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WEATHER BUREAU

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 1, 1876.

QC
982
.B85
1876
(Nov.-Dec.)

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Endeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.96	760.9	69.3	20.7	76	Calm			0		2			0	0	Clear	Charnot.
Aiglers			29.97	761.1	67.3	19.6	19	NNW			1		2			0.217	5.5	Clear	Peter.
La Calle			29.76	755.9	63.7	17.6	73	NW			3		8			0.197	5.0	Cloudy	Fleury.
Tunis			29.76	755.8	63.5	17.5	76	W			4		7			0.055	1.4	Cloudy	Jacques.
Sfax			29.83	757.7															
Saida			29.91	759.6	66.4	19.1	72	SSE			2		3			0	0	Fair	Millot.
Tebessa			29.78	756.3	59.2	15.1		W			4		0			0	0	Clear	Bourgeois.
Geriville			30.02	762.5	57.7	14.3	47	N			3		1			0	0	Clear	Lemaillot.
Laghouat			29.98	761.4	68.4	20.2	62	S			2		6			0	0	Fair	Guyot.
Biskra			29.88	758.9	74.3	23.5	16	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.85	758.1	39.4	4.1	85	NE			1		9			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.76	755.9	38.5	3.6	93	W			1		10			0.024	0.6		Dr. Wierzbiski.
Eperies			29.78	756.5	38.5	3.6	73	Calm			0		4c8,8			0	0		Julius Mikolik.
Gratz	28.55	725.2	29.82	757.4	43.9	6.6	68	S			2		5			0	0		Andreas Rospini.
Hermannstadt	28.32	719.4	29.80	756.8	34.0	1.1	90	NE			1		10			0.268	6.8	Snowing	Prof. Reissenberger.
Kremsmünster	28.49	723.6	29.87	758.7	37.4	3.0	87	WNW			3		10			0.177	4.5		Prof. C. Wagner.
Lemberg			29.69	754.0	39.4	4.1	79	SW			1		8			0.008	0.2		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.77	756.2	51.8	10.7	30	NE			2		2c8			0.066	1.69		I.R. Hydrographic Of'ce
Szegedin			29.78	756.4	45.5	7.5	79	W			1		8			0	0		Karl Stancel.
Trieste			29.80	756.9	52.2	11.2	32	E			1		1			0	0		Prof. V. Farolfi.
Vienna			29.80	757.0	37.6	3.1	91	W			3		3			0.087	2.2		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.13	765.3	44.8	7.1	72	N			2	0	1			0.189	4.80		Royal Observatory.

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NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co[illegible] of Robert H. Scott, Esq., Director of the Meteorological Office, London, [illegible] Alexander Buchan, Secretary of the Scottish [illegible]eorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrumental [illegible] Inches.	Barometer: Corrected for instrumental [illegible] Millimeters.	Barometer: Reduced [illegible] Inches.	Barometer: Reduced [illegible] Millimeters.	Temperature of Air. Fahrenheit.	Temperature of Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.26	768.6	43.4	6.3		W	15	6.7			6			0.058	1.27	*D. clouds	William Boswell.
Ardrossan			30.38	771.6	45	7.2							8					Overcast	William McNeil.
Armagh, Observatory			30.24	768.1	43.9	6.6		SSW	2	0.9			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.45	773.4	45.3	7.4		Calm			0		0					Blue sky	J. Dreyer.
Bradford			30.33	770.4	43.8	6.6		W			1		4			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	85.0	29.4		NE			1		8					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.31	769.9	46.0	7.8		N			2		5					*D. clouds	H. Todd. [H.C.
Cardington			30.34	770.6	45.0	7.2		N			1		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.29	769.4	46.0	7.8		NE			2		4					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.91	734.3	30.47	773.9	41.0	5.0		NE			5		0					Blue sky	R. E. Power.
Davos Platz, (Switzerland)	24.56	623.8			25.0	— 3.9	76	NE			1		10			0.087	2.21	Snowing	Francis Redford, M. A.
Donaghadee			30.40	772.1	46	7.8		WNW			3		7					*D. clouds	J. Mac Gowan.
Dover			30.25	768.3	46	7.8		N			4		0					Clear	J. Costello.
Eccles, (near Manchester)			30.36	771.1	45.9	7.7		NNW	1.2	0.5								Blue sky	Thomas Mackereth.
Falmouth, Observatory			30.42	772.7	44.7	7.1		ENE			2		0					Hazy	The Staff.
Fort Napier, (Natal)	27.48	698.0	29.72	754.9	75.2	24.0		SE			1		9					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.96	761.0	84.0	28.9		N			1		5					*D. clouds	
Galway, Queen's College			30.30	769.6	48	8.9		N			1		1					Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.80	756.9	73.3	22.9		E			6		1					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.34	770.6	42.6	5.9		W			1		4					*D. clouds	Lewis Stuart.
Great Yarmouth			30.24	768.1	46	7.8		NNW			4		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.32	770.1	45.4	7.4		N			2		1					*D. clouds	The Staff, for G. B. Airy.
Guernsey			30.36	771.1	47	8.3		NNE			2		4					*D. clouds	Dr. S. E. Hoskins.
Helston			30.38	771.6	50	10.0		NE			2		0			0	0		M. P. Moyle.
Holyhead			30.40	772.1	46	7.8		NW			2		10					Overcast	John Tilston.
Kew, Observatory			30.33	770.4	45.4	7.4		NNW	16	7.2			9					Threatening	The Staff.
Kingstown			30.44	773.2	45	7.2		NW			4		8					Overcast	George Mitchell.
Leicester Museum			30.38	771.6	45.0	7.2		N			1		6					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.67	753.6	69.6	20.9		NW			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.28	769.1	43	6.1		NW			2		5					⅛ clouded	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	78.5	25.8		NE			3		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.35	770.9	44.7	7.1		NNW			3		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.36	771.1	44.5	6.9		N			3		1					Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.33	770.4	45	7.2		N			2		0					Blue sky	I. Lucas.
Plymouth			30.38	771.6	46.9	8.3		E			3		0					Blue sky	John Merrifield.
Roche's Point			30.41	772.4	45	7.2		NE			2		5					Fine	W. Kennedy.
Saint Ann's Head			30.41	772.4	46	7.8		Calm			0		5					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			30.33	770.4	50.4	10.2		NE			4		5					⅛ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.12	765.0	48	8.9		W	35	16.1			10					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.58	751.3	62.6	17.0		Calm			0		8					Misty	Sergt. W. H. Lyne.
Sheffield			30.36	771.1	44.4	6.9		N			2		3			0	0	Hazy	W. F. Cooper.
Silloth Rectory			30.37	771.4	48.4	9.1	72	Calm			0		3			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			30.38	771.6	42.7	5.9		NW			1		1					Blue sky	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.26	768.6	48	8.9		W			4		10					Overcast	John Smith.
Stratfield Turgiss			30.36	771.1	45.3	7.4		N			1		0					Blue sky	Rev. Charles H. Griffith.
Thurso			30.15	765.8	47	8.3		WSW			5		10					Raining	John Trotter.
Truro, Royal Institution			30.37	771.4	48	8.9		NE			1		0					Blue sky	W. Newcombe.
Valencia, Observatory			30.40	772.1	50.1	10.1		ESE	11	4.9			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					46	7.8		NE			3		5			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.31	769.9	58.2	14.6	69	SE	24	10.7		3	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.52	749.8	62.0	16.7	76	S			5		6k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.35	770.9	42.2	5.7		W			2	6ck				0	0	Fine	Andrew Gibb.
Mauritius, Observatory			30.09	764.3				NE	17.7	7.9						0	0		C. Meldrum.
Melbourne, Observatory			29.92	760.0	52.0	11.1	82	WSW	22	9.8			10			0	0	Misty	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.36	771.1	51	10.6		W			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.94	760.5	47	8.3		W			7		10			8han	8han		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
SECRETARY OF THE EXTERIOR DEPARTMENT.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.82	757.4	40.5	4.7	65	NNW			4		9						
Faröe			30.01	762.2	43.3	6.3	55	N			4		1						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.90	759.4	39.7	4.3	97	SE			2		0					Raining	
Thorshavn, (Faröe)			29.98	761.4	48.9	9.4	76	NW			2		10						
Vestervig			29.18	741.1	41.4	5.2	60	N			4		3						

NOTE.—The origina's give the wind-force by the scale 0 to 6; occasionally, weather by Vanna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.28	769.0	49.1	9.5	63	NE			3		5k		NE	0	0	Cloudy	Normal School.
Amiens			30.21	767.2	47.5	8.6	76	E			4		5		NE	0	0	Cloudy	Normal School.
Avignon			29.89	759.2	50.4	10.2	40	N			8		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.17	766.2	43.5	6.4	90	N			2		10		NNW	0	0	Covered	C. Saillard.
Beaumette, (near Angers)			30.27	768.9	47.7	8.7	67	NE	13.0	5.8					NE	0	0		Beaumette Observ'tory
Beauvais			30.26	768.5	45.1	7.3	71	N			3		8		N	0	0	Very cloudy	Normal School.
Besançon			30.12	765.0	43.2	6.2	89	NE			2		8		N	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.20	767.1	41.9	5.5	73	N			4		10n		S	0	0	Covered	Normal School.
Bourges			30.24	768.0	41.0	5	92	N			2		5		N	0	0	Partly cl'dy.	Normal School.
