.7	22.1	91	SW	.....	.....	1	10cs	0	.....	.....	0.09	2.3	Cloudy	F. Allison, M. A.
Hamilton, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.36	745.7	29.67	753.6	67	19.4	94	SW	5	2.2	.....	.....	10ks	.....	Calm	0.13	3.3	Cloudy	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.70	754.4	60	15.6	88	SW	6	2.7	.....	2k	0	SW	.....	0.05	1.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	29.44	747.8	29.63	752.6	71	21.7	90	S	6	2.7	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	J. R. Nason.
*Montreal, Quebec	29.06	738.1	29.73	755.1	60	15.6	90	NW	3	1.3	.....	2ck	2ks	W	W	0.27	6.9	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. R. Mosley.
Peterboro, Ontario	29.06	738.1	29.72	754.9	68	20.0	100	SW	4	1.8	.....	.....	10n	.....	SW	0.05	1.3	Threatening	J. F. Jeffers, B. A.
Port Dover, Ontario	29.66	753.4	29.70	754.4	63.1	17.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Hastings, N. S	29.12	739.6	29.74	755.4	67	19.4	95	W	10	4.5	.....	.....	10n	.....	SW	0.01	0.3	Light rain	Peter Grant.
Port Stanley, Ontario	29.38	746.2	29.69	754.1	56	13.3	100	Calm	.....	.....	0	.....	Fog	.....	.....	0.09	2.3	Foggy	M. Payne.
*Quebec, Quebec	29.22	742.2	29.65	753.1	60	15.6	94	W	3	1.3	.....	.....	10s	.....	W	0.42	10.7	Raining	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.67	753.6	29.72	754.9	56	13.3	*86	SE	.....	.....	1	.....	n	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.58	751.3	29.74	755.4	56	13.3	93	S	4	1.8	.....	.....	10ks	.....	.....	0.01	0.3	Light mist	Dr. Gove.
St. John, N. B	29.05	737.9	29.74	755.4	60	15.6	86	N	8	3.6	.....	.....	10ks	.....	.....	0.35	8.9	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	28.95	735.3	29.71	754.6	61	16.1	88	N	8	3.6	.....	5k	2n	NW	N	0.73	18.5	Cloudy	K. Stewart.
Stayner, Ontario	28.49	723.6	29.72	754.9	62.0	16.7	92	NW	6	2.7	.....	.....	10s	.....	.....	0.420	10.67	Cloudy	R. J. Cole.
Stratford, Ontario	29.69	754.1	29.72	754.9	60	15.6	94	SW	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.32	744.7	29.69	754.1	69	20.6	96	SW	3	1.3	.....	.....	10n	.....	W	0.54	13.7	Light rain	T. C. Hill.
*Toronto, Ontario	29.62	752.3	29.72	754.9	65.0	18.3	89	E	2	0.9	.....	0	8k	.....	.....	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	29.86	758.4	30.11	764.8	41.0	5.0	96	SE	.....	.....	.....	.....	10n	.....	.....	0.25	6.3	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,095 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.55	750.6	29.77	756.1	74	23.3	81	S	4	1.8		2ck	1s	SW	SW	0.53	13.5	Fair	
Alpena, Michigan	29.13	739.9	29.75	755.6	60	15.6	88	SW	8	3.6			10s		SW	0.08	2.0	Cloudy	
Atcha, Aleutian Is., Alaska					43	6.1	100	SE			4		10s		NW	0	0	Cloudy	
Atlanta, Georgia	28.83	732.3	29.92	760.0	73	22.8	71	SE	6	2.7		8k	2s	Calm	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.84	757.9	29.86	758.4	67	19.4	84	SW	10	4.5		0	Haze			0	0	Clear	
Augusta, Georgia	29.81	757.2	30.00	762.0	75	23.9	77	SE	4	1.8		2k	0	E		0	0	Fair	
Baltimore, Maryland	29.83	757.7	29.88	758.9	77	25.0	73	SW	10	4.5		8k	0	SW		0	0	Fair	
Barnegat, New Jersey	29.84	757.9	29.86	758.4	73	22.8	67	SW	8	3.6		2ck	Haze	Calm	Calm	0	0	Clear	
Bismarck, Dakota	28.16	715.3	30.02	762.5	58	14.4	75	Calm	0	0			0			0	0	Clear	
Boerne, Texas	28.42	721.9	29.68	753.4	76	24.4	52	S			1		0			0	0	Clear	
Boise City, Idaho	27.02	686.3	29.98	761.5	53	11.7	67	NE	1	0.4		0	0			0	0	Clear	
Boston, Massachusetts	29.63	752 6	29.77	756.1	79	26.1	66	SW	8	3.6		5cs	0	SW		Inap.	Inap.	Fair	
Brackettville, Texas	28.71	729.2	29.68	753.9	60	26.7	74	E	5	2.2		0	0			0	0	Clear	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	54	12.2	93	W	3	1.3		8k	0	NW		0	0	Cloudy	
Brownsville, Texas	29.78	756.4	29.82	757.4	85	29.4	72	SE	4	1.8		2k	0	SE		0	0	Clear	
Buffalo, New York	29.03	737.3	29.69	754.1	70	21.1	90	SW	16	7.2			10n		SW	Inap.	Inap.	Light rain	
Burkes, Arizona					75	23.9	37	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.42	747.3	29.69	754.1	74	23.3	76	S	10	4.5			10s		Calm	0	0	Cloudy	
Cairo, Illinois	29.45	748.0	29.82	757.4	73	22.8	85	SE	4	1.8			10s		SE	4.94	125.5	Cloudy	
Campo, California	27.28	692.9	29.85	758.2	43	6.1	79	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	74	23.3	86	SW	12	5.4		1cs	8n	Calm	SW	0.29	7.4	Light rain	
Cape Henry, Virginia	29.95	760.7	29.96	761.0	76	24.4	73	SW	18	8.0		0	Haze		Calm	0	0	Clear	
Cape Lookout, N. Carolina	30.02	762.5	30.03	762.7	76	24.4	86	SW	16	7.2			10n		SW	0.06	1.5	Light rain	
Cape May, New Jersey	29.84	757.9	29.87	758.7	72	22.2	81	S	12	5.4		0	Haze			0	0	Clear	
Castroville, Texas	29.05	737.9	29.71	754.6	84	28.9	64	SE	4	1.8		0	2s		S	0	0	Fair	
Charleston, South Carolina	29.94	760.5	30.00	762.0	76	24.4	82	W	4	1.8		2ck	0	W		0	0	Fair	
Charlotte, North Carolina	29.15	740.4	29.92	760.0	78	25.6	65	S	6	2.7		0	Haze		Calm	0	0	Clear	
Chattanooga, Tennessee	29.16	740.7	29.92	760.0	74	23.3	68	SW	2	0.9		1cs	Sm'e	Calm	Calm	0	0	Dense smoke	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	57	13.9	81	S	11	4.9		0	8ks		S	0	0	Cloudy	
Chicago, Illinois	29.14	740.1	29.81	757.2	61	16.1	82	N	3	1.3			10s		SW	0.50	12.7	Light rain	
Cincinnati, Ohio	29.23	742.4	29.84	757.9	73	22.8	85	SW	6	2.7			10n		SW	1.57	39.9	Light rain	
Cleveland, Ohio	29.08	738.6	29.77	756.1	72	22.2	80	SW	10	4.5			10ks		SW	0.08	2.0	Threatening	
Coleman City, Texas	28.11	714.0	29.68	753.9	79	26.1	70	W	4	1.8		0	5s		SW	0	0	Fair	
Columbus, Ohio	29.00	736.6	29.79	756.7	74	23.3	72	SW	4	1.8			10ks		W	Inap.	Inap.	Cloudy	
Concho, Texas	27.99	710.9	29.56	750.8	78	25.6	65	N	12	5.4			10s		N	0	0	Cloudy	
Corsicana, Texas	29.41	747.0	29.86	758.4	79	26.1	82	S	4	1.8		6ck	2s	NW;N	SW	0	0	Fair	
Davenport, Iowa	29.23	742.4	29.84	757.9	63	17 2	78	N	7	3.1		8ck;cs	0	W		0.03	0.8	Fair	
Deadwood, Dakota	25.44	646.2			58	14.4	70	S	1	0.4		0	0			0.17	4.3	Clear	
Decatur, Texas	28.75	730.2	29.87	758.7	69	20.6	90	E	16	7.2			8s		E	0.72	18.3	Cloudy	
Denison, Texas	29.06	738.1	29.83	757.7	68	20.0	90	SE	8	3.6			10n		NW	1.42	36.1	Light rain	
Denver, Colorado	24.85	631.2	30.07	763.8	60	15.6	77	S	2	0.9		0	0			0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.89	759.2	64	17.8	83	N	3	1.3		2ck	0	NW		0	0	Clear	
Detroit, Michigan	29.11	739.4	29.75	755.6	66	18.9	89	N	4	1.8			10s		NW	0.04	1.0	Cloudy	
Dodge City, Kansas	27.45	697.2	29.67	753.6	63	17.2	89	N	16	7.2		2c	5ks	W	N	0	0	Fair	
Dubuque, Iowa	29.16	740.7	29.83	757.7	62	16.7	77	NW	2	0.9		8k	Haze	NW	Calm	0.37	9.4	Fair	
Duluth, Minnesota	29.19	741.4	29.85	758.2	61	16.1	82	NW	3	1.3		5k	0	W		0	0	Fair	
Eagle Pass, Texa	29.03	737.3	29.70	754.4	81	27.2	74	SE	5	2.2		0	0			0	0	Clear	
Eastport, Maine	29.67	753.6	29.73	755.1	53	11.7	86	S	3	1.3		10c	Haze	Calm	Calm	0.02	0.5	Cloudy	
Edinburg, Texas					82	27.8	56	Calm			0	0	0			0	0	Clear	
El Paso, Texas	26.12	663.4			75	23.9		W	6	2.7		5k	0	W		0	0	Fair	
Erie, Pennsylvania	29.06	738.1	29.72	754.9	75	23.9	77	SW	12	5.4			10s		W	0	0	Cloudy	
Escanaba, Michigan	29.13	739.9	29.76	755.9	62	16.7	72	NW	4	1.8			10ks		SW	0	0	Cloudy	
Florence, Arizona	28.30	718.8	29.90	759.4	80	26.7	25	Calm	0	0		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																0	0	Clear	
Fort Buford, Dakota	27.87	707.9			55	12.8	79	SW	2	0.9		0	0						
*Fort Craig, New Mexico																0	0	Fair	
Fort Davis, Texas	25.13	638.3	30.09	764.3	74	23.3	55	Calm	0	0		2ck	0	Calm		0.90	22.9	Cloudy	
Fort Gibson, Indian Ter	29.36	745.7	29.88	758.9	67	19.4	95	N	5	2.2			10s		N	0		Clear	
Fort Grant, Arizona	25.18	639.6	29.98	761.5	70	21.1	32	Calm	0	0		0	0			0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.86	758.4	71	21.7	80	E	3	1.3		0	0			0	0	Clear	
Fort Keogh, Montana	27.35	694.7			62	16.7	61	Calm	0	0		0	0			0	0	Clear	
Fort McKavett, Texas	27.67	702.8	29.48	748.8	77	25.0	69	S	4	1.8		2ck	5s	Calm	S	0	0	Fair	
Fort St. Michael, Alaska	29.45	748.0	29.48	748.8	39	3.9	100	S	7	3.1			10n		S	0.45	11.4	Raining	
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.66	728.0	29.71	754.6	71	21.7	75	SE	7	3.1		5ck	0	Calm		0.67	17.0	Fair	
Fort Stevenson, Dakota	28.12	714.2			54	12.2	80	Calm	0	0		0	0			0	0	Clear	
Fort Verde, Arizona					65	18.3	26	NW			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.13	714.5	29.62	752.3	74	23.3	72	E	15	6.7		0	2ks		Calm	0	0	Fair	
Galveston, Texas	29.83	757.7	29.87	758.7	82	27.8	79	S	7	3.1		2k	0	SW		0.02	0.5	Clear	
Graham, Texas	28.81	731.8	29.81	757.2	73	22.8	76	E	12	5.4		4cs	0	Calm		0	0	Fair	
Grand Haven, Michigan	29.16	740.7	29.78	756.4	64	17.8	78	NW	6	2.7			10s		NW	0	0	Cloudy	
Helena, Montana																			
Henrietta, Texas	28.89	733.8	29.79	756.7	68	20.0	90	SE	10	4.5		0	2s		W	0.27	6.9	Fair	
Indianapolis, Indiana	29.04	737.6	29.77	756.1	72	22.2	85	S	2	0.9			10s		S	0.41	10.4	Threatening	
Indianola, Texas	29.84	757.9	29.87	758.7	85	29.4	76	S	7	3.1		0	1ks		S	Inap.	Inap.	Clear	
Jacksboro, Texas	28.75	730.2	29.84	757.9	70	21.1	75	S	16	7.2		0	5cs		SW	0	0	Fair	
Jacksonville, Florida	29.99	761.7	30.02	762.5	79	26.1	74	E	3	1.3		0	0			0	0	Clear	
Keokuk, Iowa	29.19	741.4	29.78	756.4	65	18.3	89	N	11	4.9			10s		N	0.02	0.5	Cloudy	
Key West, Florida	29.96	761.0	29.99	761.7	78	25.6	86	SE	6	2.7			10s		Calm	0.35	8.9	Cloudy	
Kittyhawk, North Carolina	29.98	761.5	30.00	762.0	78	25.6	82	SW	13	5.8		2k	Haze	SW	Calm	0	0	Fair	
Knoxville, Tennessee	28.98	736.1	29.93	760.2	74.5	23.6	74	W	1	0.4		2cs	Haze	Calm		0.02	0.5	Fair	
La Crosse, Wisconsin	29.12	739.6	29.83	757.7	61	16.1	88	S	2	0.9		2k	0	Calm		0.45	11.4	Clear	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	68	20.0	18	Calm	0	0		2ck	0	NW		0	0	Clear	
Laredo, Texas	29.44	747.8	29.76	755.9	80	26.7	51	SE	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	29.05	737.9	29.86	758.4	66	18.9	84	N	9	4.0		2c	0			0.61	15.5	Clear	
Little Rock, Arkansas																			
Los Angeles, California	29.53	750.0	29.87	758.7	59.0	15.0	85	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.30	744.2	29.83	757.7	74	23.3	81	SW	4	1.8			10ks		SW;Calm	0.81	20.6	Light rain	
Lynchburg, Virginia	29.26	743.2	29.90	759.4	81	27.2	66	S	5	2.2		0	0			0	0	Clear	
Madison, Wisconsin	28.85	732.8	29.80	756.9	61	16.1	88	NW	6	2.7		2cs	0	W		0.29	7.4	Fair	
Marquette, Michigan	29.07	738.4	29.75	755.6	61	16.1	77	W	4	1.8		10k	0	W		0	0	Cloudy	
Mason, Texas	28.24	717.3	29.90	759.4	77	25.0	73	S	5	2.2		0	2s		S	0	0	Fair	
Memphis, Tennessee	29.51	749.5	29.83	757.7	80	26.7	74	S	12	5.4			10s		Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.08	738 6	29.78	756.4	61	16.1	88	NW	8	3.6		5ck;cs	0	SW		0.10	2.5	Cloudy	
Mobile, Alabama	26.93	760.2	29.97	761.2	78	25.6	92	S	4	1.8		0	1ks		S	0	0	Clear	
Montgomery, Alabama	29.78	756.4	30.00	762.0	79	26.1	68	SW	4	1.8		1k	0	SE		0	0	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahren'heit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	28.88	733.5	29.81	757.2	77	25.0	69	SW	8	3.6	.....	5k	0	SW	.....	0.61	15.5	Fair	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	52	11.1	93	W	10	4.5	.....	0	8ks	.....	W	0.14	3.6	Fair	
Nashville, Tennessee	29.37	746.0	29.87	758.7	82	27.8	60	SW	2	0.9	.....	2ck	0	SW	.....	0.16	4.1	Fair	
New Haven, Connecticut	29.70	754.4	29.81	757.2	79	26.1	74	S	3	1.3	.....	0	Haze	.....	Calm	Inap.	Inap.	Hazy	
New London, Connecticut	29.78	756.4	29.83	757.7	77	25.0	73	SW	7	3.1	.....	2ck	Haze	W	Calm	Inap	Inap.	Fair	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	82	27.8	75	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.78	756.4	29.83	757.7	67	19.4	89	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
New York, New York	29.67	753.6	29.84	757.9	76	24.4	81	SW	6	2.7	.....	2cs	Haze	Calm	Calm	Inap.	Inap.	Fair	
Norfolk, Virginia	29.92	760.0	29.97	761.2	82	27.8	67	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
North Platte, Nebraska	27.16	689.8	29.70	754.4	54	12.2	93	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	52.0	11.1	72	SW	4	1.8	.....	0	8s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.81	731.8	29.87	758.7	63	17.2	94	NW	6	2.7	.....	0	Fog	.....	Calm	0.05	1.3	Clear.	
Oswego, New York	29.41	747.0	29.71	754.6	75	23.9	77	S	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Pembina, Dakota	29.04	737.6	29.86	758.4	52	11.1	93	Calm	0	0	.....	5k	0	NW	.....	0	0	Fair	
Philadelphia, Pa	29.80	756.9	29.84	757.9	77	25.0	77	SW	11	4.9	.....	2ck	Haze	W	Calm	0	0	Fair	
Phœnix, Arizona	28.56	725.4	30.28	769.1	78	22.8	42	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	31	— 0.6	69	SW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pioche, Nevada	.....	.....	.....	.....	60	15.6	24	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.05	737.9	29.81	757.2	71	21.7	80	SW	8	3.6	.....	.....	10s	.....	SW	0.42	10.7	Cloudy	
Port Huron, Michigan	29.11	739.4	29.75	755.6	60	15.6	68	N	8	3.6	.....	.....	10ks	.....	.....	0.10	2.5	Cloudy	
Portland, Maine	29.70	754.4	29.75	755.6	73	22.8	85	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Portland, Oregon	30.00	762.0	30.07	763.8	56.5	13.6	63	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pilot Point, Texas	29.07	738.4	29.85	758.2	78	25.6	90	SE	7	3.1	.....	8k	2s	S	SE	0.03	0.8	Cloudy	
Punta Rassa, Florida	29.98	761.5	30.00	762.0	79	26.1	82	SE	8	3.6	.....	5ck	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.42	747.3	29.76	755.9	72	22.2	46	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.63	752.6	29.84	757.9	80	26.7	82	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.11	739.4	29.69	754.1	75	23.9	77	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Roseburg, Oregon	29.46	748.3	30.02	762.5	56	13.3	81	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.68	753.9	29.76	755.9	58	14.4	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.24	742.7	29.78	756.4	68	20.0	70	W	1	0.4	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
St. Marks, Florida	30.00	762.0	30.02	762.5	76	24.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
St. Paul, Minnesota	29.03	737.3	29.82	757.4	62	16.7	77	NW	2	0.9	.....	2cs	0	Calm	.....	0	0	Clear.	
Salt Lake City, Utah	25.60	650.2	29.92	760.0	62	16.7	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.14	740.1	29.69	754.1	82	27.8	75	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.83	757.7	29.90	759.4	62	16.7	83	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.12	739.6	29.76	755.9	71	21.7	90	W	8	3.6	.....	.....	10s	.....	W	0.08	2.0	Threatening	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	79	26.1	78	SW	8	3.6	.....	5ck	Haze	W	Calm	0	0	Fair	
San Francisco, California	29.78	756.4	29.85	758.2	52	11.1	90	SW	10	4.5	.....	.....	Fog	.....	SW	0	0	Foggy	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	58	14.4	37	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Savannah, Georgia	29.92	760.0	30.01	762.2	82	27.8	67	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.69	754.1	29.90	759.4	78	25.6	82	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	24.30	617.2	30.26	768.6	63	17.2	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.01	762.2	30.04	763.0	77	25.0	82	SW	7	3.1	.....	.....	10s	.....	SW	0.04	1.0	Cloudy	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.66	753.4	29.78	756.4	78	25.6	78	S	6	2.7	.....	2c	Haze	W	.....	0.02	0.5	Fair	
Stockton, Texas	26.81	681.0	29.81	757.2	76	24.4	34	S	4	1.8	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Thatcher's Island, Mass	29.73	755.1	29.78	756.4	65	18.3	89	SW	8	3.6	.....	5ck	Sm'e	W	Calm	0	0	Fair	
Toledo, Ohio	29.11	739.4	29.75	755.6	73	22.8	76	W	8	3.6	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Tucson, Arizona	27.41	696.2	29.96	761.0	78	25.6	46	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.50	749.3	29.97	761.2	64.0	17.8	68	NW	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Uvalde, Texas	28.91	734.3	29.69	754.1	79	26.1	78	S	1	0.4	.....	0	1s	.....	S	0	0	Clear	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	75	23.9	86	S	10	4.5	.....	5k	0	S	.....	0	0	Fair	
Virginia City, Montana	24.26	616.2	29.73	755.1	54	12.2	38	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.39	746.5	29.75	755.6	64	17.8	53	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.76	755.9	29.87	758.7	79	26.1	66	SW	10	4.5	.....	5ck	0	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	62	16.7	36	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.94	760.5	30.01	762.2	77	25.0	82	S	2	0.9	.....	10ck	0	Calm	.....	0	0	Cloudy	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	56	13.3	40	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.78	756.4	29.82	757.4	70	21.1	84	SW	14	6.3	.....	.....	8s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.71	729.2	29.96	761.0	61	16.1	88	W	2	0.9	.....	0	Haze	.....	Calm	0.11	2.8	Clear	
Yuma, Arizona	29.56	750.8	29.72	754.9	70	21.1	61	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	80	26.7	86	SE	1.2	0.5	.....	5c	0	SE	.....	0.50	12.7	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	67.5	19.7	83	Calm	.....	.....	0	3c;cs	4ks	.....	.....	0.30	7.6	.....	Thomas Herran.
Navassa, W. I.	29.89	759.2	29.97	761.2	80	26.7	78	E	.....	.....	.....	.....	.....	.....	.....	0.33	8.4	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	79	26.1	82	SE	.....	.....	2	3c	5k	SE	.....	1.500	38.10	Fair	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,260 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.468 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm., Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