Brest			30.28	769.2	49.5	9.7	56	NE			2		2k		NE	0	0		Naval Observatory.
Carcassonne			30.10	764.4	55.8	13.2	69	W			2		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.42	772.6	47.1	8.4	88	NE			4		10		E	0.08	2.	Covered	Normal School.
Châlons-sur-Marne			30.18	766.6	44.8	7.1	71	NW			4		5n		S	0	0	Cloudy	Normal School.
Clermont			30.19	766.8	40.1	4.5	83	N			3		10		N	0	0		Puy de Dome Obs'y.
Commercy			30.16	766.0	43.2	6.2	65	NW			4		10kn		NW	0	0	Covered	Normal School.
Commune de Gréasque*			29.82	757.3	51.8	11.0	18	NW			4		"		NW	0	0		M. Kina.
Grenoble			30.04	762.9	46.0	7.8	84	NW			6		2 m		SE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					48.2	9	58	N			4		2		S	0	0	Slightly cl'dy	Normal School.
Le Mans			30.38	770.3	46.0	7.8	57	NE			2		8		NE	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.13	765.2	48.3	6.3	77	NE			4		8		N	0.01	0.3	Raining	Normal School.
Lorient			30.35	770.9	50.4	10.2	37	NE			4		2		NE	0	0	Slightly cl'dy	Naval Observatory.
Mâcon			30.17	766.4	41.4	5.2	91	N			4		10			0	0	Covered	Normal School.
Metz			30.15	765.7	42.1	5.6	83	NW			2		5		NW	0	0		M. Schuster.
Mirecourt			30.08	763.9	41.2	5.1	70	NNE					5		SW	0	0	Cloudy	Normal School.
Nismes			29.92	759.9	52.3	11.3	52	S			6		0			0	0	Clear	Normal School.
Orleans			30.21	767.2	47.8	8.8	83	NW			2		2		NNW	0	0	Slightly cl'dy	Normal School.
Paris, Observatory			30.23	767.9	44.8	7.1	70	NNW			3		10			0	0	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.02	762.5	45.0	7.2		N			6		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.27	768.8	51.4	10.8	50	NE			3		2		SW	0	0	¼ covered	Naval Observatory.
Rouen			30.26	768.6	48.6	9 2	58	NNW			2		2		N	0	0	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	29.02	737.1	30.10	764.5	58.1	14.5		E			1		2		E	0	0	Slightly cl'dy	Normal School.
Villefranche			30.15	765.7	45.3	7.4	67	NW			6		5		N	0	0	Cloudy	Normal School
Sub-Series.																			
Fort de France, Martinique			29.82	757.3	81.0	27.2													L'Abbé Marchési.
Marseilles			29.79	756.6	54.3	12.4	48	NW			6		0			0	0		Marseilles Observatory.
Mont-Louis	24.76	629.0	30.17	766.4	37.9	3.3	63	NNW	7.8	3.3			0			0	0		—. Falguère.
Montsouris, Paris			30.21	767.4	44.2	6.8	75	N			3		9			In up.	In up.		Montsouris Observ'tory.
Perpignan			30.02	762.6	52.2	11.2	47	N	33.6	15.06			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.12	536.4			27.5	— 2.5		N			2		0					Clear	M. Baynac.
Pic du Midi, (Plantade,) H. P.	22.43	569.6			31.3	— 0.4		N			3		0			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.22	767.6	45.3	7.4	71	N			2		10					Light rain	E. R nou.
Toulouse			30.15	765.7	46.4	8.0	61	NW			4		9			0	0		Toulouse Observatory.
Tours			30.25	768.4	48.2	9.0	42	NE			2		5		N	0	0		C. Marquet.
Versailles, (near Paris)			30.23	767.8	45.3	7.4	80	N			3		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.02	762.6	55.4	13.0	85	NNE	0.8	0.3			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the origin is given the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,580.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co operation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.17	766.2	38.3	3.5	75	N			2		4	NW		0	0		Prof. T. Hoh.
Berlin			29.84	758.0	44.1	6.7	64	NW			1		10			0.07	1.9		Prof. Arndt.
Breslau			29.78	756.3	41.[illegible]	5.1	70	WNW			4		10			0.116	2.8		Royal University Obs'y.
Carlsruhe			30.01	762.2	39.9	4.4	84	NW			3		10					Graupeln	A. Senz.
Cassel			30.02	762.4	43.3	6.3	58	NNW			6		3	NW		0	0		Dr. H. Möhl.
Emden			30.13	765.4	42.3	5.7	79	WNW			1		6			0.220	5.6		Prof. Prestel.
Frankfort on the Main			30.01	762.3	43.9	6.6	57	NNE			3		7			0.012	0.3		Physical Society.
Friedrichshafen			30.02	762.5	40.6	4.8	68	N			5		10			0.008	0.2	Snow & graupel	M. Wilhelm.
Hamburg			29.97	761.1	43.3	6.3	49	NNW			5		4ck,l	NNW		0	0	Fair	Captain F. Hegemann.
Kiel			29.95	760.7	42.8	6.0	50	NNW			3		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.55	750.6	41.0	5.0	83	W			2		7			0.268	6.8		Prof. E. Luther.
Köslin			29.72	755.0	43.7	6.5		N			4		0			0.283	7.2		H. Müller.
Leipsic			29.91	759.7	41.5	5.3	74	NW			3		7	NW		0.020	0.5		Prof. Bruhns.
Memel			29.52	749.9	43.0	6.1	68	NNW			3		5ks	N		0.177	4.5		Reinbrecht & Skalweit.
Münster			29.99	761.7	50.5	10.3	74	NW			5		10			0	0		Prof. E. Heis.
Neufahrwasser			29.61	752.2	42.4	5.8	82	NW			2		3			0.051	1.3		A Lothe.
Posen			29.74	755.4	40.1	4.5	92	NW			7		10						Dr. Magener.
Strassburg, (in Alsace)			30.05	763.3	43.9	6.6	79	NNW			3		7	NNW		0	0		Dr. Schur.
Stuttgart			29.98	761.4	39.7	4.3	76	NW			3		8			0.075	1.9	Rain & snow	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.01	762.2	45.5	7.5	55	NW			4		8			0.047	1.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.38	720.9	29.93	760.3	37.8	3.2	81	NNW	9	4			9	NW		0.055	1.4	Rain & snow	Dr. von Bebber.
Wustrow, Naval School			29.87	758.7	42.6	5.9	57	N			5		8			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 36°, 38′, W. 18°, 2′.			29.69	754.2	64.8	18.2	96	NW			8		10		NW			Raining	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.62	752.3	66.7	19.3		S										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.79	756.7	51.1	10.6	30	SW	0.7	0.3			5			0	0		Prof. Giovanni Clodig.
Padua			29.77	756.2	50.0	10.0	36	N	1.8	0.8			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.78	756.5	52.2	11.2	34	S	0.7	0.3			1	NE		0	0		Alm. Da Schio.
Verona			29.79	756.6	55.4	13.0	36	E			1		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.43	722.2	29.78	756.5	50.7	10.4	35	W			2		6			0	0		Prof. Trionfini Carlo.
Domodossola			29.84	758.0	51.6	10.9	23	N			8		3			0	0		Prof. Giuseppe Calza.
Milan																0	0		Ab. Gio. Capelli.
Pavia			29.81	757.1	51.6	10.9	44	N			1		0			0	0		Prof. Gio. Cantoni.
Moncalieri			29.84	758.0	52.2	11.2	57	ESE	2.5	1.1			3	N		0	0		Prof. P. F. Denza.
Mondovi	27.88	708.2	29.85	758.1	45.3	7.4	51	NNW			4		1			0	0		Prof. C. Bruno.
Porto Maurizio			29.82	757.3	55.4	13.0	27	NE			6		2			0	0		Prof. L. Vassallo.
Genoa			29.76	756.0	60.4	15.8	16	N	3.8	1.7			0			0	0		Prof. Garibaldi.
Piacenza			29.80	757.0	52.0	11.1	40	NW	1.3	0.6			2			0	0		Dott. G. Manzi.
Parma			29.80	756.8	52.5	11.4	60	W			2		2			0	0		Prof. P. Pigorini.
Bologna			29.81	757.2	51.6	10.9	51	W			1		3	S		0	0		Prof. A. Palagi.
Florence			29.73	755.1	53.6	12.0	33	NE			6		5	SE		0	0		Cav. F. Meucci.
Leghorn			29.71	754.7	56.1	13.4	20	ENE	18.6	8.3			2	ENE		0	0		Prof. P. Monte.
Siena	28.45	722.7	29.69	754.1	51.1	10.6	20	NE	25.5	11.4			3	W		0	0		Prof. L. Toscani.
Urbino	28.19	716.0	29.80	756.8	46.9	8.3	48	NNE			4		1			0.138	3.5	Raining	Prof. P. Serpieri.
Pesaro			29.75	755.6	53.8	12.1	32	NE	61.5	27.5			1	NE		0	0		Prof. Luigi Guidi.
Ancona			29.75	755.6	54.0	12.2	63	NNE			6		4			0	0		Prof. F. De—Bosis.
Grosseto			29.65	753.1	56.5	13.6	27	NNE			6		5	NW		0.028	0.7	Light rain	Avv. P. Ponticelli.
Rome			29.58	751.4	51.8	11.0	63	N	8.1	3.6			10			0.037	0.9	Light rain	Profs. F. Secchi & L. Respighi
Naples, O. U			29.59	751.6	50.4	10.2	72	NE			6		10	NE		0.03	1.0	Light rain	Prof. L. Palmieri.