Stations and Vessels.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.01‡	762.2‡			80	26.7	87	SE	3	1.3			5		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡			69	20.6	95	E			2		9n		NW	0.93	23.6			Raining	
Adams, Acapulco, Mexico	29.78‡	756.4‡			76	24.4	91	NE			2		10		NE					Cloudy	
Alaska, San Francisco, Cal	29.84‡	757.9‡			52	11.1	93	SSW			4		10		SW	0	0			Overcast	
Alliance, Southampton, Eng	29.89‡	759.2‡			63	17.2	72	SW			4–6		10		W					Cloudy	
Ashuelot, N. 34° 23′, E. 133° 23′	29.96‡	761.0‡			74	23.3	95	NNW			2		10		Calm			Smooth		Showery	
Colorado, New York, N. Y	29.85‡	58.2‡			79	26.1	70	SW	5	2.2			2			0	0			Clear	
Constellation, N. 39° 42′, W. 68° 54′	30.03‡	762.7‡			69.6	20.9	95	SW			4		0			0	0	Slight	SW	Clear	
Constitution, League Island, Penn	29.88‡	758.9‡			78	25.6	78	SW			2		5		SW					Pleasant	
Despatch, Lynn Haven Bay, Va	29.95‡	760.7‡			75	23.9	86	SW			3		1		Calm	0	0	Smooth		Clear	
Enterprise, Christiania, Norway	29.89‡	759.2‡			66	18.9	79	S			4		10		S					Cloudy	
Franklin, Norfolk, Va	30.00‡	762.0‡			77	25.0	77	SW	14	6.3			2		Calm	0	0			Fair	
Hartford, Montevideo, Uruguay	30.03‡	762.7‡			51	10.6	59	N	4	1.8			8		N	0	0			Cloudy	
Kearsarge, New York, N.Y	29.85‡	758.2‡			78	25.6	78	SSW			3		1							Clear	
Marion, Hampton Roads, Va	29.97‡	761.2‡			76	24.4	100	WSW			2		2		Calm			Smooth		Clear	
Michigan, Erie, Pa	29.70‡	754.4‡			74	23.3	81	W			4		10							Overcast	
Monocacy, Shanghai, China	29.83‡	757.7‡			80	26.7	87	SSE			1		2							Fair	
Monongahela, Yokohama, Japan	29.97‡	761.2‡			69	20.6	??	NE			2		n			Very heavy	Very heavy			Thunder-storm	
New Hampshire, Port Royal, S. C	30.03‡	762.7‡			77	25.0	86	WSW	4	1.8			2		Calm	0.08	2.0			Clear	
Onward, Callao, Peru †	30.19‡	766.8‡			61	16.1	82	SE			2		10					Long	W	Misty	
Palos, Shanghai, China	29.80‡	756.9‡			78	25.6	95	SSE			1		2							Fair	
Passaic, Washington, D. C					77	25.0	95	SW			3		5		SW					Fair	
Pensacola, Iquique, Peru	30.01‡	762.2‡			59	15.0	76	NE	2	0.9			10			0	0	Smooth	SW	Overcast	
Portsmouth, New London, Conn	29.82‡	757.4‡			69	20.6	90	SW			2		2		S	0	0	Smooth		Clear	
Powhatan, New York, N. Y	29.87‡	758.7‡			77	25.0	82	WSW			2		5		Calm	0	0			Fair	
Quinnebaug, Constantinople, Turkey	29.97‡	761.2‡			76	24.4	84	NNE			3		0							Clear	
Ranger, Amoy, China	29.90‡	759.4‡			82	27.8	87	SSW			1–2		5		Calm			Smooth		D. clouds	
Richmond, Tomo Bay, Japan	29.92‡	760.0‡			76	24.4	86	W			2		5		W			Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.83‡	757.7‡			79	26.1	91	Calm			0		2		S	0	0	Smooth		Fair	
Santee, Annapolis, Md	29.89‡	759.2‡			80	26.7	58	SW			1		5?		SW	0	0			Clear?	
Saratoga, Murray, Bermuda, N. Atlan.	30.24‡	765.1‡			79	26.1	95	SW			3		5		WSW	0	0			D. clouds	
St. Louis, League Island, Pa	29.86‡	758.4‡			77	25.0	77	SSW	8	3.6			5		W	0	0			Misty	
Trenton, Spit Head, Eng.	29.88‡	758.9‡			65	18.3	68	W			4–6		5		SW	0	0	Mod'ate	W	Squally	
Tuscarora, N. 35° 34′, W. 121° 25′	29.89‡	759.2‡			56	13.3	100	NW			1		10		Calm	0	0	Smooth		Foggy	
Vandalia, New York City, N. Y	29.85‡	758.2‡			79	26.1	82	WNW			2		5		W	0	0			Fair	
Wabash, Boston, Mass	29.78‡	756.4‡			80	26.7	66	SW	3	1.3			5			0	0			Fair	
Wyoming, Venice, Italy	30.09‡	764.3‡			82	27.8	63	SW			0–1		0					Smooth		Clear	
Wachusett, Vicksburg, Miss	29.90‡	759.4‡			77	25.0	86	SSE			2		2		S					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, Acapulco, Mexico †.		29.88‡	758.9‡	77	25.0	95	NE			2		10		NE	1.10 in. or 27.9mm	Small	SE	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whiteburn.
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†		30.06‡	763.5‡	52	11.1	86	W			2		0						Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. O. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, Hong-Kong, China †.		29.90‡	759.4‡	83	28.3		SE			3		ks		SE	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalfe																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.92‡	760.0‡				W			8		5		W				Cloudy?	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 32′, W. 32° 11′		29.70‡	754.4‡	77	25.0	91	NW			6		8		NE	Light	Heavy	NW	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, Pascagoula, Miss.		30.00‡	762.0‡	81	27.2	70	SSE	4	1.8			2k		S	0			D. clouds	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.09‡	764.3‡				E			6		2		E		Rough		Clear.	N. B. Foss.
Schooner Harry and Fred, N. 40° 59′, W. 71° 59′		29.85‡	758.2‡				SW	4	1.8			2		W	0	Smooth	SW	Hazy	Capt. George Gardner.
W. D. Hilton, Philadelphia, Pa.†		29.92‡	760.0‡	85	29.4		SW			5		0			Blank			Clear	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Rouen, France.†		29.96‡	761.0‡	66	18.9	79	N			2		2		N				Fair	Capt. P. Sandelin.
Sch't A. A. Rowe, Capt. Beckwith, N. 41° 42′, W. 69° 47′.†		29.84‡	757.9‡				SW			6		0				Smooth	SW	Smoky	L. Dunbar.
Schooner Henry Whitney, N. 38° 52′, W. 74° 16′.†		29.93‡	760.2‡	75	23.9		SW			5		0				Smooth		Smoky	Capt. Wm. Shepherd

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 29, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algéria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.09	764.2	85.5	29.7	48	N			1		0						
Algiers			30.04	762.9	86.7	30.4	54	W			4		0			0	0	Clear	Kesxuche.
La Calle			30.05	763.3	87.8	31.0	60	ENE			2		2			0	0	Clear	Touriliere.
Tunis																0	0	Fair	Foufrede.
Sfax			30.16	766.0															Jacques.
Saida			30.07	763.6	97.3	36.2	29	W			3		0			0	0	Clear	Gau.
Tebessa			30.09	764.2	94.3	34.6	18	E			4		2			0	0	Fair	Herbin.
Geriville			30 15	765.5	86.7	30.4	41	SE			1		0			0	0	Clear	Watrin.
Laghouat			30.07	763.7	102.9	39.4	24	ENE			5		0			0	0	Clear	Bruguiaux.
Biskra			30.06	763.4	103.1	39.5	26	NE			1		0			0	0	Clear	Bertrand.
																			Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.49	749.1	30.01	762.2	88.2	31.2	48	E			2		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.29	743.9	30.02	762.5	79.5	26.4	68	NW			1		10			0	0		Dr. Wierzbiski.
Eperies	29.14	740.2	29.97	761.3	81.0	27.2	57	S			2		8c8;8			0	0		Julius Mikolik.
Gratz	28.81	731.8	29.98	761.5	85.3	29.6	56	NW			2		2			0	0		Andreas Rospini.
Hermannstadt	28.69	728.8	30.04	762.9	84.0	28.9	38	NW			1		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.71	729.3	29.97	761.3	84.2	29.0		NE			1		1			0	0		Prof. C. Wagner.
Lemberg	29.03	737.4	29.97	761.3	75.4	24.1	64	NW			1		6			0	0		Dr. T Stanecki.
Pola	29.96	760.9	30.07	763.6	93.9	34.4	30	ESE			1		0			0	0		I.R.HydrographicOffice.
Szathmar	29.63	752.5	30.06	763.5	89.8	32.1	97	SE			2		3			0	0		Julius Csics, S. J.
Szegedin	29.79	756.6	30.05	763.3	83.1	28.4	56	S			1		0			0	0		Karl Stancel.
Trieste	29.97	761.2	30.07	763.8	85.6	29.8	65	Calm			0		0			0	0	Clear	P. Busin.
Vienna	29.32	744.8	30.00	761.9	86.4	30.2	49	NW			1		0			0.287	7.3		I. R. Central Met.Obs'y.