Lecce			29.56	750.7	56.1	13.4	73	NE	15.0	6.7			10			0.35	9.0	Raining	Prof. C. De—Giorgi.
Cosenza			29.61	752.0	56.5	13.6	64	SW	7.4	3.3			10			1.29	32.8	Showery	Prof. F. D. Conti.
Riposto, (Sicily)			29.48	748.7	66.2	19.0	75	SE			2		4			0	0		Prof. F. Cailero.
Palermo			29.47	748.5	64.9	18.3	59	WSW	11.9	5.3			10	WSW		0.90	22.9	Raining	Prof. G. Cacciatore.
Caltanissetta	27.63	701.7	29.58	751.4	58.1	14.5	68	WSW			6		7	SE		0.016	0.4	Light rain	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.61	752.1	48.7	9.3	65	N	0.7	0.3			10	NW		0	0		Prof. F. Briosch.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.19	766.8	49.3	9.6		NE			5								
Groningen			29.99	761.8	45.1	7.3		N			4								
Helder			30.11	764.9	47.1	8.4		N			5								
Utrecht			30.08	763.9	46.2	7.9	68	NNW			4		5			0.087	2.2	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.94	760.4	37.4	3.0	76	S	4	2			10			0.118	3.0		
Bróno			29.73	755.2	30.2	— 1.0	84	S	4	2			9			0	0		
Christiania			29.89	759.1	40.3	4.6	32	NW	7.6	3.4			5			0	0		
Tromsö			29.61	752.0	27.5	— 2.5	60	SE	9	4			5			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.86	758.4	65.5	18.6	76	W	1.3	0.6			3			0	0		Dr. J. A. Sampaio.
Campo Major			29.89	759.3	70.0	21.1	49	E	7.4	3.3			2			0	0		Dr. A. M. R dos Santos.
Funchal, (Madeira,)			29.78	756.5	73.0	22.8	75	E	3.0	1.33			7			1.47	37.5	Raining	Capt. D. A. de Cunha.
Lisbon			29.90	759.4	64.9	18.3	57	NE	15.0	6.7			2	NNE		0	0		The Observatory.
Ponta Delgada, (Azores)			29.87	758.8	70.2	21.2	57	WNW	0.2	0.11			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amounnt of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.66	753.4	38.3	3.5	80	SW	13	6			10						Astronomical Obs.
Wilna			29.58	751.4	39.2	4.0	80	S	4	2			10						Astronomical Obs.
Dorpat			29.52	749.7	35.6	2.0	91	SSW	4	2			10					Snowing	Physical Cabinet.
St. Petersburg			29.54	750.3	34.2	1.2	87	SSE	13	6			10					Light snow	Central Physical Obs
Kuopio			29.47	748.5	31.6	— 0.2	100	SW	7	3			10					Snowing	Ch. Forsten.
Kieff			29.78	756.5	36.7	2.6	80	SSW	4	2			10					Smoke-haze.	Physical Cabinet.
Nikolaiev			29.85	758.3	41.7	5.4	91	NNE	9	4			10					Light rain	Kurdakof.
Kertch			29.66	753.3	51.4	10.8	95	ENE	9	4			10						Lagorio.
Moscow			29.84	757.9	32.5	0.3	92	S	4	2			0						Meteorological Obs.
Lugan			29.69	754.1	49.1	9.5	83	ESE	11	5			10						Meteorological Obs.
Archangel			29.58	751.4	33.1	0.6	82	S	18	8			10						Ogorodnikof.
Tiflis	28.50	723.9	29.91	759.8	55.6	13.1	87	Calm	0	0			10					Raining	Physical Observatory.
Astrakhan			29.98	761.4	41.7	5.4	66	ESE	25	11			6						Sebastianof.
Kasan			30.05	763.3	32.5	0.3	80	S	27	12			10					Graupelnd.	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.45	748.0	30.48	774.1	17.6	— 8.0	74	SE	4	2			8						Meteorogical Obs.
Nukuss			30.26	768.6	38.7	3.6	40	ENE	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.76	781.3	15.5	— 9.3	78	NE	9	4			0						Meteorological Obs.
Yeniseisk			30.52	775.1	17.6	— 8.0	90	SW	4	2			10						Marks.
Irkutsk																			Usolzef.
Ourga																			Mossin.
Peking, (China)			30.24	768.1	46.4	8.0	55	NNW	20	9			7			Blank	Blank		Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.85	758.2	40.8	4.9	81	Calm	0	0			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 352 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Ourga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.92	760.0	63.7	17.6	36	NE	5.9	2.39		0	0			0	0	Clear	Royal Observatory.
San Fernando			29.86	758.4	69.6	20.9	73	NW	0	0		0	1		NW	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.61	752.0	25.9	— 3.4	65	N			6		2			0.079	2.0		
Umea			29.68	753.9	31.5	— 0.3	61	N			2		8			0	0		
Hernosand			29.71	754.6	32.4	0.2	67	NNW			2		5			0	0		
Stockholm			29.64	752.8	35.8	2.1	91	NNW			4		7			0.110	2.8		
Wisby			29.65	753.1	41.0	5.0	87	N			7		10					Raining	
SUB-SERIES.																			
Upsala			29.68	753.8	34.0	1.1	91	NNW	12.3	5.5			9		NNE	0.035	0.8	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.60	726.5	30.06	763.5	43.7	6.5	51	NNE			6		7			0	0	Clouds	The Observatory.
Zurich	28.37	720.6	30.07	763.6	38.7	3.7	81	NW			2		8			0.012	0.3	Snow & rain	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +0.4 mm; Thermometer, —3.0 cent.; Relative Humidity, —24 per cent.

Note—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

Constantinople			29.61	752.1	63.1	17.3	74	N	2	1.0			8		SW	0.08?	2.1		
Fao, (Persian Gulf)			30.08	764.0	82.4	28.0		SE			1		0						
Salonica			29.70	754.4	64.8	18.2		SE			2		10						
Valona			29.52	749.8	63.3	17.4		SW			1		10						
Varna			29.61	752.0	50.0	10.0		E			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.84	757.8	79.2	26.2	67	SW			3		8ks,n		SW	0	0	Threatening	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B.			29.99	761.7	41.3	5.2		Calm	0	0			0			0.22	5.6		Hon. J. Ferguson.
Brockville, Ontario			30.12	765.0	46	7.8		Calm	0	0			10s			0.03	0.8	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.00	762.0	37	2.8	90	W	1	0.4		0	0			0.10	2.5	Clear	G. A. Blair.
Charlottetown, P. E. Island			29.96	761.0	41	5.0	82	N	8	3.6			10ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.07	763.8	46.2	7.9	92	E			1		10s			0	0	Unsettled	James Smith, M. A.
Dalhousie, N. B.			29.98	761.5	40.5	4.7	94	W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.27	768.8	43.3	6.3	75	N				0	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B.			30.06	763.5	42.6	5.9	79	NW	4	1.8			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.13	765.3	35	1.7	98	NW	6	2.7		5k	5n	NW	NW	0.03	1.52	Light rain	James Stewart.
Goderich, Ontario			30.01	762.2	53.4	11.9	96	SW			1		10n			0.38	9.7	Foggy	H. J. Strang, M. A.
Granton, Ontario	28.90	734.0	30.00	762.0	52	11.1		S			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			29.92	760.0	43	6.1	81	NW	12	5.4			10n		NW	0.010	0.25	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.10	764.5	47	8.3	100	Calm	0	0			Fog			0.01	0.5	Foggy	S. Woods, M. A.
Little Glace Bay, N. S.			29.89	759.2	41.0	5.0	96	S	2	0.9			8s		S	0.02	0.5	Cloud	C. H. Rigby.
*Montreal, Quebec			30.10	764.5	45	7.2	92	SE	4	1.8			10n			0.04	1.0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.07	763.8	45	7.2	80	NE	2	0.9			Fog		NE	In.p.	In.p.	Foggy	J. B. Haney.
*Parry Sound, Ontario			29.98	761.5	49	9.4	100	E	3	1.3			Fog		E	0.01	0.3	Foggy	Rev. R. Mosley.
Port Dover, Ontario			30.02	762.5	51	10.6	100	S	5	2.2		10k	0	W		0.13	3.3	Cloudy	A. Morgan.
Port Hastings, N. S.			29.97	761.2	38.5	3.8		NW	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.02	762.5	54	12.2	95	SW	4	1.8			10n		W	0.04	1.0	Light rain	M. Payne.
*Quebec, Quebec			30.09	764.3	39	3.9	82	Calm	0	0		8k	0	W		0.05	1.3	Fair	Capt. Ashe, R. N.
St. John, N. B.			30.05	763.3	42	5.6	79	N	7	3.1			10ks			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.93	760.2	53	11.7	96	SE	2	0.9			10ks		S	0.01	0.3	Cloudy	R. Stewart.
Stayner, Ontario			29.97	761.2	54	12.2	100	SE	8	3.6			Fog		S	0	0	Foggy	R. J. Cole.
Stratford, Ontario	28.72	729.5	30.00	762.0	49.6	9.8	99	SE	5	2.2			Fog			0	0	Foggy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.91	759.7	40	4.4	99	Calm	0	0			10s			0.06	1.5	Cloudy	T. C. Hill.