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London. Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Clouds. Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer
Aberdeen	29.60	751.8	29.69	754.1	61.7	16.5		SW	17	7.6			5			0	0	Blue sky	W. Boswell.
Ardrossan																			Wm.McNeil &G.Carrick.
Armagh, Observatory			29.48	748.8	62.2	16.8		SSW	14	6.3									S. Call.
Bidston (Liverpool Obs)			29.81	757.2	64.9	18.3		SW	21	9.4			7					D. clouds	John Hartnup.
Bolton (Sharples)			29.83	757.7	59.3	15.2		SSW	12	5.4			6					D. clouds	Thomas Mackereth.
Bradford, Yorkshire																0.02	0.5		J. McLandsborough.
Bridgetown (Barbadoes)	29.94	760.5	29.97	761.2	83.5	28.6		NE			2		3					D. clouds	Pvt.G.Surgener,A.H.C.
Cambridge, Observatory	29.83	757.7	29.92	760.0	67.0	19.4		SW			2		10					Overcast	H. Todd.
Cardington			29.92	760.0	69.0	20.6		SW			2		10			Blank	Blank	Overcast	John McLaren.
Chatham, School M. E.	29.86	758.4	29.99	761.7	62.6	16.9		W			1		7					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.68	753.9	29.72	754.9	57	13.9		SW			4		10					Raining	J. Mac Gowan.
Dover	29.99	761.7	30.02	762.5	63	17.2		WSW			2		2					¼ clouded	J. Costello.
Falmouth, Observatory	29.74	755.4	29.96	761.0	58.1	14.5		SW			3		5					D. clouds	The Staff.
Fort Napier (Natal)	27.62	701.5	29.91	759.7	82.0	27.8		NW			3		5					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.80	756.9	30.03	762.7	76	24.4		Calm			0		4					D. clouds	
Galway, Queen's College			29.66	753.4	58	14.4		SW			6		7					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	30.01	762.2	30.06	763.5	73.8	23.2		W			3		2					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.48	748.8	29.68	753.9	61.0	16.1		SSW			7		3					D. clouds	D. G. Maclean.
Great Yarmouth	29.96	761.0	29.96	761.0	64	17.8		S			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.96	761.0	66.8	19.3		SW			3		6					D. clouds	The Staff, for G.B.Airy.
Guernsey	29.80	756.9	30.02	762.5	60	15.6		SSW			1		8					D. clouds	Dr. S.E.Hoskins,F.R.S.
Helston	29.91	759.7	30.03	762.7	67	19.4		S			2		8ck					Thunder-storm	M. P. Moyle.
Holyhead	29.79	756.7	29.80	756.9	58	14.4		SSW			6		10					Misty	John Tilston.
Jersey	29.79	756.7	30.08	764.0	54.0	12.2		SW			1		10					Raining	J. Fisher.
Kew, Observatory	29.93	760.2	29.97	761.2	62.5	16.9		SSW	15	6.7			9					Threatening	The Met'g'l Office.
Leicester, Museum.	29.65	753.1	29.90	759.4	59.1	15.1		W			4		10					Gloomy	Wm.J.Harrison,F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	80.0	26.7		NE			1		0					Blue sky	A. King.
Nairn	29.52	749.8	29.61	752.1	65	18.8		SW			4		2					¼ clouded	W. D. Penny.
Nassau (Bahamas)			30.01	762.2	81.8	27.7		SE			1		10					Overcast ?	C. S. Duncombe.
Nottingham, Observatory	29.70	754.4	29.88	758.9	63.5	17.5		SSW			5		8ks;k;d		S	0.016	0.40	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.36	745.7	29.87	758.7	62.0	16.7		S			4–5		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.93	760.2	64	17.8		W			5		4					Squally	H. E. Bellamy.
Plymouth	29.89	759.2	29.97	761.2	60.7	15.9		SSW			2		10					Overcast	John Merrifield.
Prince Town	28.50	723.9	29.97	761.2	52.2	11.2		WSW			4		10					Squally	W. H. Tooker.
*Roche's Point	29.75	755.6	29.86	758.4	59	15.0		WSW			5		5					½ clouded	Wm. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse (Orkneys)			29.60	751.8	56	14.4		SSE	17	7.6			5					Showery	Rev C.Clouston,L.L.D.
Scutari, Cemetery (Turkey)	29.96	761.0	30.02	762.5	82.6	28.1		NE			2		3			0	0	D. clouds	Serg't W. H.Lyne.
Sheffield	29.61	752.1	29.89	759.2	60.7	15.9		SSW			2		10			0.01	0.3	Squally	W. F. Cooper.
Silloth Rectory	29.74	755.4	29.77	756.1	60.3	15.7	73	SW			7		4			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.45	748.0	29.85	758.2	54.6	12.6		SW			1		10					Thunder-storm	Rev. S. J. Perry.
Stratfield, Turgiss	29.75	755.6	29.97	761.2	64.4	18.0		S			3–4		9					Squally	Rev.C.H.Griffith,F.M.S.
Truro, Royal Institution	29.94	760.5	29.95	760.7	63	17.2		S			7		5					D. clouds	W. Newcombe.
Valencia, Observatory	29.74	755.4	29.76	755.9	58.5	14.7		SW	37	16.5			8					D. clouds	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.96	761.0	30.00	762.0	56.5	13.6	71	WNW	11	4.9		10	10			0	0	Threatening	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.25	768.3	40.0	4.4	86	NW			2		0			0.01	0.3	Star-light	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.73	755.1	63.0	17.2		SW			3		8k			0	0	Cloudy	Andrew Gibb
Mauritius, Observatory	29.98	761.5	30.17	766.2	71.9	21.2	76	ESE	14.0	6.3		1	8			0.01	0.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	51.0	10.6	83	SE	8	3.6			10			0.01	0.8	Dull	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.54	750.3	56	13.3		SSW			6	5	5	SSW		0	0	Solar halo	J. Youngclaue.
North Unst (Shetland Is.)			29.64	752.8	57	13.9		S			4	6	2	SW		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.: Nottingham 6 p. m.: Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Inches	Millimeters	Inches	Millimeters	Fahrenheit	Centigrade	Per cent	Wind from—	Miles per hour	Meters per second	Force	Clouds Upper	Clouds Lower	Direction Upper	Direction Lower	Sea or swel. Height scale 0—9	Direction from—	Weather	Observer
H. M. S. "Fawn," N. 40° 30'. E. 28° 45'			30.04‡	763.0‡	77	25.0		NNE			5		3					D. clouds	Capt.W.J.L.Wharton.
Barque Fedalma, N. 56° 00', W. 8° 50'			29.52	749.8	57	13.9		WSW			6		0			4	WSW	Blue sky	Capt. H. L. Fox.
Agnes Wilson, N. 23° 40', W. 83° 20'			29.96	761.0	80	26.7		SSE			5		8	WSW		3	SSE	D. clouds	Capt. H. W. Dyke.
Algeria, N. 43° 00', W. 52° 30'			29.85	758.2	62	16.7		SW			4		10			2		Foggy	Capt. Wm. Watson.
Astarte, N. 25° 40', W. 37° 10'....*			30.28‡	769.1‡	79	26.1		NE			4		2					Blue sky	Capt. Parson.
British Peer, N. 42° 45', W. 40° 20'			29.92	760.0‡	65.8	18.8		SW			3		6					Misty	Capt. Greig.
S. S. Amanda																			Capt. B. Boyes.
Barque Belle-Isle																			Capt. A. J. Brown.
Ship British Commodore																			Capt. J. W. Thorne.
Barque Commewyne																			Capt. A. Buchan.
S. S. Royal Alexandra																			W. P. Hughes.
Brig Alliance.§																			Capt. W. Scott.
S. S. Iron Cross																			Capt. W. Randall.
S. S. Nizam																			Capt. Barlow.
Theophane																			Capt. Raymond.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER
San José	26.18	665.0	29.90	759.4	67.6	19.8	89	SE			2	7c;ck				Inap.	Inap.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.6	29.95	760.8	70.0	21.1	52	WNW			4		5						
Fanöe	29.97	761.3	29.99	761.8	60.8	16.0	83	WSW			4		0						
Godthaab (Greenland)	29.65	753.0	29.69	754.1	40.8	4.9	94	NW			2		10					Foggy	
Stykkisholm (Iceland)	29.19	741.4	29.23	742.5	50.7	10.4	80	NE			7		8						
Thorshavn (Faröe)	29.39	746.6	29.43	747.5	55.0	12.8	88	SSW			3		7					Raining	
Vestervig	29.89	759.1	30.06	763.4	60.4	15.8	81	W			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.58	751.2	30.13	765.2	66.2	19	64	SW			1		8		SW	0.008	0.2	Raining	Collignon, Director.
Amiens, Normal School	29.95	760.8	30.07	763.6	64.4	18	71	NW			1		10			0.134	3.4	Covered	Bouvallet, Director.
Arras, Engin'r School	29.78	756.4	30.03	762.7	64.0	17.8	75	S			1				W	0.256	6.5		Klein, Commandant.
Avignon, Normal School	29.94	760.5	30.02	762.5	90.5	32.5	30	SSW			2		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine																			C. Saillard, Director.
Beauvais, Normal School	29.78	756.3	30.04	762.9	70.0	21.1	62	ESE			1		8		SW	0	0	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.15	740.3	29.99	761.8	83.3	28.5	60	SE			1		2		S	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.11	739.3	30.04	763.0	86.7	30.4	54	S			3	c		S	S	0	0		Marlot, Director.
Bourges, Normal School	29.45	748.0	29.98	761.6	70.9	21.6	69	W			1		8	W	W	0	0	Very cloudy	M. Gence, Director.
Brest, Naval Observatory	29.75	755.7	30.00	761.9	66.6	19.2	75	SW			3		7		SW	0	0	Threatening.	Ch. de Kermaree, Dir.
Carcassonne, Normal School	29.64	752.9	30.03	762.8	90.0	32.2	42	E			1		0			0	0	Clear	September, Dir.
Caen, Normal School	29.98	761.4	30.05	763.2	68.0	20	64	WSW			1		10					Raining	Lair, Director.
Chartres, Normal School	29.51	749.5	30.06	763.5	66.2	19	90	SW			3		9		SW	0.08	2.		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.73	755.1	30.03	762.8	77.7	25.4	58	SW			1		5			0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.65	727.8	29.92	760.0	85.5	29.7	44	SW			1		2		WSW	0	0		Allnard, Director.
Commercy, Normal School	29.19	741.4	30.01	762.3	77.2	25.1	76	W			2		5ks		W	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.99	736.4	30.13	765.4	86.9	30.5	25	SW			3		0			0	0		L. Kina, Director.
Grenoble, Normal School	29.26	743.2	29.98	761.5	84.6	29.2	46	NW			1		0			0	0	Clear	Ablard, Director
La Roche-sur-Yon, N. School	29.95	760.7	30.17	766.2	59.2	15.1	91	NW			1		10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.83	757.8	30.13	765.3	67.6	19.8	79	SW			2		8		WSW	0.177	4.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.9	30.00	762.1	85.1	29.5	55	WSW			2	2c		W	W	0	0	Partly cl'dy	A. Baudry, Director.
Lorient, Naval Observatory	29.96	761.0	30.06	763.5	64.8	18.2	72	WSW			3				SW	0	0		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.77	756.2	30.03	762.8	85.1	29.5	41	SSE			2-3		0			0	0		E. Stephan, Director.
Mirecourt, Normal School	29.06	738.1	30.06	763.5	77.7	25.4	61	S			1		2		S	0.12	3.	Slightly cl'dy	Barbier, Director
Nismes, Normal School	29.84	757.9	30.03	762.8	88.5	31.4	44	SW			3		0			0	0	Clear	M. Boyer, Director.
Privas, Normal School	29.04	737.7	30.04	763.0	88.7	31.5	27	S			3		cn	S	S	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.30	642.6			63.3	17.4	67	S			4		5			0.008	0.2	Cloudy	Allnard, Director.
Rochefort, Naval Obs'y	30.10	764.5	30.13	765.3	72.9	22.7	56	W			1		10	W	W	0	0	Covered	Lt. E. Decante, Director.
Rouen, Normal School	29.97	761.3	30.06	763.5	65.3	18.5	66	SSE			1		10		W	0.059	1.5	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.02	762.4	30.04	763.1	63.0	17.2	80	S			2		8	SSW	SSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur (near Paris)	29.89	759.1	30.05	763.3	65.1	18.4	75	NNW			1				SSW	0.012	0.3		E. Renou, Director.
Tarbes, Normal School	29.06	738.1	30.10	764.6	73.4	23	66	W			1		0			0	0	Clear	T. Huguet, Director.
Toulouse, Observatory	29.38	746.3	30.11	764.7	81.0	27.2	72	NE			1		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.56	750.8	30.05	763.3	64.8	18.2	72	NW			1					0.028	0.71		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.33	744.9	30.00	761.9	86.9	30.5	53	E			1		2		SE	0	0	Slightly cl'dy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.81	757.1	29.84	757.8	81.0	27.2										2.91	74.		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.38	746.3	29.97	761.1	83.1	28.4	52	WNW			1	c	5k		SW	0	0	Cloudy	Ch. André, Director.
Mont-Louis	25.08	636.9	30.39	771.9	80.2	26.8	46	SSW	15.0	6.7			0			0	0		M. Cave.
Nice			30.11	764.8	82.4	28.0	65	SE			1		2			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.77	756.2			62.8	17.1	75	NW			2		10			0	0		Marié Davy, Director.
Perpignan	29.94	760.5	30.05	763.2	81.1	27.3	50	SE	7.4	3.3			0			0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.78	578.6			61.0	16.1		SW			1		2			0	0	Clear	Gen'l de Nansouty.
Tours	29.90	759.5	30.10	764.5	65.8	18.8	63	NW			6		10		W	0.004	0.1		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.69	754.0	29.71	754.6	78.8	26.0	86	SSE	8.3	3.7			1			0	0	Clear	Marc Dechevrens.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Grésque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,278 feet: Commune de Grèasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 1–10	Clouds. Amount. Low'r 1–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.02	762.4	76.6	24.8	52	S			4		2	S		0.315	8.0		Prof. Dr. Hoh.
Berlin	29.93	760.1	30.09	764.3	74.3	23.5	41	W			2		0			0.091	2.3		Prof. Dr. Arndt.
Breslau	29.56	750.8	30.09	764.3	75.4	24.1	70	WNW			5		7			0	0		Royal University Obs'ry.
Carlsruhe	29.59	751.5	29.99	761.8	80.2	26.8	61	ENE			0		9	SW		0.622	15.8		Albert Sens.
Cassel	29.48	748.8	30.09	764.3	77.0	25.0	47	SSE			2		3	SW		0.283	7.18		Dr. H. Möhl.
Crefeld	29.90	759.5	30.06	763.6	73.2	22.9	48	S			2		9			0.08	2.		Director Lose.
Emden			29.96	761.0	70.5	21.4	57	W			1		1			0.039	1.0		Prof. Dr. Prestel.
Frankfort on the Main	29.65	753.2	30.02	762.4	76.1	24.7		SSW			1		3			0.008	0.2		Physical Society.
Freienwalde on the Oder	30.03	762.7	30.07	763.7	75.4	24.1	46	NW			3	1c		NW		0.063	1.6		Dr. Assmann.
Friedrichshafen	28.62	726.9	29.97	761.3	81.0	27.2	62	ESE			1		5	SSW		0.272	6.9		M. Wilhelm.
Hamburg	29.98	761.5	30.05	763.2	70.2	21.2	58	W			3		5cs;k			0.004	0.1	Fair	Captain F. Hegemann.
Kiel	30.00	762.1	30.02	762.5	68.9	20.5	53	WSW			4		5			0.039	0.99		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.86	758.5	29.95	760.6	66.7	19.3	83	W			4		6			0	0		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.69	754.1	30.10	764.4	75.6	24.2	44	WSW			1		2			0.346	8.8		Prof. Bruhns, Privy Counselor.
Memel	29.86	758.4	29.91	759.6	61.5	16.4	91	W			5		10n					Rain & fog	Skalweit.
Munich (München)	28.27	718.1	30.14	765.6	79.5	26.4	58	NE			4		5			0	0		Dr. C. Larg.
Neufahrwasser	29.98	761.4	29.99	761.8	70.3	21.3	54	NW			2		9			0	0		A. Lothes.
Posen	29.79	756.7	30.07	763.7	73.4	23.0	62	NW			6		9			0.071	1.8		Dr. Magener.
Strassburg (in Alsace)	29.48	748.9	30.01	762.2	80.4	26.9	57	NE			1		3			0.041	1.04		Imp. University Observatory.
Stuttgart	29.08	738.7	29.97	761.2	82.4	28.0	60	NE			1		1			0.287	7.3	Rain & hail	Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.59	726.2	30.01	762.3	89.2	26.8	51	Calm	0	0			5k		SW	0	0	Hazy	T. Hopfner.
Wustrow	30.01	762.2	30.03	762.8	66.0	18.9	75	WSW			3		8s			0	0		E. Scultz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m., Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.0	29.98	761.4	86.0	30.0		NE			7.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.52	749.9	29.57	751.1	84.5	29.2	81	SSW	12.0	5.4			10			0	0	Overcast	
Deesa	29.06	738.1	29.52	749.8	91.3	32.9	52	SW	13.8	6.2			9		W	1.18	30.0	D. clouds	
Bombay	29.66	753.2	29.69	754.2	82.1	27.8	90	W	14.0	6.3			10		WSW	0.10	2.5	Overcast	
Poona	27.86	707.8	29.73	755.2	73.3	22.9	90	WSW					9	Calm	WSW	0.52	13.2	Drizzling	
Lahore	28.73	729.7	29.44	747.6	99.2	37.3	45	NE	2.5	1.1			0			0	0	Blue sky	
Belgaum	27.26	692.4	29.81	757.2	71.8	22.1	93	SW	12.0	5.4			10	W	W	2.19	55.6	Showery	
Roorkee	28.60	726.5	29.47	748.4	93.8	34.3	57	SE	2.7	1.2			4			0	0	D. clouds	
Agra	28.93	734.9	29.48	748.9	86.7	30.9	78	E					10		E	0	0		
Nagpur	28.53	724.5	29.56	750.7	82.0	27.8	81	Calm	7.0	3.1			8		SE	0.40	10.2	Gloomy	
Lucknow	29.12	739.5	29.49	748.9	81.3	27.4	87		3.0	1.3			10			0.18	4.6	Overcast	
Allahabad	29.20	741.6	29.51	749.4	82.4	28.0	94	Calm	2.5	1.1			10		E	0.65	17.0	Drizzling	
Patna	29.34	745.4	29.52	749.9	83.5	28.6	91	ESE	2.2	1.0			8	ESE	ESE	0.03	0.8	D. clouds	
Hazaribagh	27.54	699.5	29.52	749.8	81.0	27.0	81	ESE	8.8	3.9			10			0.20	5.1	Raining	
Cuttack	29.51	749.5	29.59	751.6	84.2	29.0		S	4.0	1.8			8			0	0	D. clouds	
Calcutta (Alipore)	29.56	750.7	29.58	751.3	81.2	27.3	86	S	4.0	1.8			8	S		0	0	D. clouds	
Goalpara	29.25	742.8	29.63	752.6	81.5	27.5	83	SE	3.5	1.6			10			1.39	35.3	Overcast	
Chittagong	29.59	751.6	29.68	753.9	80.9	27.2	88	SE	8.2	3.7			9			0	0	Misty	
Sibsagar	29.32	744.8	29.66	753.3	80.1	26.7	96	WNW	2.5	1.1			10	W	W	0.55	14.0	Overcast	
Jubbulpore	28.18	715.8	29.53	750.1	81.3	27.4	85	Calm	4.7	2.1			10		N	0.35	8.4	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,025 ft., or 312 m.; Hazaribagh, 2,010 ft., or 613 m.; Jubbulpore, 1,357 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.06	763.5	89.1	31.7	34	S	1.8	0.8			0			0	0		Prof. Giovanni Clodig.
Milan	29.52	749.9	30.02	762.5	92.3	33.5	32	WSW			1		0			0	0		Prof. Schiaparelli.
Padua	29.95	760.8	30.06	763.5	86.4	30.2	35	SE	7.4	3.3			0			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.13	740.0	30.00	762 0	87.1	30.6	39	N	3.8	1.7			4	NW		0	0		Prof. P. F. Denza.
Genoa	29.90	759.5	30.09	764.2	82.9	28.3	41	SW	4.9	2.2			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.20	716.2	30.02	762.6	84.6	29.2	35	SSE			2		0			0	0		Prof. D. C. Bruno.
Pesaro	29.89	761.7	30.03	762.8	83.5	28.6	69	NE	4.9	2.2			0			0	0		Prof. Luigi Guidi.
Florence	29.81	757.2	30.06	763.5	91.8	33.2	24	N			2		0			0	0		Cav. F. Meucci.
Leghorn	30.00	762.1	30.09	764.2	76.6	24.8	79	NW			4		0			0	0		Prof. P. Monte.
Rome	29.92	760.0	30.09	764.3	90.7	32.6	34	WSW	9.4	4.2			1	NNW		0	0		Prof. P. S. Ferrari.
Lecce	29.84	758.0	30.09	764.2	84.2	29.0	40	WNW	11.2	5.0			0			0	0		Prof. C. De Giorgi.
Cosenza	29.16	740.6	30.00	761.9	90.0	32.2	63	NW	1.8	0.8			0			0	0		Prof. D. Conti.
Cagliari	29.91	759.8	30.10	764.5	80.6	27.0	56	SE			2		0			0	0		Prof. A. Pacinotti.
Palermo	29.85	758.3	30.10	764.5	80.8	27.1	62	E	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.97	761.1	30.04	763.0	79.9	26.6	44	NE	1.3	0.6			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.56	750.9	30.12	765.0	90.3	32.4	36	NW	1.3	0.6			0			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	76.7	24.8	77	WSW	2.1	1.0			7ks;s			0	0	Fair.	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.94	760.5	75.0	23.9	83	S	1.1	0.5		c	1cs			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.97	761.2	30.03	762.7	70.7	21.5	90	S	5.4	2.4		4ck	3ks	NNE		0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	24.99	634.8	29.92	759.9	64.4	18.0	71	SE			1	0	9		NE	0.17	4.4	Cloudy	Prof. L. Perez.
Leon	24.37	618.9	29.93	760.1	67.6	19.8	76	SE			1	8c	1ks	NW		0	0	Cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.02	584.6	29.91	759.6	60.3	15.7	85	Calm	0	0			10k		E	0.008	0.2	Covered	The Staff.
Pabellon (Aguascalientes)					64.9	18.3	72	Calm			0	3c	4ks	NE	NE	0	0	Cloudy	M. V. de Leon, M. E
Tlacotalpam	29.82	757.5	29.84	757.8	77.4	25.2	90	S			1	5	5	NE	S	0	0	Cloudy	Prof. M. M. Chazaro.
San Luis Potosi	24.22	615.1	30.04	763.1	68.5	20.3	78	E			1	2	3	W	SW	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.5	30.08	764.1	57.9	14.4	75	E			3	2c	2s			0	0	Fair	J. C. Castrillon.
Puebla (Catholic Institute)	23.35	593.2	30.12	765.0	58.3	14.6	83	Calm	0	0			10		SE	0.63	16.0	Covered	Prof. P. Spina
Colima	28.20	718.6	29.91	759.8	78.1	25.6	87	SE			1	0	9		E	0.08	2.1	Verycloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.60	751.8	29.89	759.1	78.6	25.9	81	SE			1		10		SE	0	0	Covered	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.06	763.4	30.06	763.4	72.1	22.3		SSE								0	0		
Groningen					68.5	20.3		SW			0					0	0		
Helder	30.03	762.8	30.03	762.8	63.0	17.2		SSW			4					0.016	0.4		
Hellevoetsluis	30.02	762.5	30.02	762.5	71.4	21.9	61	WNW			1					0	0		
Utrecht	30.00	762.0	30.05	763.2	71.4	21.9	54	SW			3		5			0.118	3.0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.70	754.3	29.75	755.7	64.0	17.8	74	S	2.2	1.0			4			0	0		
Brönö	29.61	752.2	29.65	753.2	54.7	12.6	87	SW	4	2			8			0.071	1.8		
Christiania	29.52	749.9	29.67	753.5	71.1	21.7	44	SW	11	5			3			1.028	26.1		
Tromsö	29.55	750.5	29.59	751.6	59.4	15.2	51	Calm	0	0			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4 min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