*Toronto, Ontario			30.01	762.2	51	10.6	99	E	2	0.9			Fog			0	0	Foggy	Magnetic Observatory.
Woodstock, Ontario			30.02	762.5	49.2	9.6	100	E	1	0.4			10s			0.14	3.6	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.93	760.2	34.6	1.1	89	W	1	0.4		5ks	5s			0.07	1.8	Fog	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.08	764.0	52	11.1	86	Calm	0	0		5k	Fog	W		Inap.	Inap.	Foggy	
Alpena, Mich.			29.98	761.5	49	9.4	100	Calm	0	0			Fog			0.02	0.5	Foggy	
Atlantic City, N. J.			30.14	765.5	50	10.0	100	W	1	0.4			Fog			0	0	Foggy	
Augusta, Ga.			30.25	768.3	55	12.8	87	Calm	0	0		0	Haze			0	0	Clear	
Baltimore, Md.			30.16	766.1	51	10.6	93	Calm	0	0		2c	Fog			Inap.	Inap.	Foggy	
Barnegat, N. J.			30.13	765.3	54	12.2	86	NW	6	2.7		0	Fog			Inap.	Inap.	Fair	
Bismarck, Dakota	28.44	722.4	30.17	766.3	30	— 1.1	78	N	4	1.8		2k	2s	W	W	0	0	Fair	
Boston, Mass.			30.08	764.0	52	11.1	79	W	2	0.9		5cs	Fog			0	0	Fair	
Breckenridge, Minn.			30.23	767.8	30	— 1.1	89	W	10	4.5		0	1s			0	0	Clear	
Buffalo, N. Y.			30.00	762.0	58	14.4	87	W	8	3.6			10s		SW	0.06	1.5	Cloudy	
Burlington, Vt.			30.10	764.5	48	8.9	85	NE	1	0.4			Fog			0.02	0.5	Foggy	
Cairo, Ill.			30.08	764.0	63	17.2	62	S	7	3.1		8cs	0	S		0	0	Fair	
Cape Hatteras, N. C.			30.12	765.0	63	17.2	88	W	3	1.3		Haze	Sm'e			0	0	Smoky	
Cape Henry, Va.			30.18	766.6	61	16.1	88	SW	4	1.8		Haze	Haze			0	0	Hazy	
Cape Lookout, N. C.			30.22	767.6	64	17.8	89	NW	10	4.5		0	Haze			0	0	Clear	
Cape May, N. J.			30.16	766.1	54	12.2	93	NW	1	0.4			Fog			0	0	Foggy	
Charleston, S. C.			30.24	768.1	61	16.1	94	N	4	1.8		0	Sm'e			0	0	Clear	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	24	— 4.4	72	N	12	5.4		5ck	5s	SW		0	0	Cloudy	
Chicago, Ill.			29.99	761.7	56	13.3	87	E	5	2.2			10n			0.24	6.1	Light rain	
Cincinnati, Ohio			30.07	763.8	58	14.4	76	SE	2	0.9		5c,ck	Fog	W		0	0	Fair	
Cleveland, Ohio			30.04	763.0	62	16.7	66	SSW	14	6.3		2ck	2k	SW	SW	0	0	Fair	
Corsicana, Tex.			29.91	759.7	68	20.0	90	SE	10	4.5			10s		SE	0.07	1.8	Cloudy	
Davenport, Iowa			29.98	761.5	58	14.4	87	Calm	0	0			10n			0.17	4.3	Light rain	
Denison, Tex.			29.89	759.2	68	20.0	84	S	20	8.9			10s		S	Inap.	Inap.	Cloudy	
Denver, Col.	24.93	633.2	30.15	765.8	34	1.1	69	NE	5	2.2			10s			0	0	Cloudy	
Detroit, Mich.			29.98	761.5	59	15.0	87	SW	4	1.8		5k	0	W		0.11	2.8	Fair	
Dodge City, Kan.	27.33	694.2	29.66	753.4	37	2.8	100	NE	30	13.4			10n		NE	0.60	15.2	Light rain	
Dubuque, Iowa			30.00	762.0	55	12.8	93	NW	4	1.8			10s			0	0	Cloudy	
Duluth, Minn.			30.07	763.8	38	3.3	71	W	4	1.8		5c	0			0	0	Fair	
Eastport, Me.			30.05	763.3	44	6.7	75	N	13	5.8			10s		N	0	0	Cloudy	
Erie, Pa.			30.00	762.0	63	17.2	69	S	12	5.4		1c	2k	N	W	0	0	Fair	
*Escanaba, Mich.																0	0		
Fort Gibson, Indian Ter.			29.86	758.4	67	19.4	74	SE	14	6.3		2cs	8s	W	S	Inap.	Inap.	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.60	726.4	29.68	753.9	58	14.4	87	SW	4	1.8			10s			0.14	3.6	Cloudy	
Fort Sully, Dakota																			
Florence, Arizona	28.44	722.4	29.98	761.5	50	10.0		SW				0	0			0	0	Clear	
Galveston, Tex.			30.02	762.5	72	22.2	90	SE	6	2.7		2ck	0	S		0	0	Fair	
Grand Haven, Mich.			30.00	762.0	51	10.6	93	W	9	4.0			10s			0	0	Cloudy, fog	
Indianapolis, Ind.			30.05	763.3	59	15.0	70	S	1	0.4		5ck	Sm'e	S		0	0	Fair	
Indianola, Tex.			29.98	761.5	74	23.3	85	SE	5	2.2		2c	8cs			0.55	14.0	Cloudy	
Jacksonville, Fla.			30.19	766.5	66	18.9	94	NE	6	2.7		0	Fog			0	0	Foggy	
Keokuk, Iowa			29.92	760.0	61	16.1	94	E	2	0.9			10s		E	0.65	16.5	Cloudy	
Key West, Fla.			30.04	763.0	73	22.8	85	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, N. C.			30.20	767.1	59	15.0	87	W	8	3.6		0	Fog			0	0	Foggy	
Knoxville, Tenn.			30.25	768.3	49	9.4	85	SE	2	0.9		0	Fog			0	0	Fair	
La Crosse, Wis.			30.05	763.3	44	6.7	84	N	4	1.8			10s			0	0	Cloudy	
Leavenworth, Kan.			29.87	758.7	60	15.6	94	NE	1	0.4			10n		E	1.24	31.5	Light rain	
Louisville, Ky.			30.12	765.0	60	15.6	70	S	2	0.9		Haz	Haz			0	0	Hazy	
Lynchburg, Va.			30.19	766.8	54	12.2	86	Calm	0	0		0	0			0	0	Clear	
Malone, N. Y.			30.03	762.7	47	8.3	100	Calm	0	0			Fog			0.15	3.8	Foggy	
Marquette, Mich.			30.00	762.0	45	7.2	84	NW	1	0.4			Fog			0	0	Foggy	
Memphis, Tenn.			30.12	765.0	60	15.6	76	S	5	2.2		5c	Sm'e	SW	S	0	0	Fair	
Milwaukee, Wis.			30.04	763.0	50	10.0	100	NE	3	1.3		10n	Fog			0.01	0.3	Light rain	
Mobile, Ala.			30.13	765.3	59	15.0	87	S	1	0.4		Haz	Fog			0	0	Clear	
Montgomery, Ala.			30.21	767.	54	12.2	86	Calm	0	0		0	Fog			0	0	Clear	
Morgantown, W. Va.	29.09	738.9	30.16	766.1	51	10.6	86	Calm	0	0		0	Sm'e,fg			0	0	Smoky	
Mt. Washington, N. H.	23.85	605.8	30.21	767.3	40	4.4	18	NW	20	8.9		2c	2s			0	0	Fair	
Nashville, Tenn.			30.16	766.1	53	11.7	86	Calm	0	0		0	2s			0	0	Fair	
New Haven, Conn.			30.11	764.8	50	10.0	86	Calm	0	0		Haze	Fog			0	0	Cloudy	
New London, Conn.			30.11	764.8	51	10.6	86	Calm	0	0		2c	Fog	NW		0	0	Fair	
New Orleans, La.			30.12	765.0	65	18.3	86	E	1	0.4		1cs	Fog			0	0	Clear	
Newport, R. I.			30.10	764.5	52	11.1	86	NW	3	1.3		2k	Fog	NW		0	0	Fair	
New York, N. Y.			30.14	765.5	52	11.1	86	W	1	0.4		Haze	Fog			0	0	Foggy	
Norfolk, Va.			30.18	766.6	57	13.9	87	S	3	1.3		0	Fog			0	0	Clear	
North Platte, Neb.	27.25	692.1	29.92	760.0	34	1.1	69	NW	12	5.4			10s			0	0	Cloudy	
Omaha, Neb.	28.97	735.8	30.06	763.5	46	7.8	47	N	11	4.9			10s		N	0	0	Cloudy	
Oswego, N. Y.			30.06	763.5	55.2	12.9	91	SE	6	2.7			Fog			0.08	2.0	Foggy	
Pembina, Dakota			30.07	763.8	36	2.2	95	NW	12	5.4			10s		NW	Inap.	Inap.	Cloudy	
Philadelphia, Pa.			30.16	766.1	50	10.0	93	W	2	0.9			Fog		W	0	0	Foggy	
Pike's Peak, Col.	17.61	447.3	29.82	757.4	6	—14.4	100	E	6	2.7			Fog			0.03	0.8	Light snow	
Pittsburgh, Pa.			30.11	764.8	51.5	10.8	93	Calm	0	0		0	Fog			Inap.	Inap.	Foggy	
Port Huron, Mich.			29.99	761.7	56	13.3	93	SW	6	2.7			10s, sm		SW	0	0	Smoky	
Portland, Me.			30.09	764.3	47	8.3	77	Calm	0	0		10k	0	W		0	0	Cloudy	
Portland, Oregon			30.21	767.3	42	5.6	83	N	4	1.8		0	2s			0	0	Clear	
Punta Rassa, Fla.			30.11	764.8	70.0	21.1	90	NE	8	3.6		0	0			0	0	Clear	
Rochester, N. Y.			29.98	761.5	57	13.9	87	S	4	1.8			10n		W	Inap.	Inap.	Light rain	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	32	0.0	60	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			30.10	764.5	51	10.6	93	W	5	2.2		0	Haze			0	0	Clear	
San Diego, Cal.			30.08	764.0	51	10.6	48	NE	4	1.8		2c	0	NE		0	0	Clear	
San Francisco, Cal.			30.08	764.0	52	11.1	86	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.14	587.8	29.68	753.9	31	— 0.6	89	Calm	0	0			10n			0.66	16.8	Light snow	