STATIONS.	Barometer. Corrected. Inches.	Millimeters.	Reduced. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.05	763.3	30.24	768.1	68.7	20.4	87	WSW	10.5	4.7			6			0	0		Dr. J. A. Sampaio.
Campo Major	29.18	741.1	30.16	766.1	80.6	27.0	38	WNW	12.5	5.6			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.17	766.2	30.25	768.4	73.4	23.0	65	SW	6.3	2.8			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.2	30.24	768.1	73.8	23.2	46	N	13.6	6.1			0			0	0		The Staff.
Ponta Delgada (Azores)	30.21	767.4	30.28	769.2	73.0	22.8	76	SW	8.1	3.6			3			0.213	5.4		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected. Inches.	Millimeters.	Reduced. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0–9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa, Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.06	763.5	82.8	28.2		SSW			2		4		SSW	3	S	Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.02	762.5	63.5	17.5		NNW			2		10		NW	1	NNW	Overcast	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.02	762.6	75.9	24.4		NE			4		5		NE	1	NE	D. clouds	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.89	759.2	83.[illegible]	28.8		ESE			2		4		ESE	1	SE	D. clouds	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.59	751.5	29.99	761.8	74.5	23.6	74	WSW	7	3			10ks						Astronomical Obs.
Wilna	29.56	750.7	29.96	760.9	71.1	21.7	52	SW	2	1			10						Astronomical Obs.
Dorpat	29.60	751.8	29.83	757.7	72.2	22.2	41	SW	7	3			7k						Prof. Dr. Weihrauch.
St. Petersburg	29.79	756.7	29.81	757.1	63.1	17.3	56	NW	9	4			1ks						Central Physical Obs.
Kieff	29.34	745.3	29.95	760.8	72.3	22.4	39	NW	9	4			5k;ks						Physical Cabinet.
Nikolaiev	29.97	761.3	30.04	763.1	77.9	25.5	37	NW	13	6			4k						Kurdakof.
Kertch																			Lagorio.
Moscow	29.24	742.8	29.78	756.4	61.0	16.1	67	N	7	3			7ks						Meteorological Obs.
Lugan	29.54	750.3	29.74	755.4	64.8	18.2	81	WSW	13	6			10			Blank	Blank		Meteorological Obs.
Archangel	29.55	750.6	29.57	751.1	46.2	7.9	93	NW	9	4			10						Capt. Sselliwerstow.
Tiflis	28.50	723.9	29.84	757.9	81.0	27.2	35	NW	13	6			1k						Physical Observatory.
Astrakhan	29.89	759.3	29.81	757.2	77.9	25.5	58	SE	4	2			3ks			Blank	Blank		Capt. Wisganow.
Krotkowo*					67.8	19.9	72	NW	0	0									Cand. Fatjanow.
Kasan	29.43	747.6	29.69	754.2	64.4	18.0	75	Calm	0	0			10					Light rain	Physical Cabinet.
Ekaterinburg	28.85	732.9	29.76	755.9	79.7	26.5	57	SSE	4	2			5c;cs						Meteorological Obs.
Nukuss	29.60	751.9	29.82	757.5	90.1	32.3	28	NNE	7	3			1ks						
Tashkend	28.21	716.4	29.65	753.2	91.8	33.2	39	NW	0	0			0						Teich, A. M.
Barnaul	29.10	739.2	29.56	750.9	81.3	27.4	39	E	4	2			10						Meteorological Obs.
Yeniseisk	29.60	751.7	29.87	758.7	74.3	23.5	57	NNW	7	3			0						Marks.
Irkutsk																			
Peking (China)	29.35	745.5	29.49	749.1	80.6	27.0	71	Calm	0	0			6ks						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.44	747.7	29.54	750.2	60.4	15.8	98	SE	7.8	3.5			10n					Dense fog	
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. *N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	79.7	26.5	64	SE	2.0	0.89			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.16	766.0	30.21	767.4	69.3	20.7	84	NW	2.7	1.19			10			0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.21	691.0			78.8	26.0	44	SW	7.2	3.22			1			0	0	Almost clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708.9	30.00	761.9	92.3	33.5	17	SW	14.2	6.33			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.85	758.2	29.98	761.8	96.8	36.0	45	ENE	3.6	1.61			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.6	30.15	765.9	69.6	20.9	63	SW	11.2	5.0			1	0		0.028	0.7	Lightly cl'dy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.91	759.7	29.97	761.3	74.9	23.8	91	SSE	7.2	3.2			10n			1.705	43.3	Raining	Benito Vines, S. J.
Manilla, Philippine Islands	29.85	758.4	29.91	759.8	85.5	29.1	76	SW	10.1	4.5		4ck	3s	W	E	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.4	30.15	765.9	78.3	25.7	55	WNW	9.1	4.1		0	0			0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762.7	85.3	29.6	70	E	6.2	2.75		2c	3k	E	E	0	0	D. clouds	Leonardo de Tejoda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.76	755.9	29.80	756 9	57.6	14.2		SW			2		2			0	0		
Umea	29.71	754.5	29.76	755.8	57.2	14.0	55	E			6		10			0.374	9.5		
Hernosand	29.54	750.3	29.59	751.6	54.5	12.5	95	E			6		10			0.024	0.6		
Stockholm	29.48	748.8	29.66	753.4	68.4	20.2	48	WSW			6		5			0.173	4.4		
Wisby	29.69	754.0	29.74	755.5	65.5	18.6	62	W			6		0			0	0		
Sub-Series.																			
Upsala	29.55	750.5	29.62	752.4	66.4	19.1	58	WSW	14.8	6.6			3		W	0	0		Nils Ekholm.
Naval Series.																			
Corvette Saga,																			Capt. M. von Krusenstiernd.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva																			The Observatory.
Zurich	28.43	722.0	29.97	761.1	85.3	29.6	58	E			2		2			0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.
Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.07	763.8	77.2	25.1	50	ENE	16	7.0			10		NE	0	0		The Observatory.
Fao, Persian Gulf			29.93	760.2	87.8	31.0		SE			1		0						
Valona			30.14	765.6	36.9	30.5		NW			2		0			0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.59	751.6	29.71	754.5	85.8	29.9	71	W			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario	29.45	748.0	29.74	755.4	65	18.3		W	1	0.4			10s		W	0.06	1.5	Cloudy	W. R. Bigg.
Chatham, N. B	29.56	750.8	29.61	752.1	62	16.7	91	Calm	0	0		5k	5ks	W	W	0.79	20.1	Fair?	G. A. Blair.
Charlottetown, P. E. Island	29.54	750.3	29.59	751.6	62	16.7	94	W	7	3.1			10n			Inap.	Inap.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.48	748.8	29.67	753.6	65.3	18.5	91	N			1		10s			0.248	6.30	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.46	748.3	29.61	752.1	66.8	19.3	97	W			2	0	5ks			0.47	11.9	Clearing	H. A. Johnson.
Esquimault, B. C																			W. H. Bevis.
*Father Point, Quebec	29.65	753.1	29.67	753.6	46	7.8	98	W	6	2.7			Fog		Calm	0.06	1.5	Foggy	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.647	752.8	71.1	21.7	76	N	6	2.7			10s			0.16	4.1	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.00	736.6	29.79	756.7	67	19.4	87	S	9	4.0		2c	2s	W	W	0	0	Fair	James Stewart.
Granton, Ontario	28.72	729.5	29.79	756.7	61	16.1	88	W			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S	29.56	750.8	29.67	753.6	65	18.3	91	SW	4	1.8			10n			0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.44	747.8	29.79	756.7	64.5	18.1	82	NW			1	0	0			0.02	0.5	Clear	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.42	747.2	29.74	755.4	64	17.8	89	SW	4	1.8			10n		Calm	0.08	2.0	Light rain	S. Woods, M. A.
Little Glace Bay, N. S																			C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	29.51	749.5	29.70	754.4	66	18.9	73	NE	10	4.5			10s		N	0.90	22.9	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.79	756.7	66	18.9	71	NE	11	4.9		2ck	0	NW		0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.03	737.3	29.747	755.4	72.7	22.6	58	Calm			0		10n			0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.13	739.9	29.80	756.9	61	16.1	100	NW	4	1.8		5ck	0	SW		0.11	2.8	Fair	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.80	756.9	64	17.8	87	NW	2	0.9		8k	0	W		0.07	1.8	Cloudy	M. Payne.
*Quebec, Quebec	29.39	746.5	29.71	754.6	61	16.1	94	NE			1	2k	2s	NE	NE	0.56	14.2	Clearing	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.34	745.2	29.78	756.4	63	17.2	75	Calm	0	0		5c	0	SW		0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.60	751.8	29.65	753.1	59	15.0	95	Calm			0		Fog			0.07	1.8	Foggy	Dr. Gove.
St. John, N. B	29.50	749.3	29.66	753.4	55	12.8	97	S	2	0.9			Fog			0.43	10.9	Light fog	G. Murdock, C. E.
*Saugeen, Ontario	29.12	739.6	29.81	757.2	61	16.1	84	SW	1	0.4		5k	0			0	0	Clear	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.54	724.9	29.80	756.9	62.9	17.2	82	NW	5	2.2		2c;cs	0			0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.52	749.8	29.56	750.8	63	17.2	90	SW	9	4.0			10ks		SW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.78	756.4	65	18.3	73	N	10	4.5		2k	5ks	N	N	0.03	0.8	Cloudy	Magnetic Observatory.
Windsor, N. S	29.48	748.8	29.57	751.1	68.5	20.3	92	W	4	1.8			10ks			0	0	Overcast	Prof. John E. Oram.
Woodstock	28.76	730.5	29.78	756.4	65.6	18.7	71	NW	10	4.5		4cs;ck	0	NW;S		0.10	2.5	Fair	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.50	749.3	29.75	755.6	49.0	9.4	100	E				Fog	Fog			0.25	6.3	Foggy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.48	748.8	29.69	754.1	65	18.3	84	NW	8	3.6			10s		Calm	0.35	8.9	Cloudy	
Alpena, Michigan	29.23	742.4	29.85	758.2	60	15.6	77	NW	12	5.4		0	0			0	0	Clear	
Atcha, Aleutian Is., Alaska					44	6.7	92	SW			2		10s		SW	0	0	Cloudy	
Atlanta, Georgia	28.74	730.0	29.84	757.9	69	20.6	95	NW	6	2.7			10n		Calm	0.22	5.6	Heavy rain	
Atlantic City, New Jersey	29.70	754.4	29.72	754.9	64	17.8	94	SW	10	4.5		Haze	Fog	Calm	Calm	0	0	Foggy	
Augusta, Georgia	29.69	754.1	29.88	758.9	80	26.7	70	SW	4	1.8		2cs	2s	SE	N	0.20	5.1	Fair	
Baltimore, Maryland	29.67	753.6	29.72	754.9	76	24.4	82	SW	7	3.1		8k	2s	SW	SW	0.33	8.4	Cloudy	
Barnegat, New Jersey	29.68	753.9	29.70	754.4	67	19.4	84	S	11	4.9		5ck	Fog	Calm	S	0	0	Fair	
Bismarck, Dakota	27.95	709.9	29.80	756.9	65	18.3	73	SE	14	6.3		0	0			0	0	Clear	
Boerne, Texas	28.49	723.6	29.74	755.4	77	25.0	77	Calm	0	0		5k	0	Calm		0	0	Fair	
Boise City, Idaho	26.92	683.8	29.88	758.9	57	13.9	52	W	2	0.9		5k	0	Calm		Inap	Inap.	Fair	
Boston, Massachusetts	29.55	750.6	29.69	754.1	71	21.7	90	SW	6	2.7			10s		W	0.23	5.8	Cloudy	
Brackettville, Texas	28.76	730.5	29.73	755.1	80	26.7	70	E	3	1.3		0	8s		E	0	0	Fair	
Breckenridge, Minnesota	28.88	733.5	29.84	757.9	59	15.0	82	SE	8	3.6		0	0			0	0	Clear	
Brownsville, Texas	29.79	756.7	29.84	757.9	86	30.0	68	Calm	0	0		2k	0	Calm		0	0	Clear	
Buffalo, New York	29.08	738.6	29.75	755.6	63	17.2	89	NW	2	0.9			9s		W	0.22	5.6	Cloudy	
Burkes, Arizona					73	22.8	24	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.45	748.0	29.72	754.9	66	18.9	84	S	2	0.9			10n		W	0.10	2.5	Light rain	
Cairo, Illinois	29.59	751.6	29.97	761.2	73	22.8	81	NW	1	0.4		0	0			0.03	0.8	Clear	
Campo, California	27.27	692.6	29.84	757.9	40	4.4	31	SW	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.89	759.2	29.90	759.4	77	25.0	86	SW	20	8.9		5cs	2ks	SW	SW	0.34	8.6	Cloudy	
Cape Henry, Virginia	29.76	755.9	29.78	756.4	78	25.6	69	SW	18	8.0		2ck	0	SW		0	0	Clear	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759.4	78	25.6	86	SW	23	10.3		2cs	0	SW		0.02	0.5	Fair	
Cape May, New Jersey	29.69	754.1	29.72	754.9	71	21.7	85	S	10	4.5		5ck	5ks	SW	W	0	0	Cloudy	
Castroville, Texas	29.13	739.9	29.80	756.9	80	26.7	70	Calm	0	0		2ck	0	Calm		0	0	Fair	
Charleston, South Carolina	29.85	758.2	29.90	759.4	80	26.7	78	SW	9	4.0		2c	0	Calm		0	0	Fair	
Charlotte, North Carolina	28.99	736.3	29.76	755.9	76	24.4	82	S	5	2.2		10ck;cs	0	W		0.47	11.9	Cloudy	
Chattanooga, Tennessee	29.09	738.9	29.85	758.2	73	22.8	85	S	3	1.3		5k	0	SW		0.22	5.6	Fair	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	58	14.4	53	Calm	0	0		0	0			0	0	Clear	
Chicago, Illinois	29.24	742.7	29.91	759.7	64	17.8	73	N	5	2.2		0	0			0.03	0.8	Clear	
Cincinnati, Ohio	29.25	742.9	29.88	758.9	68	20.0	79	NW	6	2.7		2k	8ks	NW	NW	0.52	13.2	Clearing	
Cleveland, Ohio	29.12	739.6	29.81	757.2	67	19.4	69	N	9	4.0		0	0			0.70	17.8	Clear	
Coleman City, Texas	28.16	715.3	29.74	755.4	76	24.4	73	SE	6	2.7		5cs	2ks	W	SW	0	0	Fair	
Columbus, Ohio	29.03	737.3	29.83	757.7	66	18.9	84	N	5	2.2			10ks		NW	1.13	28.7	Cloudy	
Concho, Texas	28.05	712.5	29.63	752.6	78	25.6	65	N	3	1.3			10s		N	0	0	Cloudy	
Corsicana, Texas	29.37	746.0	29.82	757.4	72	22.2	95	NE	5	2.2			10ks		Calm	0.96	24.4	Cloudy	
Davenport, Iowa	29.34	745.2	29.96	761.0	63	17.2	78	N	7	3.1		0	0			0	0	Clear	
Deadwood, Dakota	25.16	639.0			70	21.1	61	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.80	731.5	29.93	760.2	73	22.8	85	E	6	2.7		0	0			0		Clear	
Denison, Texas	29.18	741.1	29.94	760.5	75	23.9	86	NE	1	0.4		0	0			0.02	0.5	Clear	
Denver, Colorado	24.67	626.6	29.89	759.2	68	20.0	38	S	4	1.8		2ck	0	Calm		0	0	Fair	
Des Moines, Iowa	29.10	739.1	29.96	761.0	62	16.7	83	Calm	0	0		0	Haze		Calm	0	0	Clear	
Detroit, Michigan	29.18	741.1	29.82	757.4	62	16.7	88	N	7	3.1		5k	0	NW		0.11	2.8	Fair	
Dodge City, Kansas	27.39	695.7	29.57	751.1	68	20.0	79	S	12	5.4		5ck	2s	W	Calm	0	0	Fair	
Dubuque, Iowa	29.29	744.0	29.97	761.2	62	16.7	72	NW	4	1.8		5k	0	N		0	0	Fair	
Duluth, Minnesota	29.30	744.2	29.96	761.0	60	15.6	82	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texa	29.08	738.6	29.76	755.9	82	27.8	71	SE	5	2.2		0	5s		Calm	0	0	Fair	
Eastport, Maine	29.58	751.3	29.64	752.8	55	12.8	97	SW	2	0.9			10ks;fg		SW	0.21	5.3	Foggy	
Edinburg, Texas					83	28.3	79	S			1	5k	2s	S	S	0	0	Fair	
El Paso, Texas	26.14	663.9			74	23.3		E	10	4.5		1k	0	W		0	0	Clear	
Erie, Pennsylvania	29.11	739.4	29.80	756.9	65	18.3	78	N	6	2.7		2c	5ks	Calm	N	0.23	5.8	Cloudy	
Escanaba, Michigan	29.32	744.7	29.95	760.7	60	15.6	77	N	12	5.4		0	0			0	0	Clear	
Florence, Arizona	28.28	718.3	29.88	758.9	80	26.7	25	W	2	0.9		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																0		Fair	
Fort Buford, Dakota	27.62	701.5			62	16.7	77	SE	10	4.5		2c	0	Calm		0	0	Fair	
Fort Davis, Texas	25.19	639.8	30.15	765.8	68	20.0	70	Calm	0	0		0	0			0.05	1.3	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.96	761.0	74	23.3	81	E	2	0.9		10cs	0	E		0	0	Cloudy	
Fort Grant, Arizona	25.13	638.3	29.93	760.2	70	21.1	24	N	4	1.8		0	0			0	0	Clear	
Fort Griffin, Texas	28.64	727.4	29.86	758.4	71	21.7	80	E	3	1.3		0	0			0	0	Clear	
Fort Keogh, Montana	27.09	688.1			65	18.3	63	N	11	4.9		2c	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.70	703.6	29.62	749.8	74	23.3	76	S	4	1.8		2c	5s	Calm	Calm	0.05	1.3	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.76	730.5	29.81	757.2	75	23.9	77	E	2	0.9		5cs	0	Calm		0	0	Fair	
Fort Stevenson, Dakota	27.88	708.1			65	18.3	73	E	5	2.2		1c	0	Calm		0	0	Fair	
Fort Verde, Arizona					58	14.4	22	W			1	0	0			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	28.20	716.3	29.68	753.9	80	26.7	59	S	1	0.4		0	2ks		Calm	0.70	17.8	Fair	
Galveston, Texas	29.86	758.4	29.90	759.4	83	28.3	83	SW	1	0.4		10cs;k	0	SE;Calm		0	0	Cloudy	
Graham, Texas	28.88	733.5	29.89	759.2	75	23.9	77	Calm	0	0		0	1s		Calm	0	0	Fair	
Grand Haven, Michigan	29.27	743.4	29.90	759.4	63	17.2	72	N	8	3.6		2k	0	N		0	0	Fair	
Helena, Montana																			
Henrietta, Texas																			
Indianapolis, Indiana	29.13	739.9	29.88	758.9	64	17.8	76	Calm	0	0		0	0			0.36	9.1	Clear	
Indianola, Texas	29.89	759.2	29.92	760.0	80	26.7	87	S	6	2.7		5c	2ks	NW	S	0	0	Fair	
Jacksboro, Texas	28.81	731.8	29.88	758.9	73	22.8	85	SE	1	0.4		0	0			0	0	Clear	
Jacksonville, Florida	29.93	760.2	29.95	760.7	83	28.3	71	S	6	2.7		2k	0	S		0	0	Clear	
Keokuk, Iowa	29.32	744.7	29.91	759.7	67	19.4	74	N	6	2.7		0	0			0	0	Clear	
Key West, Florida	29.93	760.2	29.97	761.2	77	25.0	91	S	16	7.2			10ks		S	0.47	11.9	Threatening	
Kittyhawk, North Carolina	29.82	757.4	29.84	757.9	78	25.6	78	SW	16	7.2		2cs	Haze	Calm	Calm	Inap.	Inap.	Fair	
Knoxville, Tennessee	28.88	733.5	29.84	757.9	70	21.1	92	SW	8	3.6			10ks		SW	0.12	3.0	Cloudy	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	60	15.6	88	N	1	0.4		2k	0	N		0	0	Clear	
La Mesilla, New Mexico	25.98	659.9	30.13	765.3	76	24.4	41	S	4	1.8		0	5ks		W	0	0	Fair	
Laredo, Texas	29.48	748.8	29.80	756.9	80	26.7	48	E	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	29.15	740.4	29.96	761.0	67	19.4	74	Calm	0	0		8cs	Fog	NW		0	0	Cloudy	
Little Rock, Arkansas																			
Los Angeles, California	29.51	749.5	29.84	757.9	61.0	16.1	50	SE	1	0.4			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.34	745.2	29.88	758.9	65	18.3	78	NW	9	4.0		2k	0	NW		1.13	28.7	Clear	
Lynchburg, Virginia	29.10	739.1	29.73	755.1	81	27.2	70	S	4	1.8		5ck	0	SW		0.03	0.8	Fair	
Madison, Wisconsin	28.96	735.6	29.92	760.0	61	16.1	82	N	3	1.3		2k	0	NW		0	0	Fair	
Marquette, Michigan	29.26	743.2	29.94	760.5	60	15.6	71	Calm	0	0		0	0			0	0	Clear	
Mason, Texas	28.31	719.1	29.99	761.7	75	23.9	81	E	1	0.4		5cs	2s	E	E	0.25	6.3	Fair	
Memphis, Tennessee	29.61	752.1	29.94	760.5	70	21.1	85	N	6	2.7		2k	0	Calm		Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.22	742.2	29.92	760.0	61	16.1	71	NE	8	3.6		0	1s		Calm	0.04	1.0	Clear	
Mobile, Alabama	29.86	758.4	29.90	759.4	79	26.1	87	W	5	2.2		2ck	5ks	W	W	Inap.	Inap.	Fair	
Montgomery, Alabama	29.69	754.1	29.91	759.7	75	23.9	90	W	6	2.7			10n		W	0.30	7.6	Light rain	

UNITED STATES SERIES—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
Morgantown, West Virginia	28.83	732.3	29.77	756.1	71	21.7	71	N	8	3.6	.....	.....	10ks	.....	N	0.99	25.1	Cloudy	
Mt. Washington, N. H.	28.68	601.5	30.04	763.0	46	7.8	100	NW	10	4.5	.....	.....	10n	.....	NW	1.38	35.1	Light rain	
Nashville, Tennessee	29.39	746.5	29.90	759.4	71	21.7	80	NW	2	0.9	.....	.....	10ks	.....	W	0.10	2.5	Cloudy	
New Haven, Connecticut	29.68	751.3	29.69	754.1	73	22.8	81	S	5	2.2	.....	.....	10s;hz	.....	Calm	0.18	4.6	Cloudy	
New London, Connecticut	29.66	753.4	29.71	754.6	70	21.1	95	SW	8	3.6	.....	.....	Fog	.....	SW	0.03	0.8	Foggy	
New Orleans, Louisiana	29.82	757.4	29.88	758.9	82	27.8	75	SW	4	1.8	.....	0	1ks	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.67	753.6	29.72	754.9	66	18.9	100	S	6	2.7	.....	.....	Fog	.....	.....	Inap	Inap.	Misty	
New York, New York	29.52	749.8	29.69	754.1	73	22.8	95	SW	4	1.8	.....	5ck	Haze	N	Calm	0.04	1.0	Fair	
Norfolk, Virginia	29.74	755.4	29.79	756.7	83	28.3	64	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
North Platte, Nebraska	27.01	686.0	29.47	748.5	64	17.8	78	S	36	16.1	.....	2c	2s	W	S	0	0	Fair	
Olympia, Washington Ter.	29.96	761.0	30.00	762.0	43.5	6.4	92	N	2	0.9	.....	5c	0	SW	.....	0	0	Fair	
Omaha, Nebraska	28.84	732.5	29.89	759.2	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.46	748.3	29.76	755.9	64	17.8	83	Calm	0	0	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	
Pembina, Dakota	28.94	735.1	29.74	755.4	58	14.4	94	S	8	3.6	.....	5c	0	Calm	.....	0	0	Fair	
Philadelphia, Pa.	29.64	752.8	29.68	753.9	76	24.4	86	W	9	4.0	.....	5cs	5ks	Calm	W	0.04	1.0	Cloudy	
Phœnix, Arizona	28.54	724.9	30.23	767.8	73	22.8	49	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.95	455.9	30.16	766.1	38	0.6	42	SW	32	14.3	.....	8k	0	SW	.....	0.09	2.3	Fair	
Pioche, Nevada	.....	.....	.....	.....	64	17.8	8	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.00	736.6	29.77	756.1	64	17.8	89	NW	7	3.1	.....	.....	10n	.....	Calm	0.61	15.5	Light rain	
Port Huron, Michigan	29.18	741.1	29.82	757.4	61	16.1	77	N	10	4.5	.....	5ck	0	W	.....	0	0	Fair	
Portland, Maine	29.63	752.6	29.68	753.9	72	22.2	90	Calm	0	0	.....	10k	Fog	Calm	.....	0.15	3.8	Cloudy	
Portland, Oregon	29.91	759.7	29.98	761.5	51.5	10.7	71	N	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.67	626.6	30.03	762.7	50	10.0	32	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.19	741.4	29.98	761.5	74	23.3	85	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.94	760.5	29.95	760.7	83	28.3	75	S	19	8.5	.....	0	5ks	.....	SW	0	0	Fair	
Red Bluff, California	29.33	745.0	29.67	753.6	69	20.6	56	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.69	754.1	29.89	759.2	82	27.8	75	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.14	740.1	29.73	755.1	62	16.7	88	NW	6	2.7	.....	.....	10n	.....	W	0.32	8.1	Light rain	
Roseburg, Oregon	29.37	746.0	29.93	760.2	52	11.1	73	N	6	2.7	.....	10ck	0	Calm	.....	0	0	Cloudy	
Sacramento, California	29.62	752.3	29.70	754.4	56	13.3	75	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.40	746.7	29.96	761.0	67	19.4	74	N	6	2.7	.....	0	0	.....	.....	0.22	5.6	Clear	
St. Marks, Florida	29.92	760.0	29.94	760.5	80	26.7	87	SW	1	0.4	.....	0	7s	.....	SW	0	0	Fair	
St. Paul, Minnesota	29.12	739.6	29.92	760.0	59	15.0	86	E	4	1.8	.....	0	Fog	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.42	645.7	29.75	755.6	72	22.2	30	SE	10	4.5	.....	8k	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.23	742.4	29.78	756.4	80	26.7	74	Calm	0	0	.....	5c	0	Calm	.....	0.04	1.0	Fair	
San Diego, California	29.79	756.7	29.86	758.4	61	16.1	82	N	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Sandusky, Ohio	29.19	741.4	29.83	757.7	67	19.4	84	N	10	4.5	.....	2c	5ks	Calm	SW	1.31	33.3	Fair	
Sandy Hook, New Jersey	29.65	753.1	29.68	753.9	76	21.1	85	SE	8	3.6	.....	5ck	2s	W	Calm	0	0	Fair	
San Francisco, California	29.72	754.9	29.79	756.7	54	12.2	80	SW	12	5.4	.....	.....	Fog	.....	W	0	0	Foggy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	63	17.2	57	E	12	5.4	.....	0	0	.....	.....	Inap	Inap.	Clear	
Savannah, Georgia	29.84	757.9	29.93	760.2	83	28.3	67	W	5	2.2	.....	8k	0	W	.....	0	0	Fair	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	75	23.9	86	NW	2	0.9	.....	0	0	.....	.....	0.75	19.1	Clear	
Silver City, New Mexico	24.27	616.4	30.27	768.8	60	15.6	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.90	759.4	29.93	760.2	79	26.1	87	SW	14	6.3	.....	0	5ks	.....	SW	0	0	Fair	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.55	750.6	29.67	753.6	71	21.7	90	SW	3	1.3	.....	.....	Fog	.....	.....	1.35	34.3	Foggy	
Stockton, Texas	29.91	683.5	29.91	759.7	74	23.3	40	SE	4	1.8	.....	2c	0	Calm	.....	Inap	Inap.	Fair	
Thatcher's Island, Mass.	29.65	753.1	29.70	754.4	64	17.8	100	SW	8	3.6	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	
Toledo, Ohio	29.17	740.9	29.82	757.4	69	20.6	75	W	1	0.4	.....	1k	Sm'e	.....	.....	0.39	9.9	Clear	
Tucson, Arizona	27.36	694.9	29.91	759.7	70	21.1	32	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.57	751.1	30.06	763.5	54.0	12.2	74	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Uvalde, Texas	28.88	733.5	29.65	753.1	82	27.8	75	SE	3	1.3	.....	1c	5s	Calm	SE	0	0	Fair	
Vicksburg, Mississippi	29.68	753.9	29.93	760.2	74	23.3	90	N	6	2.7	.....	.....	10s	.....	N	0.14	3.6	Cloudy	
Virginia City, Montana	24.14	613.1	29.62	752.3	60	15.6	55	SE	1	0.4	.....	.....	10s	.....	W	0	0	Cloudy	
Visalia, California	29.34	745.2	29.70	754.4	62	16.7	61	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.60	751.8	29.70	754.4	76	24.4	77	SW	10	4.5	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	58	14.4	53	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.80	756.9	29.87	758.7	80	26.7	74	SW	11	4.9	.....	0	0	.....	.....	0.28	7.1	Clear	
Winnemucca, Nevada	25.46	646.7	29.82	757.4	66	18.9	36	SW	8	3.6	.....	0	4s	.....	SW	0	0	Fair	
Wood's Holl, Mass.	29.70	754.4	29.73	755.1	67	19.4	94	SW	14	6.3	.....	.....	10s;fg	.....	Calm	0.01	0.3	Cloudy	
Yankton, Dakota	28.68	728.5	29.93	760.2	63	17.2	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.51	749.5	29.66	753.4	74	23.3	18	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I.	29.91	759.7	29.96	761.0	77	25.0	86	SE	2.4	1.1	.....	.....	10n	.....	SE	1.85	47.0	Light rain	J. B. Gordon.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A.	25.18	639.6	.....	.....	67.5	19.7	83	Calm	.....	.....	0	3k	1ks	.....	.....	0.01	0.3	.....	James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	80	26.7	78	E	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	81	27.2	87	E	.....	.....	2	5k	7ks	E	.....	0	0	½ Clouded?	F. M. Everett.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,181.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,293 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in,, or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			79	26.1	95	S	1	0.4			2		SW	0.66	16.8			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.02‡	762.5‡			71.5	21.9	90	SW			1		ck;fog		SE	0.05	1.3			Fair	
Adams, Acapulco, Mexico	29.82‡	757.4‡			78	25.6	95	N			2		10		N					Cloudy	
Alaska, San Francisco, Cal	29.79‡	756.7‡			53	11.7	93	S			4		5		S	0	0			Misty	
Alliance, Southampton, Eng	30.02‡	762.5‡			62	16.7	72	SW			5		7		SW					Pleasant	
Ashuelot, Hiogo, Japan	29.95‡	760.7‡			76	24.4	82	SW			2		2		Calm			Smooth		Hazy	
Colorado, New York, N. Y	29.68‡	753.9‡			74	23.3	86	SSW	3	1.3			8			0	0			Clearing	
Constellation, N. 42° 00′, W. 65° 52′								SW			2		Fog							Foggy	
Constitution, League Island, Penn	29.70‡	754.4‡			77	25.0	86	WSW			4		6		wsw					Pleasant	
Despatch, Hampton Roads, Va	29.79‡	756.7‡			77	25.0	82	SSW			4		3		Calm	0	0	Smooth		Clear	
Enterprise, Christiania, Norway	29.68‡	753.9‡			68	20.0	65	NW			2–5		4?		NW					Cloudy?	
Franklin, Norfolk, Va	29.81‡	757.2‡			79	26.1	70	SW	13.2	5.9			10		W	0	0			Cloudy	
Hartford, Montevideo, Uruguay	29.96‡	761.0‡			60	15.6	76	N	4	1.8			5		N	0	0			Fair	
Kearsarge, New York, N.Y	29.69‡	754.1‡			75	23.9	86	SW			1		2							Clear	
Marion, N. 37° 35′, W. 74° 15′	29.78‡	756.4‡			74	23.3	100	SSW			3		5		S			Long	SW	Fair	
Michigan, Erie, Pa	29.75‡	755.6‡			65	18.3	81	NNW			2		8		NE					Cloudy	
Monocacy, Shanghai, China	29.71‡	754.6‡			80	26.7	82	SSE			3		0							Clear	
Monongahela, Yokohama, Japan	30.01‡	762.2‡			74	23.3	86	SW			1		ck			Light	Light			D. clouds	
New Hampshire, Port Royal, S. C	29.91‡	759.7‡			81	27.2	74	SW	14	6.3			2		SW	0	0			Clear	
Onward, Callao, Peru †	30.17‡	766.8‡			61	16.1	88	Calm			0		10					Long	W	Misty	
Palos, Shanghai, China	29.71‡	754.6‡			78	25.6	95	SSE			3		0							Clear	
Passaic, Washington, D. C					76	24.4	91	SW			3		8		SW					Cloudy	
Pensacola, S. 19° 22′, W. 72° 34′	30.01‡	762.2‡			61	16.1	82	SE	4	1.8			10			0	0	Smooth	SW	Overcast	
Portsmouth, New London, Conn	29.71‡	754.6‡			68	20.0	95	S			3		10		Calm	0	0	Smooth		Cloudy	
Powhatan, New York, N. Y	29.71‡	754.6‡			75	23.9	86	SSW			1		8		SW	0	0			Cloudy	
Quinnebaug, Constantinople, Turkey	30.05‡	763.3‡			76	24.4	60	NE			5		8		NE					Fair	
Ranger, Amoy, China	29.83‡	757.7‡			84	28.9	87	SSE			1–2		5		Calm			Smooth		D. clouds	
Richmond, Kobe, Japan	29.95‡	760.7‡			77	25.0	82	W			1		5		W	0	0	Smooth		Fair	
Rio Bravo, Brownsville, Texas	29.86‡	758.4‡			78	25.6	95	SE			1		5		S	0	0			Fair	
Santee, Annapolis, Md	29.72‡	754.9‡			77	25.0	82	SW			2		8		SW	0.15	3.8			Cloudy	
Saratoga, Murray, Bermuda, N. Atlan.	30.23‡	767.8‡			80	26.7	91	SSW			3		5		SW	0	0			D. clouds	
St. Louis, League Island, Pa	29.72‡	754.9‡			77	25.0	91	SW	13	5.8			8		SW	0.17	4.3			Fair	
Trenton, Spit Head, Eng.	30.03‡	762.7‡			64	17.8	68	SW			3		5		SW	0	0	Smooth		Squally	
Tuscarora, N. 37° 09′, W. 122° 28′	29.85‡	758.2‡			55	12.8	87	NW			1		10		Calm	0	0	Ground		Foggy	
Vandalia, New York City, N. Y	29.66‡	753.4‡			76	24.4	91	SW			2		5		NW					Cloudy	
Wabash, Boston, Mass	29.69‡	754.1‡			73	22.8	85	SW	3	1.3			10			0.18	4.6			Overcast	
Wyoming, Venice, Italy	30.03‡	762.7‡			81	27.2	66	SSE			0–1		2		S			Smooth		Clear	
Wachusett, Vicksburg, Miss	29.84‡	757.9‡			76	24.4	91	N			2		10		N					Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
CUNARD LINE MARINE SERIES. Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.																			
S.S. Samaria																			Capt. T. Roberts.
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S.S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			L. B. Walls.
S. S. City of Tokio Capt. Maury																			
S. S. Colima, N. 15° 53′, W. 97° 55′...†.		29.87‡	758.7‡	79	26.1	95	E			3		7		ESE	0.60 in. or 15.2mm	Small	SE	Raining	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebur
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†.		30.05‡	763.3‡	52	11.1	93	W			2		0						Clear	W. H. Hawes.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F.W.Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer.																			D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson, Hong-Kong, China ...†.		29.81‡	757.2‡	84	28.9		SW			2		ks		SW	0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf,																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig,																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer,																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		29.94‡	760.5‡				NNW			3		2		NW				Fair	Capt. G. Meyer.