Savannah, Ga.			30.23	767.8	57	13.9	93	NE	3	1.3		5ck	5ks			0	0	Cloudy	
Shreveport, La.			30.08	764.0	63	17.2	94	SE	4	1.8			10s		SE	0	0	Cloudy	
Smithville, N. C.			30.23	767.8	59	15.0	94	NW	3	1.3		0	0			0	0	Clear	
Springfield, Mass.			29.98	761.5	45	7.2	92	S	1	0.4			Fog			0.01	0.3	Dense fog	
St. Louis, Mo.			29.98	761.5	64	17.8	62	S	12	5.4		0	5s			0	0	Fair	
St. Marks, Fla.			30.20	767.1	56	13.3	93	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minn.			30.08	764.0	36	2.2	80	NW	3	1.3		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.12	765.0	49	9.4	85	NE	8	3.6		8ck	0	NW		0	0	Hazy	
Toledo, Ohio			29.99	761.7	62	16.7	71	SW	6	2.7		5ck	Haze	SW		0	0	Fair	
Tucson, Arizona	27.59	700.8	30.14	765.5	38	3.3		S				0	0			0.08	2.0	Clear	
Tybee Island, Ga.			30.22	767.6	62	16.7	100	N	5	2.2			Fog		NE	0	0	Foggy	
Vicksburg, Miss.			30.14	765.5	59	15.0	94	SE	4	1.8		8c	Sm'e	W		0	0	Fair	
Virginia City, M. T.	24.39	619.5	29.87	758.7	21	— 6.1	78	SE	8	3.6		0	0			Inap.	Inap.	Clear	
Washington, D. C.			30.17	766.3	48	8.9	93	Calm	0	0		2ck	Fog	W		0	0	Foggy	
Wilmington, N. C.			30.23	767.8	59	15.0	93	S	2	0.9		0	Fog			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			30.11	764.8	51	10.6	86	NW	4	1.8		Haze	0			0	0	Clear	
Yankton, Dakota	28.93	734.8	30.28	769.1	31	— 0.6	79	NW	4	1.8			10s			0	0	Cloudy	
Yuma, Arizona			30.11	764.8	46	7.8		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.11	764.8	79	26.1	78	Calm	0	0		2c	2s	NE	NE	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			1					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	67	19.4	94	NE	1.0	0.4		2c	5k	NE		0.80	20.3	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	82	27.8	83	E			2	6k	6ks	E		1.02	25.9	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.02	762.6			84.2	29.0		E								1.03	26.2		Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8			62.3	16.8	83	Calm			0	2k	1s			0.35	8.9	Fair	Thomas Herran.
York Factory, B. A.			30.15	765.8	25.5	— 3.6	94	N	10	4.5		3ck	0	SW		0	0		J. Fortescue, W. Wood
Honolulu, Oahu, H. I.			30.04	763.0	73	22.8		Calm			0					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Philadelphia, Penn.			30.13	765.3	58	14.4	81	SW	4	1.8		8k	Sm'e	SW				Cloudy	Capt. James Jorgensen.
Steamer Leipzig. N. 49°, 56′, W. 16°, 40′.	E	7	30.06	763.5	55.6	13.1		SSE			6		..s		E	Rough		Stormy	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. *Observation not simultaneous.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 2, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Endeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.17	766.3	69.6	20.9	67	NE			2		4			0	0	Fair	Charnot.
Algiers			30.15	765.9	59.7	15.4	41	N			3		4			0	0	Fair	Peter.
La Calle			29.91	759.8	57.6	14.2	69	N			3		7			0.827	21.0	Cloudy	Fleury.
Tunis			29.91	759.7	51.8	11.0	86	NW			4		10			0.094	2.4	Hidden	Jacques.
Sfax			29.94	760.4															
Saida			30.08	763.9	55.4	13.0	39	SSE			3		2			0	0	Clear	Millot.
Tebessa			29.88	758.9	41.0	5.0		NNW			5		10			0	0	Hidden	Bourgeois.
Geriville			30.11	764.9	54.1	12.3	41	N			3		2			0	0	Clear	Lemaillot.
Laghouat			30.12	765.0	60.1	15.6	85	N			4		0			0	0	Clear	Guyot.
Biskra			30.31	769.8	66.0	18.9	44	NW			5		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the co operation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.08	764.0	43.7	6.5	39	NE			4		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.09	764.3	38.7	3.7	88	W			2		10			0.028	0.7		Dr. Wierzbiski.
Eperies			30.04	762.9	39.2	4.0	80	Calm			0		9k,s		S	0.051	1.30		Julius Mikolik.
Gratz	28.84	732.5	30.13	765.4	41.7	5.4	47	WNW			6		0			0	0		Andreas Rospini.
Hermannstadt	28.50	724.0	29.98	761.5	34.9	1.6	93	NE			1		10			0.526	13.35	Snowing	Prof. Reissenberger.
Kremsmünster	28.84	732.4	30.23	767.8	38.1	3.4	63	W			3		3			0	0		Prof. C. Wagner.
Lemberg			29.99	761.7	38.3	3.5	82	NW			1		6			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.00	762.0	47.7	8.7	39	NE			5		10cs			0	0		I.R. Hydrographic Office
Szegedin			30.00	762.0	42.8	6.0	74	E			1		10			0	0		Karl Stancel.
Trieste			30.05	763.2	51.3	10.7	32	ENE			1		0			0	0		Prof. V. Farolfi.
Vienna			30.13	765.2	40.8	4.9	49	WNW			4		2			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.26	768.7	45.9	7.7	82	W			2		10ks		W	0.051	1.30	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.13	765.3	50.0	10.0		W	9	4.0			6			0	0	*D. clouds	William Boswell.
Ardrossan			30.26	768.6	49	9.4		NW			4		8					Overcast	William McNeil.
Armagh, Observatory			30.33	770.4	45.0	7.2		SW					6					*D. clouds	S. Call, for Dr. Robinson
Birr Castle, (Parsonstown)			30.35	770.9	50.0	10.0		WSW			1		9					*D. clouds	J. Dreyer.
Bradford			30.26	768.6	46.8	8.2		NW			4		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	83.5	28.6		NE			1		5					*D. clouds	Sergt. J. F. Halanen, A
Cambridge, Observatory			30.31	769.9	50.0	10.0		W			1		1					*D. clouds	H. Todd. [H. C
Cardington			30.32	770.1	45.6	7.6		W			1		3					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell
Chatham, School M. E.			30.32	770.1	47.7	8.7		E			2		4					Foggy	Capt. Fellowes, R. E.
Dartmoor	25.93	734.8	30.49	774.4	46.0	7.8		N			1		3					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.87	631.7			26.2	— 3.2	69	N			1		0			0.01	0.3	Blue sky	Francis Redford, M. A.
Donaghadee			30.31	769.9	45	7.2		W			3		10					Overcast	J. Mac Gowan.
Dover			30.32	770.1	47	8.3		WSW			2		4					Hazy	J. Costello.
Eccles, (near Manchester)			30.31	769.9	47.8	8.8		NNW	2.4	1.1			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			30.41	772.4	49.8	9.9		ESE			1		3					*D. clouds	The Staff.
Fort Napier, (Natal)	27.84	707.1	30.08	764.0	56.5	13.6		S			2		10					Overcast	Pvt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.94	760.5	86.0	30.0		N			1		6					*D. clouds	
Galway, Queen's College			30.27	768.8	47	8.3		N			1		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.05	763.3	68.5	20.3		E			6		6					*D. clouds	Corpl. C. Aitken, A. H. C
Glasgow, Observatory			30.22	767.6	45.8	7.7		SW			1		10					Overcast	Lewis Stuart.
Great Yarmouth			30.26	768.6	47	8.3		NW			2		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.33	770.4	47.3	8.5		WNW			1		6					Hazy	The Staff, for G. B. Airy
Guernsey			30.39	771.9	52	11.1		NW			1		5					*D. clouds	Dr. S. E. Hoskins.
Helston			30.38	771.6	51	10.6		S			2		2			0	0	*D. clouds	M. P. Moyle.
Holyhead			30.34	770.6	49	9.4		WSW			3		5					*D. clouds	John Tilston.