NOTE.—†Aneroid. *The error of the barometer is not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD.	BAROMETER REDUCED TO SEA-LEVEL. Inches.	BAROMETER REDUCED TO SEA-LEVEL. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL. Character.	SEA-SWELL. Direction From—	WEATHER.	OBSERVER.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 49° 09′, W. 24° 44′		29.76‡	755.9‡	68	20.0	90	NW			6		10		NE	Light	Heavy	NW	Cloudy	Captain R. W. Sargent Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland,																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 36° 06′, W. 88° 00′		29.91‡	59.7‡	81	27.2	70	S	3	1.3			2ks		S	0	Smooth		Clear	Capt. James Jorgensen. W. H. Champlin.
Schooner Charley Buck																			
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.03‡	762.7‡				E			6		2		E	0	Mod'ate		Clear	N. B. Foss. Capt. George Gardner.
Schooner Harry and Fred.																			
W. D. Hilton, Philadelphia, Pa.†		29.72‡	754.9‡	80	26.7		SW			3				SW	Blank			Cloudy	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Rouen, France.†		29.84‡	757.9‡	60	15.6	88	SE			3		10		SE				Raining	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, Holme's Hole, Mass.†		29.69‡	754.1‡				WSW			6						Smooth		Foggy	L. Dunbar.
Schooner Henry Whitney, Sandy Hook, N. J.†		29.68‡	753.9‡	74	23.3		SSW			1								Hazy	Capt. Wm. Shepherd

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 120 PEARL ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JUNE 30, 1879.

7:35 A. M. WASHINGTON Mean Time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI (YEDDO) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the co-operation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco																			
Nemours			30.07	763.7	84.7	29.3	57	Calm			0		0			0	0	Clear	Kesxuche.
Algiers			30.03	762.7	80.6	27.0	59	NNE			3		0			0	0	Clear	Touriliere.
La Calle			30.04	762.9	82.0	27.8	81	NNW			3		10			0	0	Covered	Foufrede.
Tunis																			Jacques.
Sfax			30.15	765.7															Gau.
Saida			30.05	763.2	95.9	35.5	15	N			4		0			0	0	Clear	Herbin.
Tebessa			30.05	763.3	98.2	36.8	16	SE			2		2			0	0	Fair	Watrin.
Geriville			30.09	764.2	92.5	33.6	64	S			2		10			0	0	Covered	Brugniaux.
Laghouat			30.05	763.2	100.0	37.8	30	SE			3		2			0	0	Fair	Bertrand.
Biskra			30.02	762.6	96.4	35.8	32	SE			1		2			Inap	Inap.	Fair	Chanvaux.

NOTE.—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,920? feet; Tebessa, 1,088? m., or 3,570? feet; Geriville, 1,360? m., or 4,462? feet.

AUSTRIAN SERIES.

Furnished by the co-operation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.1	29.93	760.1	91.2	32.9	42	NE			3		1			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.21	742.0	29.95	760.7	74.8	23.8	79	WNW			1		10			0.051	1.3		Dr. Wierzbiski.
Eperies	29.07	738.4	29.90	759.4	82.4	28.0	57	N			4		9k		NW	0.522	13.25		Julius Mikolik.
Gratz	28.76	730.5	29.94	760.4	81.7	27.6	52	SE			2		6			0	0		Andreas Rospini.
Hermannstadt	28.64	727.5	29.95	760.8	89.4	31.9	34	SE			4		1			0	0		Prof. A. Gottschling.
Kremsmünster	28.76	730.6	30.06	763.6	68.9	20.5		NW			2		10			0.047	1.2		Prof. C. Wagner.
Lemberg	28.91	734.2	29.83	757.6	83.5	28.6	66	NE			2		5			0	0		Dr. T Stanecki.
Pola	29.87	758.6	29.97	761.3	85.3	29.6	42	ESE			2		0			0	0		I.R.HydrographicOffice.
Szathmar	29.53	750.0	29.96	761.0	88.9	31.6	92	SE			2		1			0	0		Julius Osics, S. J.
Szegedin	29.65	753.0	29.91	759.6	88.5	31.4	53	Calm			0		0			0	0		Karl Stancel.
Trieste	29.89	759.1	29.99	761.7	83.8	28.8	58	W			1		0			0	0		P. Busin.
Vienna	29.34	745.3	30.03	762.7	77.9	25.5	65	W			4		4			0.394	10.0		I. R. Central Met.Ob'sy

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of simultaneous observation. The distinction between upper and lower clouds is not made. The rain-fall is measured at Vienna at 2 p. m., local time; at Lemberg at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 357 meters, or 1,171 feet; Hermannstadt, 411.6 meters, or 1,350.4 feet.; Kremsmünster, 384 meters, or 1,260 feet. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0 instead of 1:45 p. m., local time.

BELGIAN SERIES.

Furnished by the co-operation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory.
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot.

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371 feet. At Arlon the observations have been taken at 1:0, instead of 1:6 p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

Entered at the Post Office at Washington, D. C., as Second-Class Matter.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.68	753.9	29.78	756.4	63.9	17.7		SSW	13	5.8			3			0.045	1.15	Blue sky	W. Boswell.
Ardrossan	29.78	756.4	29.80	756.9	58	14.4		SSW			4		7					D. clouds	Wm. McNeil & G. Carrick.
Armagh, Observatory			29.83	757.7	67.0	13.9		SW	13	5.8			10					Overcast	S. Call.
Bidston (Liverpool Obs)			29.93	760.2	61.4	16.3		SW	26	11.6			8					Overcast	John Hartnup.
Bolton (Sharples)			29.93	760.2	58.8	14.9		WSW	12	5.4			5					D. clouds	Thomas Mackereth.
Bradford, Yorkshire	29.55	750.6	29.92	760.0	58.8	14.9		W			4		8			0.21	5.3	D. clouds	J. McLandsborough.
Bridgetown (Barbadoes)	30.00	762.0	30.03	762.7	83.5	28.6		NE			2		3					D. clouds	Pvt. G. Surgener, A.H.C.
Cambridge, Observatory	29.94	760.5	30.03	762.7	66.0	18.9		SW			2		7					Showery	H. Todd.
Cardington			30.02	762.5	69.0	20.6		SW			4		4					D. clouds	John McLaren.
Chatham, School M. E.	29.96	761.0	30.09	764.3	63.6	17.6		SW			1		6					D. clouds	J. Carmell, Sapper, R. E.
Donaghadee	29.80	756.9	29.84	757.9	62	16.7		SW			4		8					D. clouds	J. Mac Gowan.
Dover	30.10	764.5	30.12	765.0	62	16.7		WSW			5		2					¼ clouded	J. Costello.
Falmouth, Observatory	29.86	758.4	30.08	764.0	61.5	16.4		SSW			4		8					Overcast	The Staff.
Fort Napier (Natal)	27.54	699.5	29.83	757.7	76.0	24.4		NE			1		9					Overcast	Pvt. G. Salmon, A.H.C.
Free Town (Sierra Leone)	29.75	755.6	29.98	761.5	85	29.4		S			1		4					D. clouds	
Galway, Queen's College			29.78	756.4	58	14.4		SW			5		10					Overcast	Prof. A. H. Curtis.
Gibraltar (Mediterranean)	29.99	761.7	30.04	763.0	76.5	24.7		W			2		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.61	752.1	29.81	757.2	60.9	16.1		WSW			6		6					D. clouds	D. G. Maclean.
Great Yarmouth	30.03	762.7	30.03	762.7	64	17.8		SW			3		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.90	759.4	30.07	763.8	68.3	20.2		SW			3		5					D. clouds	The Staff, for G. B. Airy.
Guernsey	29.91	759.7	30.13	765.3	61.5	16.4		WSW			2		3					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.02	762.5	30.14	765.5	64	17.8		SW			4		3ck			0.16	4.1	Fine	M. P. Moyle.
Holyhead	29.93	760.2	29.94	760.5	59	15.0		SSW			5		10					Overcast	John Tilston.
Jersey	29.92	760.0	30.20	767.1	61.0	16.1		W			1		3					D. clouds	J. Fisher.
Kew, Observatory	30.04	763.0	30.07	763.8	64.5	18.1		SW	18	8.0			8					D. clouds	The Met'g'l Office.
Leicester, Museum	29.75	755.6	30.00	762.0	57.8	14.3		SW			1		10					Raining	Wm. J. Harrison, F.G.S.
Malta, Mediterranean	29.95	760.7	30.02	762.5	83.0	28.3		N			2		0					Blue sky	A. King.
Nairn	29.62	752.3	29.71	754.6	66	18.9		SW			3		2					¼ clouded	W. D. Penny.
Nassau (Bahamas)			30.05	763.3	82.5	28.1		SE			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.81	757.2	30.00	762.0	58.2	14.6		WSW			3	c	10ksm		WSW	0.241	6.13	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.47	748.5	29.99	761.7	60.2	15.7		SW			3–4		9					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			30.05	763.3	64	17.8		SW			4		5					Squally	H. E. Bellamy.
Plymouth	30.02	762.5	30.09	764.3	64.7	18.2		S			3		8					D. clouds	John Merrifield.
Prince Town	28.69	728.7	30.05	763.3	54.6	12.6		W			2		7					Fine	W. H. Tooker.
*Roche's Point	29.88	758.9	29.99	761.7	59	15.0		SW			4		8					¾ clouded	Wm. Kennedy.
Saint Ann's Head	29.84	757.9	30.00	762.0	57	13.9		SSW			5		10					Misty	John C. Walker.
Sandwick Manse (Orkneys)			29.73	755.1	59	15.0		SSW	8	3.6			5					D. clouds	Rev C. Clouston, L.L.D.
Scutari, Cemetery (Turkey)	29.98	761.5	30.04	763.0	80.6	27.0		NE			3		1			0	0	Blue sky	Serg't W. H. Lyne.
Sheffield	29.69	754.1	29.96	761.0	66.9	19.3		S			4		5			0.44	11.2	D. clouds	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	61.0	16.1	69	SW			6		5			0.787	19.99	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.54	750.3	29.95	760.7	60.6	15.9		SW			3		7					Squally	Rev. S. J. Perry.
Stratfield, Turgiss	29.87	758.7	30.08	764.0	64.7	18.2		SW			3–4		8					Squally	Rev. C. H. Griffith, F.M.S.
Truro, Royal Institution	30.06	763.5	30.07	763.8	64	17.8		S			8		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.83	757.7	29.86	758.2	57.9	14.4		SSW	31	13.9			10					Misty	The Met'g'l Office.
Sub-Series.																			
Cape of Good Hope Obs'y	29.82	757.4	29.86	758.4	55.5	13.1	75	NW	10	4.5		9	10			0.850	21.59	Raining	The Staff, for D. Gill.
Hobart Town (Tasmania)			30.25	768.3	39.0	3.9	86	NW			1		7k			0.01	0.3	Hazy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.83	757.7	60.9	16.1		W			3		6k			0.24	6.1	Cloudy	Andrew Gibb
Mauritius, Observatory	29.93	760.2	30.12	765.0	72.0	22.2	74	ESE	15.0	6.7		0	6		SE, SSW	0.05	1.3	Fine	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	47.3	8.5	76	S	5	2.2			4	E		0	0	Fine	R. L. J. Ellery.
Monach Lt-house (Hebrides)			29.63	752.6	56	13.3		SSW			4		10			0	0		J. Youngclaue.
North Unst (Shetland Is.)			29.74	755.4	59	15.0		S			1	1	0	Calm		0	0		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach, and North Unst, as read off; Freetown reduced to freezing but not to sea-level. *Second barometer is corrected for index error, but the first is not. The wind-force is given by the scale 0 to 12 in the official series, and by 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day) at 10 a. m.; Bradford, 9 a. m.; Helston, (following day) 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham 6 p. m.; Mauritius, 9 a. m.; Sheffield, (following day) 8 a. m. The elevation of Prince Town is 1,400 feet, or 427 meters; Fort Napier, 2,200 ft. or 670 m.

British Marine Series. Vessels.	Barometer. Inches.	Barometer. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Fahrenheit.	Centigrade.	Relative Humidity.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
H. M. S. "Fawn," N. 40° 30′. E. 28° 45′			30.04‡	763.0‡	79	26.1		ENE			4		0			Blue sky	Capt. W. J. L. Wharton.
Agnes Wilson, N. 24° 50′, W. 80° 00′			30.02	762.5	83	28.3		SE			3		8	3	SSE	D. clouds	Capt. H. W. Dyke.
Algeria, N. 42° 05′, W. 58° 31′			29.90	759.4	67	19.4		SW			3		10	3	SW	Raining	Capt. Wm. Watson.
Astarte, N. 27° 45′, W. 38° 15′ *			30.32‡	770.1‡	78.9	26.1		NE			4		2			Blue sky	Capt. Parson.
British Peer, N. 45° 00′, W. 37° 40′			29.89‡	759.2‡	60.8	16.0		W			5		10			Misty	Capt. Raymond.
Theophane, S. 35° 30′, E. 25° 35′			29.75‡	755.6‡	64.6	18.1		WNW			4		1			Blue sky	Capt. Greig.
S. S. Amanda																	Capt. B. Boyes.
Barque Belle-Isle																	Capt. A. J. Brown.
Ship British Commodore																	Capt. J. W. Thorne.
Barque Commewyne																	Capt. A. Buchan.
S. S. Royal Alexandra																	W. P. Hughes.
Brig Alliance.§																	Capt. W. Scott.
S. S. Iron Cross																	Capt. W. Randall.
S. S. Nizam																	Capt. Barlow.
Barque Fedalma																	Capt. H. L. Fox.

NOTE.—The originals give the wind-direction to 32 points, which have been corrected for magnetic variation at this office, when not already applied; the force by the Beaufort scale 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have generally been carefully compared and corrected. ‡Correction for temperature and elevation applied at this office. §Barometer uncertain by about 0.05 inch. *The barometer from which these readings were made is not entirely reliable.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the co-operation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
San José	26.22	666.0	29.94	760.5	70.2	21.2	92	NE			1	1c;ck	2d		E	0.4	10.		Federico Maison.

NOTE.—For San Jose the barometer is given as read off; it is reduced to sea-level by the use of a constant 3.72 inches or 94.5 mm. for an altitude of 1,145 meters, or 3,757 feet; its instrumental error is not known; the distinction between the upper and lower clouds is not always made; the rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish pies.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.89	759.1	29.93	760.3	59.7	15.4	80	NW			2		10						
Fanöe	29.95	760.7	29.97	761.2	61.7	16.5	81	WSW			4		7						
Godthaab (Greenland)	29.78	756.5	29.83	757.6	38.1	3.4	88	SW			2		10						
Stykkisholm (Iceland)	29.28	743.6	29.32	744.7	48.7	9.3	80	NE			8		8						
Thorshavn (Faröe)	29.57	751.1	29.63	752.6	53.2	11.8	90	SSE			4		6						
Vestervig	29.86	758.4	30.03	762.7	60.4	15.8	75	W			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of simultaneous observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.69	754.0	30.24	768.0	66.9	19.4	75	SW			1		5		SW	0.020	0.5	Cloudy	Collignon, Director.
Amiens, Normal School	30.02	762.4	30.12	765.1	70.5	21.4	54	W			1		8		NE	0	0	Very cloudy	Bouvallet, Director.
Arras, Engin'r School	29.90	759.4	30.15	766.8	64.2	17.9	61	WNW			2				WNW	0.165	4.2		Klein, Commandant.
Avignon, Normal School	29.98	761.7	30.07	763.7	83.8	28.8	42	N			3		0			0	0	Very clear	Giraud, Director.
Bar-sur-Seine	29.65	753.1	30.19	766.9	68.9	20.5	44	W			1		5kn		W	0	0	Cloudy	G. Saillard, Director.
Beauvais, Normal School	29.91	759.7	30.17	766.2	70.7	21.5	50	S			2		8		SW	0.010	0.25	Very cloudy	Frere Eugene Marie.
Besançon, Normal School	29.33	745.0	30.21	767.2	70.3	21.3	54	W			2		2		W	0.661	16.8	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.36	745.7	30.30	769.5	71.2	21.8	59	W			2		k	S	S	0.378	9.6		Mariot, Director.
Bourges, Normal School	29.63	752.5	30.17	766.2	67.6	19.8	57	W			1		5	W	W	0	0	Cloudy	M. Gence, Director.
Brest, Naval Observatory	29.86	758.5	30.10	764.6	70.2	21.2	73	SW			1		2		SW	0	0		Ch. de Rermaree, Dir.
Carcassonne, Normal School	29.74	755.4	30.15	765.7	81.5	27.5	35	WNW			2		2		WNW	0	0	Slightly cl'dy	September, Dir.
Caen, Normal School	30.05	763.3	30.12	765.1	71.2	21.8	59	WSW			2		2		W	0.063	1.6	Slightly cl'dy	Lair, Director.
Chartres, Normal School	29.63	752.5	30.17	766.3	73.8	23.2	72	SW			1		6		SW	0.031	0.8		Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.90	759.5	30.21	767.4	73.0	22.8	47	SW			2		5	SW	SW	0	0	Cloudy	Jadot, Director.
Clermont-Fd., Puy de D. Obs	28.84	732.5	30.15	765.9	71.6	22.0	55	NE			1		8		WSW	0	0		Alluard, Director.
Commercy, Normal School	29.34	745.2	30.17	766.4	70.2	21.2	48	WNW			3		5kn		WNW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.99	736.3	30.13	765.3	86.5	30.3	34	NW			2		2		NW	0	0		L. Kina, Director.
Grenoble, Normal School	29.39	746.4	30.13	765.4	71.2	21.8	59	NW			3		5kn		W	0	0	Cloudy	Ablard, Director.
La Roche-sur-Yon, N. School	30.00	761.9	30.21	767.3	70.5	21.4	61	SW			1		8		SE	0.118	3.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.86	758.5	30.17	766.2	68.0	20	50	WNW			3		5		W	0.083	2.1	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.30	744.1	30.19	766.7	72.5	22.5	49	N			2		k	W	W	0	0		A. Baudry, Director.
Lorient, Naval Observatory	30.10	764.6	30.21	767.2	65.8	18.8	64	S			2			SW	S	0.008	0.2		Lt. T. Carré, Director.
Mâcon, Normal School																			Galzin, Director.
Marseilles, Observatory	29.76	755.8	30.02	762.5	85.1	29.5	47	W			2		1			0	0	Partly clo'dy	E. Stephan, Director
Mirecourt, Normal School	29.17	740.8	30.19	766.9	70.2	21.2	63	SW			1		5		SW	0	0	Cloudy	Barbier, Director
Nismes, Normal School	29.87	758.6	30.06	763.4	88.2	31.2	47	N			3		2		NW	0	0	Slightly cl'dy	M. Boyer, Director.
Privas, Normal School	29.11	739.3	30.13	765.2	79.7	26.5	46	E			1	c		E	E	0	0		Cantier, Director.
Puy de Dome (Summit) Obs	25.40	645.2			53.2	11.8	60	W			2		8			0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.21	767.2	30.24	768.0	74.7	23.7	49	WSW			1		1	W	W	0	0	Clear	Lt. E. Decante, Director.
Rouen, Normal School	30.10	764.4	30.18	766.5	68.0	20.0	49	SSW			1		2		W	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.11	764.8	30.14	765.5	66.0	18.9	72	E			2		1	NE	NE	0.108	2.76	Clear	Lt. Hercouet, Director.
Saint Maur (near Paris)	30.02	762.5	30.19	766.7	70.7	21.5	52	SW			1			W	WSW	0	0		E. Renou, Director.
Tarbes, Normal School	29.10	739.1	30.14	765.5	77.0	25	68	WNW			1		0			0	0	Clear	T. Huguet, Director
Toulouse, Observatory	29.51	749.6	30.24	768.2	72.5	22.5	57	NW			1		1			0	0		M. Julier Mercadier.
Versailles, Observatory	29.69	754.2	30.19	766.7	67.6	19.8	49	NW			1					0	0		Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.52	749.7	30.19	766.8	79.7	26.5	53	NNE			2		5		NW	0.08	2.	Cloudy	Nicot, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.57	758.6	29.89	759.3	81.3	27.4										0	0		L'Abbé Marchési.
Lyons Obs'y (Park Station)	29.58	751.3	30.18	766.6	72.3	22.4	53	NW			1		8		WNW	0.096	2.45	Very cloudy	Ch. André, Director.
Mont-Louis	25.04	636.0	30.35	771.0	69.8	21.0	44	NE	24.2	10.8			7		N	0	0		M. Cave.
Nice			29.64	752.8	82.0	27.8	66	SE			1		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.91	759.7			67.8	19.9	61	SSW			2		6		WSW	0.016	0.4		Marié Davy, Director.
Perpignan	30.02	762.6	30.13	765.3	81.1	27.3	42						1		W	0	0		Dr. Fines.
Pic du Midi (Summit) H. P.																			M. Baylac.
Pic du Midi (Plantade) H. P.	22.75	577.8			55.2	12.9		SW			3		2			0	0	Clear	Gen'l de Nansouty.
Tours	30.00	762.0	30.20	767.0	72.3	22.4	48	W			4		3		W	0.008	0.2		Cousin-Marquet.
Zi-Ka-Wei (near Shanghai)	29.61	752.1	29.63	752.7	80.6	27.0	88	S	3.8	1.7		c	6k	WSW	WSW	0	0	Cloudy	Marc Dechevrens

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Gréasque by the scale 0 to 4; Brest and Chartres by the scale 0 to 10; Nice by the International scale; its remarks in weather column apparently do not always refer to the moment of simultaneous observation; the rain-fall is measured at 7, 8 or 9 a. m., except St. Maur 10 p. m.; and Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,273 feet: Commune de Gréasque, 322 m., or 1,056 ft.; Puy de Dome, (Summit) 1,467 m., or 4,813 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit) 2,877 m., or 9,439 ft.; Pic du Midi, (Plantade) 2,366 m., or 7,763 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135.0 millimeters, or 5.315 inches has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Dr. G. Neumayer, Director of the German Marine Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.25	742.9	30.10	764.4	69.4	20.8	50	W			4		7	W		0.787	20.0		Prof. Dr. Hoh.
Berlin	29.92	759.9	30.08	764.1	70.0	21.1	48	SW			3		7			0	0		Prof. Dr. Arndt.
Breslau	29.56	750.8	30.09	764.3	67.1	19.5	65	W			4		4			0.121	3.07		Royal University Obsr'y.
Carlsruhe	29.78	755.2	30.15	765.8	70.5	21.4	57	W			2		10	SW		0	0		Albert Senz.
Cassel	29.53	750.0	30.14	765.5	70.3	21.3	47	W			4		5	W		0	0		Dr. H. Möhl.
Crefeld	29.97	761.1	30.13	765.2	70.7	21.5	48	W			2		7k			0.08	2.		Director Lose.
Emden			30.05	763.2	67.1	19.5	50	W			2		1			0	0		Prof. Dr. Prestel.
Frankfort on the Main	29.78	756.5	30.15	765.7	73.4	23.0		WNW			1		4			0.150	3.8		Physical Society.
Freienwalde on the Oder	30.02	762.4	30.08	763.4	70.0	21.1	49	NW			5		8k;c	NW		0.012	0.8		Dr. Assmann.
Friedrichshafen	28.72	729.6	30.11	764.8	72.5	22.5	66	SSW			2		8	SW		0.035	0.9		M. Wilhelm.
Hamburg	29.98	761.5	30.05	763.2	66.2	19.0	67	W			5		7k	W		0.240	6.1	Fair	Captain F. Hegemann.
Kiel	30.00	762.1	30.02	762.6	61.5	16.4	78	WSW			4		8			0.299	7.61		Prof. Dr. G. Karsten.
Königsberg (Prussia)	29.85	758.3	29.94	760.4	59.5	15.3	89	E			3		8			0.154	3.9		Prof. E. Luther.
Köslin																			H. Müller.
Leipsic Observatory	29.71	754.5	30.11	764.9	70.2	21.2	48	W			3		9	WNW		0.067	1.7		Prof. Bruhns, Privy Counsellor.
Memel	29.88	758.9	29.93	760.1	65.1	18.4	73	W			2		10s;n						Skalweit.
Munich (München)	28.35	720.0	30.22	767.6	64.6	18.1	67	NW			5		10	NW		0.701	17.8		Dr. C. Larg.
Neufahrwasser	29.94	760.4	29.95	760.8	59.7	15.4	88	NNE			3		10			0.283	7.2	Raining	A. Lothes.
Posen	29.75	755.7	30.04	762.9	66.2	19.0	64	W			6		10			0.039	1.0		Dr. Magener.
Strassburg (in Alsace)	29.66	753.3	30.19	766.9	70.7	21.5	53	N			1		9			0.147	3.74		Imp. University Observatory.
Stuttgart	29.12	739.7	30.03	762.8	70.7	21.5	60	N			1		7	W		0	0		Prof. Dr. Schoder.
Treves (Trier)																			Prof. Flesch.
Weissenburg (Bavaria)	28.66	728.0	30.13	765.4	67.6	19.8	52	W	2	1			7ck	SW	NW	0.472	12.0	Hazy	T. Hopfner.
Wustrow	30.00	761.9	30.02	762.5	61.7	16.5	72	WSW			4		8s			0.224	5.7		E. Schütz, Director.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,356.0 feet; Munich, 528.5 m., or 1,405.9ft.; Weissenburg, 431 m., or 1,414 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, or that the remarks in the weather column refer to, the moment of simultaneous observation. At Königsberg observations have been taken at the 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the co-operation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.65	753.0	30.02	762.5	84.6	29.2		NE			3.0							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the co-operation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.40	746.8	29.45	748.1	84.8	29.1	76	S	12.0	5.4			10			0	0	Overcast	
Deesa	29.02	737.0	29.49	748.9	79.3	26.8	93	SSW	12.4	5.5			9		SW	3.44	87.4	D. clouds	
Bombay	29.62	752.4	29.66	753.4	80.7	27.1	90	WSW	26.0	11.6			10		SW	0.17	4.3	Overcast	
Poona	27.82	706.6	29.68	753.9	74.0	23.3	81	WSW					9	WSW	WSW	0.06	1.5	Drizzling	
Lahore	28.71	729.2	29.44	747.7	83.0	28.3	79	E	1.9	0.8			9			1.45	36.8	Overcast	
Belgaum	27.22	691.2	29.76	756.0	71.9	22.2	93	W	14.0	6.3			10	SW	W	0.67	17.0	Showery	
Roorkee	28.61	726.6	29.50	749.2	79.7	26.5	88	SE	6.3	2.8			9						
Agra	28.89	733.7	29.44	747.9	81.7	27.6	87	N					10		N				
Nagpur	28.49	733.7	29.53	750.0	78.7	25.7	90	W	5.8	2.6			10		E				
Lucknow	29.11	739.4	29.48	748.8	86.3	30.2	87		2.0	0.9			10						
Allahabad	29.18	741.1	29.49	748.9	81.9	27.7	93	Calm	2.2	1.0			10			1.67	42.4	Overcast	
Patna	29.31	744.5	29.49	749.1	83.5	28.6	87	Calm	2.1	0.9			10	E	E	0.11	2.8	Overcast	
Hazaribagh	27.51	698.8	29.49	749.1	80.3	26.8	82	E	8.1	3.6			8		E	0.68	17.3	Showery	
Cuttack	29.44	747.8	29.52	749.9	83.0	28.3	78	S	4.0	1.8			7			0.15	3.8	D. clouds	
Calcutta (Alipore)	29.51	749.6	29.53	750.2	82.3	27.9	87	SSE	5.0	2.2			4	S		0	0	D. clouds	
Goalpara	29.18	741.2	29.56	750.9	84.5	29.2	78	Calm	3.1	1.4			9			0.09	2.3	D. clouds	
Chittagong	29.58	751.3	29.67	753.6	80.9	27.2	85	SE	8.2	3.7			9			0	0	Misty	
Sibsagar	29.26	743.1	29.58	751.4	85.3	29.6	82	SSE	1.7	0.9			10	W	W	0.38	9.6	D. clouds	
Jubbulpore	28.17	715.5	29.51	749.6	82.8	28.2	79	W	5.7	2.6			10		N	0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather is given by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,848.2 ft., or 563.3 m.; Nagpur is 1,625 ft., or 512 m.; Hazaribagh, 2,010 ft., or 618 m.; Jubbulpore, 1,361 ft., or 412 m. The velocity given is the average rate of wind since observation of the preceding day.

ITALIAN SERIES.

By authority of the MINISTER OF AGRICULTURE, INDUSTRY AND COMMERCE.

Furnished by the co-operation of Prof. P. Tacchini, Director of the Central Office for Meteorology, Rome, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.5	29.98	761.4	91.2	32.9	28	S	4.3	1.9			0			0	0		Prof. Giovanni Clodig.
Milan	29.44	747.7	29.93	760.2	91.8	33.2	37	S			2		2			0	0		Prof. Schiaparelli.
Padua	29.85	758.3	29.96	761.0	87.3	30.7	35	E	3.8	1.7			2			0	0		Prof. Dott. Lorenzoni.
Moncalieri	29.05	737.8	29.91	759.8	88.2	31.2	31	S	2.5	1.1			0			0	0		Prof. P. F. Denza.
Genoa	29.83	757.6	30.01	762.3	80.2	26.8	62	SW	4.9	2.2			0			0	0		Prof. G. M. Garibaldi.
Mondovi	28.11	714.0	29.94	760.4	85.1	29.5	42	NE			4		0			0	0		Prof. D. C. Bruno.
Pesaro	29.91	759.6	29.95	760.8	82.4	28.0	64	ENE	11.2	5.0			0			0	0		Prof. Luigi Guidi.
Florence	29.76	755.8	30.00	762.1	89.6	32.0	30	NW			4		0			0	0		Cav. F. Meucci.
Leghorn	29.91	759.8	30.00	761.9	82.2	27.9	63	SW			2		2			0	0		Prof. P. Monte.
Rome	29.85	758.3	30.02	762.6	90.5	32.5	27	S	13.0	5.8			3			0	0		Prof. P. S. Ferrari.
Lecce	29.80	756.8	30.04	763.0	83.8	28.8	37	NNW	7.4	3.3			0			0	0		Prof. C. De Giorgi.
Cosenza	29.15	740.5	29.99	761.8	92.1	33.4	62	NNW	7.4	3.3			0			0	0		Prof. D. Conti.
Cagliari	29.82	757.3	30.00	762.0	87.3	30.7	29	SE			2		1	W		0	0		Prof. A. Pacinotti.
Palermo	29.82	757.3	30.06	763.5	85.5	29.7	33	E	3.8	1.7			0			0	0		Prof. G. Cacciatore.
Syracuse	29.95	760.8	30.03	762.7	88.3	31.3	33	SE	7.4	3.3			0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.51	749.5	30.04	763.0	86.0	30.0	60	SW	4.9	2.2			2			0	0		Prof. V. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.4 ft.; Mondovi, 556 m., or 1,824 ft.; Urbino, 451 m., or 1,480 ft.

JAPANESE SERIES.

Furnished by the co-operation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.88	758.9	29.89	759.2	77.1	25.1	79	SW	8.4	3.7			4ck;s		SW	0	0		K. Sasaki.
Nagasaki, I. M. Obs'y	29.66	753.3	29.86	758.4	78.3	25.7	76	S	5.7	2.5			8ck;cs;s			0	0	Cloudy	S. Takehayashi.
Tokei, (Yeddo) Observatory	29.92	759.9	29.98	761.5	73.7	23.2	89	S	8.2	3.7			8ck		S	0	0	Cloudy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the co-operation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.03	635.8	29.97	761.1	64.4	18.0	70	NE			2	0	8		NE	0	0	Cloudy	Prof. L. Perez.
Leon	24.40	619.8	30.00	762.0	65.1	18.4	74	SW			1	3c	1k	E		0	0	Fair	Prof. M. Leal.
Mexico, Central Obs'y	23.06	515.6	29.98	761.4	58.8	14.9	86	Calm	0	0			10kn			0.20	5.2	Threatening	The Staff.
Pabellon (Aguascalientes)					63.5	17.5	78	Calm			0	2cs	0			0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.91	759.7	29.92	760.0	77.0	25.0	89	Calm			0	7	3	NE	S	0	0	Threatening	Prof. M. M. Cházaro.
San Luis Potosi	24.22	615.1	30.06	763.6	66.9	19.4	67	E			1	4	3	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz																			Prof. J. Rossell.
Zacatecas	22.54	572.6	30.09	764.2	58.6	14.8	96	NE			1	2c	2k		E	0	0	Fair	J. C. Castrillon.
Puebla (Catholic Institute)	23.42	594.9	30.19	766.7	55.4	13.0	84	Calm	0	0			10		SE	0.94	23.9	Covered	Prof. P. Spina.
Colima	28.34	719.8	29.96	761.0	78.8	26.0	88	SE			1	0	8		E	1.26	32.1	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.
Mazatlan	29.61	752.0	29.89	759.3	80.1	26.7	79	Calm			0	1	8			0	0	Cloudy	F. Quyano, C. E.

NOTE.—The elevation of Cuernavaca is 1,556.5 m., or 5,106.7 ft.; Guadalajara, 1,569.3 m., or 5,148.7 ft.; Leon, 1,798.6 m., or 5,901.0 ft.; Mexico, 2,265.8 m., or 7,433.9 ft.; Pabellon, 1,924.4 m.; or 6,313.8 ft.; San Luis Potosi, 1,890.3 m., or 6,201.9 ft.; Zacatecas, 2,496 m., or 8,189 ft.; Puebla, Catholic Institute, 2,167.8 m., or 7,112.3 ft.; Colima, 507.3 m., or 1,664.4 ft. The data are published as given, except the conversions, which have been revised; the instrumental correction —0.88 mm., or 0.035 inch., has been applied at this office to the barometer at Mexico.

NETHERLANDS SERIES.

Furnished by the co-operation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.15	765.8	30.15	765.8	63.9	17.7		W								0.343	8.7		
Groningen	30.00	762.1	30.06	763.5	63.5	17.5		W			3					0.051	1.3		
Helder	30.07	763.7	30.07	763.7	60.6	15.9		SW			5					0	0		
Hellevoetsluis	30.11	764.8	30.11	764.8	63.0	17.2	67	W			4					0.224	5.7		
Utrecht	30.06	763.5	30.11	764.7	67.3	19.6	64	WSW			4		5			0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen	29.76	755.8	29.81	757.2	63.3	17.4	70	SW	2.2	1.0			1			0	0		
Brönö	29.80	757.0	29.84	758.0	50.0	10.0	92	N	4	2			8			0	0		
Christiania	29.59	751.6	29.73	755.2	66.6	19.2	51	SSE	7	3			9			0.004	0.1		
Tromsö	29.75	755.6	29.79	756.7	54.0	12.2	73	Calm	0	0			10			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., instead of 1h. 4'min. p. m.

PORTUGUESE SERIES.

Furnished by the co-operation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz, at Lisbon.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra (Azores)	30.08	764.0	30.27	768.8	72.0	22.2	81	W	12.5	5.6			4			0	0		Dr. J. A. Sampaio.
Campo Major	29.16	740.6	30.13	765.3	84.6	29.2	17	NW	4.9	2.2			0			0	0		Dr. A.M. R. dos Santos.
Funchal (Madeira)	30.18	766.6	30.27	768.8	74.1	23.4	60	SW	4.9	2.2			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.3	30.24	768.2	73.2	22.9	45	N	15.0	6.7			0			0	0		The Staff.
Ponta Delgada (Azores)	30.26	768.7	30.34	770.5	74.5	23.6	77	W	13.0	5.8			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Sea or swell. Height scale 0—9	Direction from—	Weather.	Observer.
Bartholomew Dias																			A. G. da Silva Costa. Com'd't.
D. Fernando																			A.M.de Sande, Com'd't.
Duque da Terceira, Capt. C. C. da Fonseca Ferreira. St. Thomas, Gulf of Guinea			30.03	762.8	83.1	28.4		SSW			2		4		SSW	2	S	Blue sky	H. C. e Athayde.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, Capt. A. J. de Mattos. Mossamedes, Lower Guinea			30.04	763.0	64.4	18.0		WSW			4		3		W	1	WSW	D. clouds	J.C. M. Cabrate, 1st Lt. J.T.d'Oliveria, Com'd't.
Rio Duro																			
Rio Lima, Capt. S. C. da Silva Costa. St. Vincent, Cape Verd, Island			30.03	762.7	76.6	24.8		ENE			3		9			1		D. clouds	P. de Fairi. F. Teixeira da Silva, Com'd't.
Sá da Bandeira																			L. Ribeiro de Costa, Com'd't.
Sado																			
Tejo, Capt. J. M. T. Guimaraes. Macao, China			29.81	757.1	84.4	29.1		SW			2		3		SW	1	SW	Raining 4 hours	J.G. Felgo 2nd Lieut.