Kew, Observatory			30.34	770.6	48.3	9.1		W	11	4.9			1					Blue sky	The Staff.
Kingstown			30.36	771.1	46	7.8		ESE			2		5					*D. clouds	George Mitchell.
Leicester Museum			30.34	770.6	47.9	8.8		NW			1		5					Hazy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.69	754.1	64.0	17.8		NW			3		4k					*D. clouds	Corp'l. P. Bravis, A. H. C
Nairn			30.14	765.5	49	9.4		W			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	78.5	25.8		E			2		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.32	770.1	49.2	9.6		WNW			2		7k		WNW	0	0	*D. clouds	J. Lowe, F. R. S.
Oscott, St. Mary's College			30.33	770.4	47.3	8.5		NW			3		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.32	770.1	48	8.9		NW			1		3					Blue sky	J. Lucas.
Plymouth			30.39	771.9	47.8	8.8		Calm			0		9					Blue sky	John Merrifield.
Roche's Point			30.34	770.6	52	11.1		SSW			4		10					Dull	W. Kennedy.
Saint Ann's Head			30.37	771.4	51	10.6		W			1		8					Hazy	John C. Walker.
Saint Helier, (Jersey)			30.40	772.1	55.0	12.8		NNW			2		8					¾ cloudi d	A. P. Amy.
Sandwick Manse, (Orkneys)			30.05	763.3	49.1	9.5		W	28	12.5			10					Showery	Rev. C. Clouston, L.L. D
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.76	755.9	69.0	20.6		SSW			2		6					*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.28	769.1	48.0	8.9		NW			1		7			0	0	Overcast	W. F. Cooper.
Siloth Rectory			30.27	768.8	48.7	9.3	83	W			2		7			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			30.30	769.6	46.7	8.2		W			3		10					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.10	764.5	47	8.3		WSW			1		10					Overcast	John Smith.
Stratfield Turgiss			30.36	771.1	49.4	9.7		W			1		3					*D. clouds	Rev. Charles H. Griffith
Thurso			30.06	763.5	48	8.9		WNW			4		10					Raining	John Trotter.
Truro, Royal Institution			30.42	772.7	55	12.8		SE			2		4					*D. clouds	W. Newcombe.
Valencia, Observatory			30.29	769.4	52.7	11.5		S	24	10.7			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					48	8.9		W			4		5			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.32	770.1	68.5	20.3	48	S	29	13.0		0	1						The Staff, for E. J. Stone
Hobart Town, (Tasmania)			29.82	757.4	60.5	15.8	81	SW			1		10kn			0.16	2.5	Raining	Francis Abbott, F. R. A. S.
Leith, Restalrig Park			30.22	767.6	47.0	8.3		W			3		10ks			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				NE	13.5	6.0						0	0		C. Meldrum.
Melbourne, Observatory			30.02	762.5	54.2	12.3	73	SSW	11	4.9			7			0	0	Fine, dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.11	764.8	52	11.1		SW			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.94	760.5	47	8.3		NW			3		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105.7 feet, or 1,556.0 meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
SECRETARY OF THE EXTERIOR DEPARTMENT.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.81	757.1	40.6	4.8	96	Calm			0		10					Raining	
Funöe			29.90	759.5	49.3	9.6	83	NW			6		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.87	758.7	37.6	3.1	95	E			4		8						
Thorshavn, (Faröe)			29.95	760.7	46.0	7.8	90	ENE			2		10						
Vestervig			29.84	757.8	45.7	7.6	94	NW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alengon			30.26	768.5	50.0	10.0	71	NW			3		6nk			0	0	Cloudy	Normal School.
Amiens			30.29	769.3	50.0	10.0	66	W			3		2		W	0	0	Slightly cl'dy	Normal School.
Avignon			30.15	765.7	48.0	8.9	36	N			8		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.35	770.9	42.3	5.7	80	W			2		10		N	0	0	Covered	C. Saillard.
Beaumette, (near Angers)			30.40	772.2	47.5	8.6	72	SE	2.2	1.0					E	0	0		Beaumette Observ'tory
Beauvais			30.37	771.4	49.5	9.7	57	NNW			3		2		NW	0	0	Slightly cl'dy	Normal School.
Besançon			30.40	772.2	40.3	4.6	81	S			2		2		NE	0.094	2.4	Slightly cl'dy	Normal School.
Bourg en Bresse			30.43	772.8	37.9	3.3	80	N			6		0			0	0	Clear	Normal School.
Bourges			30.43	772.9	39.4	4.1	92	N			2		10		NW	0	0	Covered	Normal School.
Brest			30.35	770.9	56.7	13.7	60	SSE			2		0			0	0	Clear	Naval Observatory.
Carcassonne			30.26	768.7	51.8	11	71	W			2		0			0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.37	771.3	45.1	7.3	94	N			4		5		E	0	0		Normal School.
Châlons-sur-Marne			30.36	771.1	46.9	8.3	70	ESE			2		8k		SE	0	0	Very cloudy	Normal School.
Clermont			30.40	772.2	39.0	3.9	73	N			2		10		N	0	0		Puy de Dome Obs'y.
Commercy			30.37	771.5	40.3	4.6	93	NW			2		10			0	0	Covered	Normal School.
Commune de Gréasque*			30.12	765.0	53.8	12.1	14	NW			1		0			0	0		M. Kina.
Grenoble			30.35	770.8	43.2	6.2	82	NW			2		0			0.049	1.25	Clear	Normal School.
La Roche-sur-Yon					50.0	10	71	NE			2		0			0	0	Clear	Normal School.
Le Mans			30.43	772.8	46.9	8.3	65	NE			2		2		N	0	0	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			30.38	771.6	36.3	2.4	89	NE			4		2		NE	0	0	Slightly cl'dy	Normal School.
Lorient			30.46	773.6	52.9	11.6	46	SSE			1		0			0	0	Clear	Naval Observatory.
Mâcon			30.42	772.6	41.2	5.1	97	N			4		0			0	0	Clear	Normal School.
Metz			30.39	772.0	39.0	3.9	80	SSW			2		10			0	0		M. Schuster.
Mirecourt			30.36	771.2	46.0	7.8	79	N					10		E	0	0	Covered	Normal School.
Nismes			30.13	765.2	51.1	10.6	34	N			6		0			0	0	Clear	Normal School.
Orleans			30.34	770.5	45.0	7.2	91	NW			2		2		NNW	0	0	Slightly cl'dy	Normal School.
Paris, Observatory			30.38	771.6	48.0	8.9	61	WNW			2		5			0	0	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			30.22	767.6	47.8	8.8		N			6		2		N	0.039	1.0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.42	772.6	48.2	9.0	61	NE			3		0			0	0	Blue sky	Naval Observatory.
Rouen			30.37	771.5	50.7	10.4	73	NW			2		5		N	0.157	4.0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	29.22	742.1	30.32	770.1	50.9	10.5		NNW			1		0			0	0	Clear	Normal School.
Villefranche			30.41	772.3	49.1	9.5	69	NNE			6		2		N	0	0	Slightly cl'dy	Normal School
Sub-Series.																			
Fort de France, Martinique			29.77	756.1	80.6	27													L'Abbé Marchési.
Marseilles			30.07	763.6	54.9	12.7	37	NW			3		0			0	0	Clear	Marseilles Observatory.
Mont-Louis	24.95	633.8	30.39	771.9	37.6	3.1	34	NNE	20.7	9.17			0			0	0		—, Falguère.
Montsouris, Paris			30.37	771.3	48.6	9.2	62	WNW			2		5			Inap.	Inap.		Montsouris Observ'tory.
Perpignan			30.21	767.2	54.0	12.2	32	NW	24..	10.83			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.27	540.2			25.5	— 3.6		N			2		0					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.58	573.4			27.9	— 2.3		N			3		0			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.37	771.5	49.1	9.5	69	W			1		9			0.020	0.5	Very cloudy	E. Renou.
Toulouse			30.35	771.0	45.5	7.5	90	W			2		0			0	0		Toulouse Observatory.
Tours			30.41	772.5	46.6	8.1	72	NE			1		2		N	0	0		C. Marquet.
Versailles, (near Paris)			30.37	771.4	47.8	8.8	71	NW			2		5			0.006	0.14	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.02	762.5	57.2	14.0	91	Calm	0	0			4		W	0	0	Lunar corona	Marc Techevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,580.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135, millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.13	765.3	39.7	4.3	92	N			4		9	NW		0.039	1.0	Rain & snow	Prof. T. Hoh.
Berlin			29.91	759.6	44.4	6.9	94	W			1		10			0.378	9.6	Raining	Prof. Arndt.
Breslau			30.04	763.0	41.2	5.1	53	SW			5		10			0.035	0.9	Raining	Royal University Obs'y.
Carlsruhe			30.31	769.9	43.5	6.4	66	SW			3		10			0.102	2.6		A. Senz.
Cassel			30.15	765.7	41.0	5.0	97	W			2		10	W		0.169	4.3		Dr. H. Möhl.
Emden			30.09	764.3	49.6	9.8	89	W			3		9			0.134	3.4		Prof. Prestel.
Frankfort on the Main			30.26	768.3	42.3	5.7	77	SSW			2		10			Inap.	Inap.	Raining	Physical Society.
Friedrichshafen			30.41	772.4	41.2	5.1	69	W			3		2			0	0		M. Wilhelm.
Hamburg			29.95	760.7	48.4	9.1	93	WNW			2		10ks			0.272	6.9	Showery	Captain F. Hegemann.