NOTE.—In the originals the weather is expressed by the Beaufort notation; no distinction is made between the upper and lower clouds, and no humidity is given. The Sá da Bandeirá gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the co-operation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw	29.47	748.6	29.88	758.9	71.8	22.1	76	W	9	4			9ks						Astronomical Obs.
Wilna	29.53	750.0	29.93	760.3	70.0	21.1	52	Calm	0	0			10						Astronomical Obs.
Dorpat	29.58	751.2	29.81	757.1	67.5	19.7	53	WSW	11	5			8k						Prof. Dr. Weihrauch.
St. Petersburg	29.72	755.0	29.74	755.4	62.2	16.8	76	NW	11	5			6k;ks					Light clouds	Central Physical Obs.
Kieff	29.30	744.1	29.89	759.1	83.5	28.6	47	W	11	5			5k;ks						Physical Cabinet.
Nikolaiev	30.05	763.2	30.12	765.0	86.5	30.3	35	Calm	0	0			0						Kurdakof.
Kertch																			Lagorio.
Moscow	29.28	743.6	29.80	756.9	70.0	21.1	58	S	11	5			7ks						Meteorological Obs.
Lugan	29.72	754.8	29.91	759.8	79.3	26.3	41	W	18	8			3						Meteorological Obs.
Archangel	29.70	754.3	29.72	754.8	48.0	8.9	93	N	4	2			10						Capt. Sseliwerstow.
Tiflis	28.59	726.3	29.95	760.8	76.6	24.8	37	NW	9	4			6ks						Physical Observatory.
Astrakhan	30.00	762.0	29.92	759.9	76.8	24.9	48	ENE	7	3			8k			Blank	Blank		Capt. Wisganow.
Krotkowo*	29.23	742.5	29.68	753.9	68.5	20.3	54	NNW	9	4			2k						Cand. Fatjanow.
Kasan	29.38	746.2	29.64	752.8	63.9	17.7													Physical Cabinet.
Ekaterinburg	28.73	729.6	29.63	752.5	79.3	26.3	58	WSW	4	2			5k;ks						Meteorological Obs.
Nukuss	29.54	750.2	29.75	755.7	93.6	34.2	31	NNW	7	3			4ks						
Tashkend	28.13	714.4	29.58	751.2	89.6	32.0	52	Calm	0	0			0						Teich, A. M.
Barnaul	29.08	738.6	29.54	750.3	82.8	28.2	54	NE	0	0			10						Meteorological Obs.
Yeniseisk	29.62	752.3	29.89	759.3	74.1	23.4	63	WNW	2	1			0						Marks.
Irkutsk																			
Peking (China)	29.33	744.9	29.47	748.5	83.7	28.7	54	SW	7	3			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock	29.36	745.8	29.46	748.3	59.5	15.3	92	SE	7	3			10n						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount, and generally the kind of cloudiness, without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,342 feet; Tashkend, 455 m., or 1,493 ft.; Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the co-operation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Barcelona, Met. Obs'y	29.98	761.5	30.08	764.0	83.5	28.6	56	SE	2.1	0.94			0			0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.13	765.2	30.18	766.6	80.2	26.8	75	N	2.0	0.90		3		NW		0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.9			75.2	24.0	36	NE	3.5	1.58			0			0	0	Clear	Domingo Martin y Peres.
Madrid, Royal Oservatory	27.92	709.1	30.01	762.2	90.0	32.2	27	SW	28.4	12.67			0			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.90	759.4	30.04	763.0	88.5	31.4	53	ENE	6.6	2.95			0			0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.8	30.16	766.0	70.9	21.6	58	SW	8.1	3.6		3	4			0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.2	29.99	761.8	79.9	26.6	90	SE	6.3	2.8		4ck	0	NE		0.398	10.1	Fair	Benito Vines, S. J.
Manilla, Philippine Islands.	29.83	757.7	29.88	759.0	84.0	29.0	81	NW	1.6	0.7		5c	4kn	E	W	0.008	0.2	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.03	762.9	30.13	765.3	80.6	27.0	49	WNW	15.0	6.7		0	2		NW	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.6	30.04	762.9	78.1	25.6	84	SE	0	0		8kn	6kn	SE	SE	0.217	5.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms as published; wind-velocity, except for sub-series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer is reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,822 feet; Madrid, 655.5 m, or 2,150.5ft.

SWEDISH SERIES.

Furnished by the co-operation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, of F. Malmberg, Director of the Nautical Meteorological Bureau, and of Prof. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.74	755.3	29.78	756.3	68.4	20.2	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.71	754.6	29.76	755.9	56.1	13.4	77	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.68	753.8	29.73	755.1	55.0	12.8	98	NNE	.....	.....	4	.....	10	.....	.....	1.236	31.4	.....	
Stockholm	29.59	751.5	29.76	756.0	64.8	18.2	62	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.72	754.8	29.78	756.3	63.7	17.6	72	WNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.63	752.7	29.71	754.6	62.6	17.0	73	W	5.4	2.4	.....	.....	10	.....	SW	0.276	7.00	Thunder-storm.	Nils Ekholm.
Naval Series.																			
Corvette Saga,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. M. von Krusenstiernd.

NOTE.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. Corvette Saga, wind-force and weather by Beaufort notations, and barometer as read off, but corrections applied at this office. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the co-operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Zurich	28.56	725.4	30.15	765.8	68.4	20.2	69	W	.....	.....	2	.....	8	.....	.....	0.413	10.5	Cloudy	The Observatory.

NOTE.—At Geneva the corresponding departures from the normal values are: Barometer, —— mm.; Thermometer, —— Cent.; Relative Humidity, ——per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing, but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 ft.

TURKISH SERIES.

Furnished by the co-operation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Prof. C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.6	75.2	24.0	52	ENE	22	10.0	.....	.....	3	.....	ENE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	29.93	760.2	93.2	34.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Valona	.....	.....	30.15	765.8	86.4	30.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria) Lee Obs'y	29.68	753.9	29.79	756.6	87.4	30.8	58	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the velocity at Constantinople in meters per second; at Fao and Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the co-operation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	30.00	762.0	65	18.3	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	.....	Hon. J. Ferguson.
Brockville, Ontario	29.71	754.6	30.00	762.0	65	18.3	.....	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
Chatham, N. B	29.70	754.4	29.76	755.9	59	15.0	92	NW	3	1.3	.....	2k	8ks	NW	NW	1.05	26.7	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.67	753.6	29.71	754.6	55	12.8	98	N	7	3.1	.....	.....	10n	.....	.....	0.495	12.58	Sprinkling	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760.5	63.5	17.5	69	N	.....	.....	1	0	5s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	29.59	751.6	29.75	755.6	63.8	17.7	.....	W	.....	.....	1	2cs	0	.....	.....	0	0	Fair	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.82	757.4	29.85	758.2	49	9.4	82	SW	11	4.9	.....	0	5ks	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.72	754.9	29.78	756.4	66.8	19.3	79	NE	1	0.4	.....	0	9ks	.....	.....	0.18	4.6	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba	28.71	729.2	29.49	749.0	65	18.3	92	S	15	6.7	.....	5ck	5n	SW	SW	1.460	27.08	Cloudy	James Stewart.
Granton, Ontario	29.03	737.3	30.10	764.5	62	16.7	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.59	751.6	29.70	754.4	61	16.1	89	NW	8	3.6	.....	.....	10n	.....	NW	Inap.	Inap.	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.10	764.5	65.3	18.4	75	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, A. M.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.69	754.1	30.01	762.2	64	17.8	63	NE	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.77	756.1	29.97	761.2	58	14.4	77	N	6	2.7	.....	.....	10n	.....	N	0.02	0.5	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.49	749.0	30.17	766.3	62	16.7	61	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.32	744.7	30.03	762.7	77.7	25.4	46	N	.....	.....	1	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.41	747.0	30.08	764.0	63	17.2	89	N	6	2.7	.....	0	0	.....	.....	0.13	3.3	Clear	H. Morgan.
Port Hastings, N. S	29.60	751.8	29.65	753.1	52.5	11.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.09	764.3	63	17.2	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.60	751.8	29.91	759.7	60	15.6	71	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.66	753.4	30.11	764.8	58	14.4	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.69	754.1	29.75	755.6	64	17.8	86	N	.....	.....	1	2k	2ks	NE	N	0.43	10.9	Fair	Dr. Gove.
St. John, N. B	29.61	752.1	29.79	756.7	61	16.1	88	NE	4	1.8	.....	.....	10ks	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.40	746.7	30.10	764.5	59	15.0	86	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.36	745.7	30.13	765.3	55	12.8	62	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	29.82	757.4	30.07	763.8	60.9	16.1	74	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.61	752.1	29.65	753.1	53	11.7	98	NW	3	1.3	.....	.....	10n	.....	.....	0.20	5.1	Cloudy	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.08	764.0	66	18.9	63	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	29.52	749.8	29.62	752.3	68.0	20.0	95	NW	9	4.0	.....	.....	10n;k	.....	.....	0.70	17.8	Overcast	Prof. John E. Oram.
Woodstock	29.06	738.1	30.08	764.0	65.6	18.7	66	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	Prof. J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	29.64	752.8	29.89	759.2	45.0	7.2	100	Calm	.....	.....	.....	.....	10n	.....	.....	0.18	4.6	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner, and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309 meters; Stratford, 1,182 ft., or 360 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the co-operation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.95	760.7	64	17.8	83	N	4	1.8		0	8ks		NW	0.32	8.1	Fair	
Alpena, Michigan	29.50	749.3	30.13	765.3	63	17.2	67	NE	4	1.8		0	0			0	0	Clear	
Atcha, Aleutian Is., Alaska					42	5.6	100	W			1		10s		W	0	0	Cloudy	
Atlanta, Georgia	28.84	732.5	29.95	760.7	68	20.0	84	N	3	1.3		0	Haze		Calm	2.01	51.1	Clear	
Atlantic City, New Jersey	29.89	759.2	29.91	759.7	70	21.1	80	N	7	3.1		2c	Haze	W	Calm	0.83	21.1	Clear	
Augusta, Georgia	29.80	756.9	29.99	761.7	77	25.0	77	N	4	1.8		Haze	0	Calm		0.81	20.6	Clear	
Baltimore, Maryland	29.95	760.7	30.00	762.0	72	22.2	62	N	7	3.1		Haze	Haze	Calm	Calm	0.28	7.1	Hazy	
Barnegat, New Jersey	29.90	759.4	29.93	760.2	68	20.0	79	NW	8	3.6		2ck	0	W		0.68	17.3	Clear	
Bismarck, Dakota	27.83	706.9	29.68	753.9	65	18.3	83	E	8	3.6			10s		Calm	0.02	0.5	Cloudy	
Boerne, Texas	28:47	723.1	29.73	755.1	73	22.8	63	S	8	3.6		0	0			0	0	Clear	
Boise City, Idaho	27.04	686.8	30.00	762.0	57	13.9	69	W	1	0.4			10s		SW	Inap.	Inap.	Cloudy	
Boston, Massachusetts	29.73	755.1	29.88	758.9	68	20.0	65	NW	12	5.4		1cs	0	NW		2.40	70.0	Clear	
Brackettville, Texas	28.73	729.7	29.71	754.6	79	26.1	74	E	4	1.8		0	2ks		SE	0	0	Fair	
Breckenridge, Minnesota	28.70	729.0	29.64	752.8	68	20.0	74	S	30	13.4		5cs	0	Calm		0	0	Fair	
Brownsville, Texas	29.81	757.2	29.85	758.2	86	30.0	72	SE	4	1.8		2k	0	SE		0	0	Clear	
Buffalo, New York	29.38	746.2	30.05	763.3	66	18.9	69	N	6	2.7		0	0			0	0	Clear.	
Burkes, Arizona					62	16.7	41	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.68	753.9	29.96	761.0	61	16.1	61	N	15	6.7		0	5ks		NW	0.18	4.6	Fair	
Cairo, Illinois	29.69	754.1	30.07	763.8	72	22.2	76	N	5	2.2		2c	0	Calm		0	0	Fair.	
Campo, California	27.37	695.2	29.94	760.5	35	1.7	61	S	4	1.8		0	0			0	0	Clear.	
Cape Hatteras, N. Carolina	29.92	760.0	29.93	760.2	73	22.8	85	NE	9	4.0		1cs	8s	Calm	NE	1.15	29.2	Cloudy	
Cape Henry, Virginia	29.91	759.7	29.92	760.2	71	21.7	80	N	12	5.4		0	2ks		NW	0.72	18.3	Clear	
Cape Lookout, N. Carolina	29.92	760.0	29.93	760.2	73	22.8	85	N	12	5.4		5c	0	W		2.23	56.6	Fair	
Cape May, New Jersey	29.92	760.0	29.95	760.7	69	20.6	75	N	12	5.4		2c	0	Calm		0.33	8.4	Clear	
Castroville, Texas	29.12	739.6	29.79	756.7	80	26.7	74	SE	2	0.9		0	0			0	0	Clear	
Charleston, South Carolina	29.90	759.4	29.95	760.7	75	23.9	86	NE	5	2.2		2k	5s	NE	Calm	1.20	30.5	Cloudy	
Charlotte, North Carolina	29.17	740.9	29.95	760.7	71	21.7	62	N	8	3.6		0	0			0.03	0.8	Clear	
Chattanooga, Tennessee	29.24	742.7	30.01	762.2	73	22.8	59	N	1	0.4		0	0			0	0	Clear.	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	57	13.9	41	W	4	1.8		0	0			Inap.	Inap.	Clear	
Chicago, Illinois	29.42	747.3	30.09	764.3	65	18.3	63	N	2	0.9		0	Haze			0	0	Clear	
Cincinnati, Ohio	29.46	748.3	30.09	764.3	70	21.1	70	E	1	0.4		0	0			0	0	Clear	
Cleveland, Ohio	29.39	746.5	30.10	764.5	68	20.0	65	N	6	2.7		0	0			0	0	Clear	
Coleman City, Texas	28.12	714.2	29.69	754.1	77	25.0	77	SE	6	2.7		5ck	2s	NW	Calm	0	0	Fair	
Columbus, Ohio	29.28	743.7	30.09	764.3	69	20.6	70	NE	4	1.8		0	0			0	0	Clear.	
Concho, Texas	27.98	610.7	29.56	750.8	76	24.4	82	S	12	5.4		8k	0	S		0	0	Fair	
Corsicana, Texas	29.47	748.5	29.92	760.0	73	22.8	81	E	2	0.9		8c	0	Calm		0	0	Fair	
Davenport, Iowa	29.45	748.0	30.07	763.8	65	18.3	73	E	6	2.7		1c	0	NW		0	0	Clear	
Deadwood, Dakota	25.18	639.6			67	19.4	64	Calm	0	0		0	0			0	0	Clear	
Decatur, Texas	28.76	730.5	29.99	761.7	70	21.1	95	E	12	5.4			10s			0.32	8.1	Cloudy	
Denison, Texas	29.15	740.4	29.91	759.7	73	22.8	72	SE	3	1.3		5cs	5s	S	S	0	0	Cloudy	
Denver, Colorado	24.66	626.4	29.88	758.9	59	15.0	38	S	4	1.8		0	Sm'e			0	0	Clear	
Des Moines, Iowa	29.12	739.6	29.96	761.0	66	18.9	74	S	6	2.7		0	0			0	0	Clear	
Detroit, Michigan	29.46	748.3	30.12	765.0	63	17.2	62	NE	6	2.7		0	0			0	0	Clear	
Dodge City, Kansas	27.24	691.9	29.42	747.3	64	17.8	89	S	10	4.5			10ks		NE	1.53	38.9	Cloudy	
Dubuque, Iowa	29.37	746.0	30.05	763.3	65	18.3	73	E	3	1.3		0	Haze		Calm	0	0	Hazy	
Duluth, Minnesota	29.30	744.2	29.96	761.0	60	15.6	82	NE	3	1.3		5ck	0	N		0	0	Fair	
Eagle Pass, Texa	29.07	738.4	29.75	755.6	82	27.8	71	SE	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.71	754.6	29.78	756.4	62	16.7	88	N	7	3.1		10c;k	0	sw; NW		0.34	8.6	Cloudy	
Edinburg, Texas					82	27.8	87	S			1	5k	2s	S	Calm	0	0	Fair.	
El Paso, Texas	26.14	663.9			70	21.1		NW	10	4.6		0	0			0	0	Clear	
Erie, Pennsylvania	29.38	746.2	30.07	763.8	67	19.4	69	NE	4	1.8		0	0			0	0	Clear	
Escanaba, Michigan	29.46	748.3	30.09	764.3	67	19.4	74	S	9	4.0		0	Haze		S	0	0	Clear	
Florence, Arizona	28.34	719.8	29.94	760.5	78	25.6	13	W	4	1.8		0	0			0	0	Clear	
Fort Apache, Arizona																			
Fort Assiniboine, Montana																			
Fort Buford, Dakota	27.66	702.6			63	17.2	94	NE	1	0.4		5c	0	Calm		0	0	Fair	
Fort Davis, Texas	25.16	639.0	30.12	765.0	73	22.8	59	SW	8	3.6		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.42	747.3	29.94	760.5	71	21.7	71	SE	4	1.8		10cs	0	E		0	0	Cloudy	
Fort Grant, Arizona	25.19	639.8	29.99	761.7	70	21.1	6	N	10	4.5		0	0			0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.89	759.2	71	21.7	90	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.20	690.9			62	16.7	88	NW	21	9.4			10s		Calm	0.44	11.2	Cloudy	
Fort McKavett, Texas	27.64	702.0	29.46	748.3	73	22.8	76	S	12	5.4		2c	5s	Calm	Calm	0.70	17.8	Fair	
Fort St. Michael, Alaska																			
Fort Shaw, Montana																			
Fort Sill, Indian Territory	28.69	728.7	29.74	755.4	72	22.2	76	SW	6	2.7			10n		Calm	1.30	33.0	Light rain	
Fort Stevenson, Dakota	28.82	706.6			63	17.2	88	NE	14	6.3			8n		Calm	0.08	2.0	Light rain	
Fort Verde, Arizona					54	12.2	43	NW			1	0	Haze			0	0	Clear	
Fort Yates, Dakota																			
Fredericksburg, Texas	29.18	741.1	29.66	753.4	77	25.0	77	S	4	1.8		0	0			0.75	19.1	Clear	
Galveston, Texas	29.88	758.9	29.92	760.0	85	29.4	68	SE	3	1.3		2k	2ks	Calm	SE	0	0	Clear	
Graham, Texas	28.84	732.5	29.84	757.9	74	23.3	95	SE	2	0.9			10s		SW	0.90	22.9	Cloudy	
Grand Haven, Michigan	29.46	748.3	30.09	764.3	67	19.4	69	E	4	1.8		0	0			0	0	Clear	
Helena, Montana																			
Henrietta, Texas	28.95	735.3	29.85	758.2	69	20.6	95	SE	12	5.4		0	8s		S	0.45	11.4	Cloudy	
Indianapolis, Indiana	29.33	745.0	30.08	764.0	68	20.0	70	Calm	0	0		0	0			0	0	Clear	
Indianola, Texas	29.90	759.4	29.92	760.0	85	29.4	76	S	4	1.8		0	1ks		S	0	0	Clear	
Jacksboro, Texas	28.83	732.3	29.92	760.0	70	21.1	95	SE	8	3.6		0	8s		N	1.25	31.7	Fair	
Jacksonville, Florida	29.90	759.4	29.92	760.0	82	27.8	79	SW	5	2.2		2k	0	SW		0.16	4.1	Fair	
Keokuk, Iowa	29.40	746.7	29.99	761.7	67	19.4	79	E	7	3.1		1c	0	NW		0	0	Clear	
Key West, Florida	29.96	761.0	29.99	761.7	81	27.2	83	S	8	3.6		5k	0	S		0.04	1.0	Fair	
Kittyhawk, North Carolina	29.89	759.2	29.92	760.0	69	20.6	95	N	15	6.7		0	0			0.66	16.8	Clear	
Knoxville, Tennessee	29.08	738.6	30.05	763.3	67.5	19.7	76	NE	5	2.2		0	0			0.08	2.0	Clear	
La Crosse, Wisconsin	29.32	744.7	30.03	762.7	66	18.9	74	S	8	3.6		0	0			0	0	Clear	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	60	15.6	20	S	1	0.4		0	0			0	0	Clear	
Laredo, Texas	29.47	748.5	29.79	756.7	82	27.8	52	Calm	0	0		0	0			0	0	Clear.	
Leavenworth, Kansas	29.13	739.9	29.94	760.5	69	20.6	75	SE	9	4.0		9cs	0	W		0	0	Cloudy	
Little Rock, Arkansas																			
Los Angeles, California	29.58	751.3	29.92	760.0	58.0	14.4	85	NE	4	1.8			10s		SE	0	0	Cloudy	
Louisville, Kentucky	29.53	750.0	30.07	763.8	70	21.1	66	N	4	1.8		0	0			0	0	Clear	
Lynchburg, Virginia	29.35	745.5	30.00	762.0	74	23.3	75	NW	2	0.9		0	0			0.14	3.6	Clear	
Madison, Wisconsin	29.11	739.4	30.07	763.8	64	17.8	73	S	1	0.4		0	0			0	0	Clear	
Marquette, Michigan	29.35	745.5	30.03	762.7	62	16.7	72	SE	8	3.6		0	0			0	0	Clear	
Mason, Texas	28.28	718.3	29.94	760.5	78	25.6	73	S	10	4.5		0	2s		N	0	0	Fair	
Memphis, Tennessee	29.72	754.9	30.04	763.0	71	21.7	71	E	5	2.2		5ck	0	Calm		0	0	Fair	
Milwaukee, Wisconsin	29.38	746.2	30.09	764.3	63	17.2	62	N	4	1.8		0	Sm'e			0	0	Clear	
Mobile, Alabama	29.89	759.2	29.95	760.2	76	24.4	88	N	6	2.7		0	5s		E	0.28	7.1	Fair	
Montgomery, Alabama	29.75	755.6	29.97	761.2	75	23.9	68	NE	6	2.7		2c	0	NW		0.06	1.5	Clear	