Kiel			29.89	759.1	49.1	9.5	84	WNW			4		10			0.130	3.3		Prof. G. Karsten.
Königsberg, (Prussia.)			29.84	758.0	40.1	4.5	53	W			5		8			0.780	19.8		Prof. E. Luther.
Köslin			29.89	759.3	39.0	3.9		SW			1		4			0.122	3.1		H. Müller.
Leipsic			30.07	763.6	38.8	3.8	92	SW			4		10	SW		0.012	0.3	Raining	Prof. Bruhns.
Memel			29.79	756.6	38.5	3.6	90	Calm			0		10ks			0.260	6.6		Reinbrecht & Skalweit.
Münster			30.15	765.7	47.8	8.8	95	SW			4		10			0.213	5.4		Prof. E. Heis.
Neufahrwasser			29.93	760.2	40.6	4.8	71	W			3		9			0.094	2.4		A Lothe .
Posen			29.97	761.2	39.4	4.1	88	S			5		10						Dr. Magener.
Strassburg, (in Alsace)			30.36	771.1	43.3	6.3	70	S			1		4	NW		0	0		Dr. Schur.
Stuttgart			30.29	769.4	43.3	6.3	63	W			1		8			0.008	0.2	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.24	768.2	41.0	5.0	87	SW			3		10			0.004	0.1		Prof. Flesch.
Weissenburg, (Bavaria,)	28.67	728.1	30.24	768.0	36.5	2.5	37	NW	7	3			9	NW		0	0		Dr. von Bebber.
Wustrow, Naval School			29.90	759.5	45.3	7.4	84	NNW			4		10			0.051	1.3		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 34°, 25′, W. 16°, 31′.			30.06	763.5	69.1	20.6	66	WNW			3		2		WNW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.75	755.6	71.6	22.0		S					..k					Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.02	762.5	51.8	11.0	15	N	2.7	1.1			3			0	0		Prof. Giovanni Clodig.
Padua			30.03	762.8	51.6	10.9	23	ESE	6.4	2.8			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.04	762.9	53.1	11.7	27	S	5.6	2.5			0			0	0		Alm. Da Schio.
Verona			30.03	762.8	54.0	12.2	43	E			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.69	728.6	30.04	762.9	50.0	10.0	16	S			2		0			0	0		Prof Trionfini Carlo.
Domodossola			30.03	762.8	52.7	11.5	24	N			6		0			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.07	763.7	50.6	10.3	25	S			1		0			0	0		Prof. Gio. Cantoni.
Moncalieri			30.11	764.7	49.8	9.9	38	SSW	0	0			1			0	0		Prof. P. F. Denza.
Mondovi	28.15	715.1	30.12	765.0	43.8	6.3	21	N			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			30.09	764.2	55.8	13.2	10	NNE			4		1			0	0		Prof. L. Vassallo.
Genoa			30.05	763.2	57.0	14.2	11	N	3.2	1.4			0			0	0		Prof. Garibaldi.
Piacenza			30.07	763.7	51.8	10.8	19	NW	1.8	0.8			0			0	0		Dott. G. Manzi.
Parma			30.11	764.8	50.8	10.2	72	WSW			4		0			0	0		Prof. P. Pigorini.
Bologna			29.99	761.8	51.0	10.9	32	NE			6		4	W		0	0		Prof. A. Palagi.
Florence			30.03	762.7	50.1	10.1	29	NE			8		8	NE		0	0		Cav. F. Meucci.
Leghorn			29.95	760.7	52.0	11.1	23	NE	19.3	8.9			3	NE		0	0		Prof. P. Monte.
Siena	28.72	729.5	29.96	760.9	45.0	7.7	44	NE	11.9	5.3			9	NE		0	0		Prof. L. Toscani.
Urbino	28.39	721.1	30.00	762.1	41.7	5.4	59	NE			6		10			0.236	6.0	Raining	Prof. P. Serpieri.
Pesaro			29.95	760.6	48.5	9.1	53	NE	61.0	27.5			10	NE		0.079	2.0	Raining	Prof. Luigi Guidi.
Ancona			29.88	758.9	49.1	9.7	57	E			6		10			0.197	5.0		Prof. F. De— Basis.
Grosseto			29.87	758.5	51.0	10.9	39	NNE			6		4	SE		0	0		Avv. P. Ponticelli.
Rome			29.77	756.2	54.7	12.6	28	NNE	23.0	10.3			3			0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U.			29.77	756.2	54.5	12.4	41	NE			6		8	NNE		0	0		Prof. L. Palmieri.
Lecce			29.69	754.0	54.7	12.6	73	NNE	11.2	5.0			5			0.012	0.3	Light rain	Prof. C. De—Giorgi.
Cosenza			29.74	755.3	55.[illegible]	13.0	58	NW	0	0			8			0.720	18.3	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.71	754.5	65.2	18.7	77	E			2		1	SW		0	0		Cav. F. Cafiero.
Palermo			29.64	752.8	59.7	15.3	51	W	3.1	1.4			10			0.783	19.9	Raining	Prof. G. Cacciatore.
Caltanissetta	27.70	703.7	29.66	753.4	53.6	12.0	65	WNW			4		6	SW		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.79	756.6	50.0	10.0	50	NNE	4.2	1.9			8	NW		0.098	2.5		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei																			

NETHERLANDS' SERIES.

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

Flushing			30.30	769.6	49.1	9.5		NW			4								
Groningen			30.04	763.0	50.0	10.0		NW			5								
Helder			30.15	765.8	51.1	10.6		WNW			4								
Utrecht			30.15	765.7	50.2	10.1	84	WNW			3		10			0.114	2.9	Du.	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.84	758.0	38.8	3.8	97	Calm	0	0			10			0.087	2.2	Light rain	
Brönö			29.45	748.0	35.6	2.0	96	WNW	25	11			10			0	0		
Christiania			29.75	755.6	35.2	1.8	71		0.2	0.1			10			0	0		
Tromsö			29.47	748.4	27.0	— 2.8	62	SW	11	5			10			0.[illegible]70	7.0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.79	756.6	65.1	18.4	84	S	8.1	3.6			5	N		0.048	1.1		Dr. J. A. Sampaio.
Campo Major			30.06	763.5	66.2	19.0	23	ENE	11.9	5.3			1			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.97	761.2	71.6	22.0	59	W	8.1	3.61			4			0	0		Capt. D. A. de Cunha.
Lisbon			30.05	763.3	63.5	17.5	50	NE	12.5	5.6			1			0	0		The Observatory.
Ponta Delgada, (Azores)			29.80	757.0	64.4	18.0	96	ESE	4.3	1.94			10			0.063	1.6	Raining	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amounnt of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.97	761.1	38.7	3.7	69	W	16	7			3						Astronomical Obs.
Wilna			29.82	757.5	38.7	3.7	88	SW	2	1			10					Raining	Astronomical Obs.
Dorpat			29.57	751.0	33.8	1.0	90	W	7	3			10						Physical Cabinet.
St. Petersburg			29.00	751.8	34.5	1.4	92	SSE	7	3			10						Central Physical Obs.
Kuopio			29.62	752.4	22.8	— 5.1	96	N	7	3			5						Ch. Forsten.
Kieff			30.00	761.9	36.7	2.6	82	W	9	4			10					Smoke-haze.	Physical Cabinet.
Nikolaiev			30.01	762.2	41.4	5.2	75	N	18	8			10						Kurdakof
Kertch			30.04	763.1	51.1	10.6	85	SSE	4	2			10						Lagorio.
Moscow			29.90	759.4	30.0	— 1.1	92	SSW	9	4			0						Meteorological Obs.
Lugan			29.85	758.3	52.5	11.4	84	Calm	0	0			10						Meteorological Obs.
Archangel			29.75	755.6	28.4	— 2.0	92	SSE	13	6			10						Ogorodnikof.
Tiflis	28.56	725.3	29.95	760.7	64.8	18.2	59	NW	7	3			8						Physical Observatory.
Astrakhan			30.08	763.9	42.1	5.6	64	ESE	11	5			10						Sebastianof.
Kasan			30.07	763.6	31.3	— 0.4	81	S	13	6			9						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.46	748.2	30.49	774.4	16.7	— 8.5	97	SE	4	2			8						Meteorological Obs.
Nukuss			30.22	767.6	36.3	2.4	57	ENE	7	3			4						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.57	776.5	17.6	— 8.0	83	NE	4	2			0						Meteorological Obs.
Yeniseisk			30.54	775.8	19.0	— 7.2	94	SW	4	2			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.5	36.5	2.5	33	NNW	16	7			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.89	759.1	28.6	— 1.9	90	NW	2	1			1						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.13	765.3	60.8	15.7	20	NE	8.6	4.00		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.02	762.5	70.1	21.2	48	ESE	20.[illegible]	9.1		0	2		E	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.61	752.1	23.7	— 4.6	86	SE			2		10			0	0		
Umea			29.62	752.4	25.9	— 3.4	87	Calm			0		2			0	0		
Hernosand			29.62	752.3	29.8	— 1.2	100	N			2		0			0	0		
Stockholm			29.73	755.1	34.2	1.2	57	W			2		8			0	0		
Wisby			29.80	757.0	36.3	2.4	58	NW			4		3			0.051	0.3		
SUB-SERIES.																			