UNITED STATES SERIES—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10	Low'r 0—10	Direction Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Morgantown, West Virginia	29.09	738.9	30.05	763.3	65	18.3	78	Calm	0	0	.....	5k	0	Calm	.....	0.07	1.8	Fair	
Mt. Washington, N. H.	23.76	603.5	30.12	765.0	38	3.3	90	N	16	7.2	.....	5k	0	N	.....	1.18	30.0	Fair	
Nashville, Tennessee	29.51	749.5	30.03	762.7	74	23.3	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.80	756.9	29.91	759.7	71	21.7	66	N	9	4.0	.....	0	0	.....	.....	0.30	7.6	Clear	
New London, Connecticut	29.86	758.4	29.91	759.7	73	22.8	59	N	3	1.3	.....	1k	0	Calm	.....	0.35	8.9	Clear	
New Orleans, Louisiana	29.86	758.4	29.91	759.7	81	27.2	70	NE	10	4.5	.....	0	2s	.....	Calm	Inap	Inap.	Fair	
Newport, Rhode Island	29.88	757.7	29.88	758.9	68	20.0	79	NW	6	2.7	.....	5ck	0	NE	.....	0.09	2.3	Fair	
New York, New York	29.78	756.4	29.95	760.7	70	21.1	70	N	7	3.1	.....	0	Haze	.....	Calm	0.12	3.0	Clear	
Norfolk, Virginia	29.90	759.4	29.96	761.0	74	23.3	80	N	11	4.9	.....	0	0	.....	.....	0.34	8.6	Clear	
North Platte, Nebraska	26.93	684.0	29.37	746.0	66	18.9	79	SE	28	12.5	.....	2k	0	SW	.....	0.22	5.6	Clear	
Olympia, Washington Ter.	30.02	762.5	30.06	763.5	43.0	6.1	92	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.80	731.5	29.84	757.9	73	22.8	63	SE	14	6.3	.....	2cs	0	Calm	.....	0	0	Clear	
Oswego, New York	29.72	754.9	30.03	762.7	64	17.8	73	N	8	3.6	.....	0	0	.....	.....	0.41	10.4	Clear	
Pembina, Dakota	28.77	730.7	29.55	750.6	64	17.8	94	S	10	4.5	.....	.....	10s	.....	S	0.30	7.6	Threatening	
Philadelphia, Pa.	29.90	759.4	29.95	760.7	69	20.6	70	N	16	7.2	.....	0	Haze	.....	Calm	0.18	4.6	Clear	
Phœnix, Arizona	28.60	726.4	30.34	770.6	68	20.0	18	E	.....	.....	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.93	455.4	30.14	765.5	34	1.1	25	W	4	1.8	.....	0	Haze	.....	.....	0.04	1.0	Hazy	
Pioche, Nevada	.....	.....	.....	.....	62	16.7	9	S	9	4.0	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.27	743.4	30.00	762.5	60	15.6	77	NW	6	2.7	.....	2k	Fog	NW	Calm	0.11	2.8	Fair	
Port Huron, Michigan	29.46	748.3	30.11	764.8	63	17.2	72	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.70	756.7	29.84	757.9	66	18.9	69	NW	8	3.6	.....	1k	0	Calm	.....	0.74	18.8	Clear	
Portland, Oregon	30.05	763.3	30.12	765.0	47.0	8.3	85	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.71	627.6	30.07	763.8	49	9.4	18	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Punta Rassa, Florida	29.95	760.7	29.97	761.2	77	25.0	86	SW	24	10.7	.....	.....	10n	.....	SW	0.24	6.1	Light rain	
Red Bluff, California	29.51	749.5	29.86	758.4	63	17.2	52	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.68	753.9	29.88	758.9	82	27.8	78	SE	6	2.7	.....	0	0	.....	.....	0.64	16.3	Clear	
Rochester, New York	29.44	747.8	30.04	763.0	66	18.9	59	N	7	3.1	.....	0	0	.....	.....	0.06	1.5	Clear.	
Roseburg, Oregon	29.56	750.8	30.14	765.5	42	5.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.9	29.84	757.9	54	12.2	80	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.05	763.3	69	20.6	85	NW	1	0.4	.....	1c	Haze	Calm	.....	0	0	Clear	
St. Marks, Florida	29.91	759.7	29.93	760.2	78	25.6	86	N	5	2.2	.....	2k	0	N	.....	0.23	5.8	Fair	
St. Paul, Minnesota	29.10	739.1	29.90	759.4	64	17.8	78	SE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.38	644.6	29.72	754.9	73	22.8	17	SW	4	1.8	.....	8k	0	SW	.....	Inap	Inap.	Cloudy	
San Antonio, Texas	29.22	742.2	29.78	756.4	82	27.8	71	Calm	0	0	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	
San Diego, California	29.85	758.2	29.93	760.2	61	16.1	82	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.47	748.5	30.12	765.0	68	20.0	65	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.90	759.4	29.94	760.5	66	18.9	79	N	12	5.4	.....	0	Haze	.....	Calm	0.07	1.8	Clear	
San Francisco, California	29.85	758.2	29.91	759.7	53	11.7	86	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Santa Fé, New Mexico	23.29	591.6	29.88	757.7	53	11.7	14	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	78	25.6	82	N	4	1.8	.....	.....	10k	.....	SW	1.32	33.5	Cloudy	
Shreveport, Louisiana	29.76	755.9	29.98	761.5	73	22.8	67	NE	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear.	
Silver City, New Mexico	24.28	616.7	30.38	770.4	54	12.2	43	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.95	760.7	29.99	761.7	73	22.8	95	N	6	2.7	.....	.....	10s	.....	N	0.39	9.9	Cloudy	
Socorro, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Ill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Springfield, Massachusetts	29.78	756.4	29.90	759.4	71	21.7	66	N	4	1.8	.....	0	0	.....	.....	0.91	23.1	Clear	
Stockton, Texas	26.86	682.0	29.85	758.2	77	25.0	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.82	757.4	29.87	758.7	64	17.8	83	NW	13	5.8	.....	0	5s	.....	W	1.09	27.7	Fair	
Toledo, Ohio	29.45	748.0	30.11	764.8	69	20.6	70	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Tucson, Arizona	27.44	697.0	29.99	761.7	70	21.1	35	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Umatilla, Oregon	29.60	751.8	30.10	764.5	49.0	9.4	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	28.98	736.1	29.76	755.9	79	26.1	74	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	76	24.4	56	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.11	612.4	29.59	751.6	49	9.4	85	SE	2	0.9	.....	.....	10s	.....	Calm	0.41	10.4	Light rain	
Visalia, California	29.49	749.0	29.86	758.4	58	14.4	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.88	758.9	29.99	761.7	70	21.1	66	N	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	57	13.9	58	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.87	758.7	29.94	760.5	73	22.8	85	N	5	2.2	.....	5k	0	Calm	.....	0.49	10.2	Fair	
Winnemucca, Nevada	25.55	649.0	29.91	759.7	58	14.4	48	S	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Mass.	29.84	757.9	29.87	758.7	68	20.0	79	N	6	2.7	.....	8cs	0	SW	.....	0.10	2.5	Cloudy	
Yankton, Dakota	28.59	726.2	29.82	757.4	68	20.0	69	S	14	6.3	.....	5ck	5ks	SW	S	0	0	Cloudy	
Yuma, Arizona	29.59	751.6	29.75	755.6	72	22.2	16	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	29.92	760.0	29.97	761.2	79	26.1	90	Calm	0	0	.....	4ck	0	Calm	.....	0.42	10.7	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	25.20	640.1	.....	.....	69.5	20.8	76	Calm	.....	.....	0	2ck	1ks	.....	.....	0	0	.....	Thomas Herran.
Navassa, W. I.	29.88	758.9	29.96	761.0	79	26.1	82	NE	.....	.....	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.06	763.5	30.06	763.5	81	27.2	91	E	.....	.....	2	5k	7ks	E	.....	0.446	11.18	½ clouded?	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevations of the barometer are: at Atlanta, 1,131.3 feet or 344.8 meters; Bismarck, 1,704.3 feet, or 519.5 m.; Boerne, 1,323 (?) ft., or 406 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026(?) ft., or 313 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 354 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757 m.; Fort Craig, 4,622 (?) ft., or 1,409 (?) m.; Fayetteville, 1,422 ft., or 433 m.; Fort Davis, 5,203 (?) ft., or 1,586 (?) m., Fort Griffin, 1,270 (?) ft., or 387 (?) m.; Fort McKavett, 2,050 (?) ft., or 625 (?) m.; Fort Sill, 1,100 (?) ft., or 335 (?) m.; Florence, 1,550 (?) ft., or 472 (?) m.; Fredericksburg, 1,614 (?) ft., or 492 (?) m.; Graham, 1,040 (?) ft., or 317 (?) m.; Jacksboro', 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 549 (?) m.; Medellin, 4,865 ft., or 1,483 m.; Mt. Washington, 6,285 ft., or 1,916 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,[illegible] (?) ft., or 549 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.3 (?) m.; Prescott, 5,700 (?) ft., or 1,737 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.5 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6,896 (?) ft., or 2,102 (?) m.; Stockton, 3,100 (?) ft., or 945 (?) m.; Tucson, 2,542 (?) ft., or 775 (?) m.; Virginia City, 5,480 (?) ft., or 1,670 (?) m.; Wickenburg, 2,050 (?) ft., or 625 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 389 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches., or 47.1 millimeters; Boise City, 2.96 in., or 75.2 mm.; Camp Grant, 4.800 in.; or 121.9 mm.; Camp Verde, 3.488 in., or 88.6 mm.; Campo, 2.57 in., or 65.3 mm.; Cheyenne, 5.94 in., or 150.9 mm.; Denver, 5.22 in., or 132.6 mm.; Florence, 1.60 in., or 40.6 mm.; Fort Craig, 4.064 in., or 103.2 mm.; Fort Davis, 4.96, in. or 126.0 mm.; La Mesilla, 4.15 in., or 105.4 mm.; Mt. Washington, 6.36 in., or 161.5 mm.; Pike's Peak, 12.21 in., or 310.1 mm.; Pioche, 5.77 in., or 146.6 mm.; Prescott, 5.36 in., or 136.1 mm.; Salt Lake City, 4.33 in., or 110.0 mm.; Santa Fé, 6.54 in., or 166.1 mm.; Stockton, 3.00 in., or 76.2 mm.; Tucson, 2.59 in., or 65.8 mm.; Wickenburg, 2.09 in., or 53.1 mm.; Winnemucca, 4.36 in., or 110.7 mm.; Virginia City, 5.48 in. or 139.2 mm. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the co-operation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	29.86‡	758.4‡			80	26.7	91	N	3	1.3			5		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H																					
Naval Hospital, Yokohama, Japan	30.00‡	762.0‡			73.5	23.1	90	SW			1	1c			SW	0	0			Clear.	
Adams, N. 17° 23′, W. 102° 15′	29.81‡	757.2‡			82	27.8	96	SE			2		8		SE			Long	W	Fair	
Alaska, San Francisco, Cal.	29.89‡	759.2‡			52	11.1	93	SSW			3		10		SW	0	0			Misty	
Alliance, Southampton, Eng.	30.13‡	765.3‡			63	17.2	67	WSW			5		8		SW					Pleasant	
Ashuelot, N. 33° 39′, E. 136° 22′	29.96‡	761.0‡			78	25.6	86	E			1		8		Calm			Long	NE	Hazy	
Colorado, New York, N. Y.	29.98‡	761.5‡			69	20.6	75	NW	14	6.3			2			0.02	0.5			Hazy	
Constellation, N. 44° 03′, W. 63° 45′	29.78‡	756.4‡			53	11.7	??	WSW			4		Fog			Slight	Slight	Mod'ate	SW	Dense fog	
Constitution, League Island, Penn.	29.96‡	761.0‡			69	20.6	75	N			1		3		N					Pleasant	
Despatch, Potomac river	30.00‡	762.0‡			71	21.7	75	WSW			2		1		Calm	2 h'rs	2 h'rs	Smooth		Clear.	
Enterprise, Christiania, Norway	29.78‡	756.4‡			67	19.4	60	E			3		6?		E					Clear?	
Franklin, Norfolk, Va.	29.97‡	761.2‡			75	23.9	72	NNW	8.4	3.8			2		Calm	0.37	9.4			Fair	
Hartford, Montevideo, Uruguay	29.99‡	761.7‡			53	11.7	86	SW	4	1.8			10		SW	1.30	32.0			Cloudy	
Kearsarge, New York, N.Y.	29.93‡	760.2‡			69	20.6	80	N			4		3							Clear	
Marion, N. 38° 45′, W. 72° 20′	29.83‡	757.7‡			78	25.6	95	N			4		10		N			Mod'ate	N	Light rain	
Michigan, Erie, Pa.	30.03‡	762.7‡			71.5	21.9	57	NE			2		0							Clear	
Monocacy, Shanghai, China	29.62‡	752.3‡			82	27.8	87	SW			2		8							Cloudy	
Monongahela, Yokohama, Japan	29.98‡	761.5‡			75	23.9	90	S			0–1		cs			0	0			D. clouds	
New Hampshire, Port Royal, S. C.	29.95‡	760.7‡			77	25.0	86	NNE	8	3.6			8		Var.	2.60	40.6			Cloudy	
Onward, Callao, Peru †	30.17‡	766.3‡			62	16.7	77	ENE			1		10					Long	W	Misty	
Palos, Shanghai, China	29.62‡	752.3‡			79	26.1	100	SSE			3		5		W					Fair	
Passaic, Washington, D. C.					73	22.8	95	NE			2		0							Clear	
Pensacola, S. 18° 58′, W. 72° 14′	30.02‡	762.5‡			62	16.7	77	ESE	5	2.2			10			0	0	Smooth	SW	Overcast	
Portsmouth, New London, Conn.	29.86‡	758.9‡			66	18.9	74	N			2		5		N			Smooth		Fair	
Powhatan, New York, N. Y.	29.92‡	760.0‡			69	20.6	80	NNW			1		2		Calm	0.05	1.3			Clear	
Quinnebaug, Constantinople, Turkey	30.11‡	764.8‡			74	23.3	59	NE			5		2		NE					Fair	
Ranger, Amoy, China	29.72‡	754.9‡			86	30.0	84	SSE			2		2		Calm			Smooth		Clear	
Richmond, N. 33° 44′, E 136° 25′	29.95‡	760.7‡			77	25.0	91	ESE			1		8		ESE	0	0	Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	29.86‡	758.4‡			81	27.2	96	SE			1		2		S	0	0			Fair	
Santee, Annapolis, Md.	29.99‡	761.7‡			70	21.1	90	NNW			1		0			0.02	0.5			Clear.	
Saratoga, Murray, Bermuda, N. Atlan.	30.20‡	767.1‡			80	26.7	91	SSW			3		8		SW	0	0			D. clouds	
St. Louis, League Island, Pa	29.97‡	761.2‡			70	21.1	75	N	12	5.4			5		NNW	0.25	6.3			Fair	
Trenton, Spit Head, Eng.	30.12‡	765.0‡			65	18.3	58	WSW			2		8		SW	0	0	Smooth		Fair	
Tuscarora, Mare Island, Cal.	29.89‡	759.2‡			54	12.2	93	SSW			5		2		NE	0	0	Smooth		Misty	
Vandalia, New York City, N. Y.	29.91‡	759.7‡			69	20.6	80	NNW			2		10			0	0			Clear	
Wabash, Boston, Mass.	29.83‡	757.7‡			66	18.9	74	NW	7	3.1			2			1.72	43.7			Fair	
Wyoming, Trieste, Austria	29.96‡	761.0‡			81	27.2	100	W			2		2		W			Smooth		Clear	
Wachusett, Vicksburg, Miss.	29.88‡	758.9‡			74	23.3	81	N			2		2		NE					Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and apparently, the direction is sometimes given as toward, instead of from; they do not give the humidity. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

CUNARD LINE MARINE SERIES.

Furnished by the co-operation of Ch. G. Francklyn, Agent, New York.

S.S. Samaria																			Capt. T. Roberts.

NOTE.—†Aneroid. *The error of the barometer is not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			
S.S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio Capt. Maury																			L. B. Walls.
S. S. Colima, N. 11° 49', W. 94° 22'...†.		29.94‡	760.5‡	80	26.7	100	NNE			3		8		NE	0.01 in. or 0.3 mm	Small	NNW	D. clouds	Capt. R. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Capt. H. G. Morse, Victoria, Vancouver I.†.		30.05‡	763.3‡	57	13.9	69	SW			1		0						Clear	R. Lawless.
S. S. Georgia																			Capt. Connolly.
S. S. Granada, Capt. Austin.																			F. W. Hart, 1st Officer.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the co-operation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the co-operation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer																			D. A. Joyce, 2nd Officer
S. S. Gaelic, Capt. Davidson. Hong-Kong, China ....†.		29.74‡	755.4‡	83	28.3		SSW			5		ks			0			D. clouds	J. A. Thompson, C. O.
S. S. Oceanic, Capt. J. Metcalf.																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; no distinction between upper and lower clouds. The position given for the S. S. Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time; sea-swell is given by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡ Corrections for temperature, instrumental error and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the co-operation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. C. Undütsch.
S. S. Leipzig, Capt. F. Peiffer																			S. Risius, 3rd Officer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio, Bremerhaven, Germany		30.05‡	763.3‡				NW			4		5		NW				Cloudy?	Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; generally give amount of cloudiness, by the scale 0 to 4; do not distinguish between upper and lower clouds. Duration of rain-fall in hours. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

UNITED STATES MARINE SERIES—Continued.

Reported to the Office of the Chief Signal Officer of the Army.

Names of Vessels.	True course toward.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the co-operation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 35′, W. 17° 10′		29.62‡	752.8‡	56	13.8	81	S			4		10		SW	Light	Heavy	S	Cloudy	Captain R. W. Sargent. Wm. Shackford, Chief Officer.
S. S. Ohio																			Capt. Harris.
S. S. Pennsylvania																			
RED STAR LINE MARINE SERIES. Furnished by the co-operation of James A. Wright, President; Peter Wright & Sons, Agents.																			
Belgenland																			Capt. Sam'l Jackson.
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the co-operation of A. Schumacher & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			J. Powell, 4th Officer.
S. S. Peruvian																			
MARINE SERIES,—Miscellaneous. Furnished by the co-operation of the Observer named.																			
Schooner Addie Fuller, N. 30° 00′, W. 88° 00′		29.94‡	760.5‡	83	28.3	75	E	2	0.9			5ks		E	0	Smooth		Clear.	Capt. James Jorgensen.
Schooner Charley Buck																			W. H. Champlin.
Brigantine "George of Halifax", Arroyo, Porto Rico, W. I.†		30.05‡	763.3‡				Var.					10			Heavy	Smooth		Raining	N. B. Foss.
Schooner Harry and Fred.																			Capt. George Gardner.
W. D. Hilton, Mouth of Delaware river †		29.87‡	758.7‡	70	21.1		N			3		1			Blank			Clear.	Capt. N. B. Horner.
Nordenskiold of Sundsvall, Sweden, Rouen, France†		30.26‡	768.6‡	60	15.6	82	NW			3		2		NW				Fair	Capt. P. Sandelin.
Sch'r A. A. Rowe, Capt. Beckwith, N. 41° 11′, W. 72° 27′†		29.94‡	760.5‡				N			3		0				Smooth		Pleasant	L. Dunbar.
Schooner Henry Whitney																			Capt. Wm. Shepherd

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds; for the Pennsylvania, the cloud-direction as toward instead of from; sea-swell in general terms, as published; rain-fall for the Indiana and Ohio in general terms. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12, weather by the Beaufort notation. †Aneroid. *The error of the barometer is not known. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower. †Aneroid. ‡Corrections for temperature, instrumental error and elevation applied at this office.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the co-operating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz, fg and sm'e are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

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Albert J. Myer

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