Upsala			29.71	754.5	31.8	— 0.1	78	SW	6.7	3.0			9		W	0.002	0.04		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.83	732.2	30.29	769.3	43.0	6.1	44	NE			8		0			0	0	Clear	The Observatory.
Zurich	28.67	728.1	30.35	771.0	39.6	4.2	56	NW			1		2			0	0	Clear	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +6.1 mm; Thermometer, —3.2 cent.; Relative Humidity, —31 per cent.

NOTE—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.81	757.2	67.5	19.7	67	SW	15	6.5			8		SW	0	0		
Fao, (Persian Gulf)			30.19	766.7	84.2	29.0		SE			1		5						
Salonica			29.69	754.2	64.9	18.3		NW			1		10						
Valona			29.68	753.9	57.6	14.2		W			3		10						
Varna			29.69	754.0	46.4	8.0		N			2		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.04	763.1	76.1	24.5	70	NW			1		1ks		SW	0.88	22.4	*D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.																0	0		Hon. J. Ferguson.
Brockville, Ontario			29.80	756.9	45	7.2		NE	4	1.8			10s		NE	0.46	11.7	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.86	758.4	40	4.4	95	SW	1	0.4			10ks		SW	0.03	0.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.88	758.9	42	5.6	93	W	3	1.3			10n			0.09	2.4	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario			29.73	755.1	48.7	9.3	94	E			1		10n			0.88	22.4	Rainy	James Smith, M. A.
Dalhousie, N. B.			29.91	759.7	37.3	2.9	94	NW			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.22	767.6	36.3	2.4	95	N				0	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B.			29.92	760.0	41.6	5.3	91	Calm	0	0			Fog			0.17	4.4	Light rain	Prof. Harrison.
*Fort Garry, Manitoba			30.00	762.0	32	0.0	96	N	2	0.9		5k	5n	NW	NW	Inap.	Inap.	Cloudy	James Stewart.
Goderich, Ontario			29.55	750.6	58.4	14.7	78	S			3	6k	4n	W		0	0	Unsettled	H. J. Strang, M. A.
Granton, Ontario	28.54	724.9	29.62	752.3	51	10.6		S			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S.			29.88	758.9	41	5.0	98	SW	1	0.4			8n			0.038	0.97	Light rain	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.77	756.1	47	8.3	100	NE	1	0.4			Fog		NE	0.18	4.6	Foggy	S. Woods, M. A.
Little Glace Bay, N. S.			29.85	758.2	38.0	3.3	100	S	4	1.8			10n			0.07	1.8	Raining	C. H. Rigby.
*Montreal, Quebec			29.80	756.9	43	6.1	97	E	12	5.4			10n		E	0.21	5.3	Light rain	C. H. McLeod, C. E.
*Ottawa, Ontario			29.78	756.4	43	6.1	84	E	8	3.6			10n		NE	0.56	14.2	Light rain	J. B. Haney.
*Parry Sound, Ontario			29.62	752.3	47	8.3	90	E	14	6.3			10n		E	0.23	5.8	Light rain	Rev. R. Mosley.
Port Dover, Ontario			29.68	753.9	54	12.2	87	SW	13	5.8		8c	0	SW		0.15	3.8	Fair	H. Morgan.
Port Hastings, N. S.			29.89	759.2	42.4	5.8		E	2	0.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.68	753.9	52	11.1	90	SW	5	2.2		2ck	Haze	SW		Inap.	Inap.	Hazy	M. Payne.
*Quebec, Quebec			29.88	758.9	41	5.0	91	W	14	6.3			10n			0.02	0.5	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.90	759.4	46	7.8	92	SW	2	0.9			10n			0.15	3.8	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.55	750.6	52	11.1	93	SE	3	1.3			10ks			0.32	8.1	Cloudy	K. Stewart.
Stayner, Ontario			29.60	751.8	50	10.0	100	SE	4	1.8		8c	Haze	SW	S	0.40	10.2	Cloudy	R. J. Cole.
Stratford, Ontario	28.35	720.1	29.61	752.1	51.9	11.1	83	SW	13	5.8		0	5ks			0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B.			29.90	759.4	36	2.2	98	S	1	0.4			10n			0.01	0.3	Light rain	T. C. Hill.
*Toronto, Ontario			29.66	753.4	47	8.3	98	E	4	1.8		5cs	Fog	W		0.01	0.3	Foggy	Magnetic Observatory.
Woodstock, Ontario			29.65	753.1	52.7	11.5	86	S	16	7.2		4c	6s			0.48	12.2	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.78	756.4	36.5	2.5	76	N	4	1.8		5ks	5s			0.01	0.3	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.78	756.4	56	13.3	87	S	1	0.4		10k	Haze	W		0.11	2.8	Cloudy	
Alpena, Mich.			29.55	750.6	44	6.7	100	NE	5	3.6			10n			0.64	16.3	Light rain	
Atlantic City, N. J.			29.90	759.4	56	13.3	93	SW	8	3.6		1c	Haze	SW		0	0	Clear	
Augusta, Ga.			30.05	763.3	57	13.9	94	Calm	0	0			Fog			0	0	Foggy	
Baltimore, Md.			29.90	759.4	53	11.7	93	Calm	0	0		2c	Fog	W		0	0	Foggy	
Barnegat, N. J.			29.88	758.9	56	13.3	93	SW	8	3.6		2c	Fog			0	0	Fair	
Bismarck, Dakota	28.26	717.8	29.97	761.2	29	— 1.7	78	NW	5	2.2			10n			Inap.	Inap.	Light snow	
Boston, Mass.			29.81	757.2	57	13.9	81	SW	12	5.4		5cs	Fog	NW		0.05	1.3	Fair	
Breckenridge, Minn.			29.97	761.2	33	0.6	79	NW	8	3.6			10s			0	0	Cloudy	
Buffalo, N. Y.			29.64	752.8	59	15.0	64	SW	12	5.4		10c	Haze			0.50	12.7	Cloudy	
Burlington, Vt.			29.79	756.7	46	7.8	100	N	4	1.8			10n			0.35	8.9	Light rain	
Cairo, Ill.			29.70	754.4	62	16.7	88	SW	17	7.6			10n		W	0.11	2.8	Light rain	
Cape Hatteras, N. C.			29.99	761.7	63	17.2	88	SW	3	1.3		Haz	Sm'e			0	0	Smoky	
Cape Henry, Va.			30.00	762.0	64	17.8	78	SW	10	4.5		2c	Haze			0	0	Fair	
Cape Lookout, N. C.			30.07	763.8	67	19.4	94	SW	5	2.2		0	Haze			0	0	Clear	
Cape May, N. J.			29.91	759.7	61	16.1	82	S	11	4.9		0	Fog			0	0	Fair	
Charleston, S. C.			30.06	763.5	64	17.8	94	SE	2	0.9		2cs	Fog			0.02	0.5	Fair	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	15	— 9.4	83	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Chicago, Ill.			29.40	746.7	49	9.4	93	N	4	1.8			10n			0.93	23.6	Heavy rain	
Cincinnati, Ohio			29.60	751.8	62	16.7	94	SE	10	4.5			10ks		SW	Inap.	Inap.	Cloudy	
Cleveland, Ohio			29.66	753.4	58.5	14.7	63	SE	13	5.8		0	8s		SW	0	0	Cloudy	
Corsicana, Tex.			30.15	765.8	45	7.2	76	NW	8	3.6			10s		NW	0.98	24.9	Cloudy	
Davenport, Iowa			29.52	749.8	42	5.6	91	N	24	10.7			10n			1.36	34.5	Light rain	
Denison, Tex.			30.17	766.3	42	5.6	74	NW	8	3.6		0	0			1.15	29.2	Clear	
Denver, Col.	24.82	630.4	30.04	763.0	25	— 3.9	88	S	4	1.8		0	2s			0.12	3.0	Clear	
Detroit, Mich.			29.53	750.0	58	14.4	64	S	12	5.4			10s		W	Inap.	Inap.	Cloudy	
Dodge City, Kan.	27.50	698.5	29.91	759.7	28	— 2.2	88	W	12	5.4		2c	0	W		0.37	9.4	Clear	
Dubuque, Iowa			29.62	752.3	40	4.4	91	N	10	4.5			10n		N	1.11	28.2	Light rain	
Duluth, Minn.			29.82	757.4	40	4.4	73	NE	4	1.8			10s		NE	0	0	Cloudy	
Eastport, Me.			29.86	758.4	46	7.8	100	S	2	0.9			10n			0.19	4.8	Light rain	
Erie, Pa.			29.65	753.1	61	16.1	66	S	16	7.2		5c	Sm'e			0	0	Smoky	
Escanaba, Mich.			29.65	753.1	38	3.3	90	N	12	5.4			10n		N	0.08	2.0	Light rain	
Fort Gibson, Indian Ter.			30.04	763.0	43	6.1	75	NW	14	6.3			10s		NW	0.62	15.7	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.93	734.8	30.08	764.0	40	4.4	63	W	10	4.5		2c	0	N		0.50	12.7	Fair	
Fort Sully, Dakota																			
Florence, Arizona	28.43	722.1	29.98	761.5	45	7.2		SW				0	0			0	0	Clear	
Galveston, Tex.			30.03	762.7	60	15.6	82	N	36	16.1		5cs	8s		N	0.89	22.6	Cloudy	
Grand Haven, Mich.			29.42	747.3	51	10.6	100	NE	5	2.2			10n			1.35	34.3	Lt. rain, fog	
Indianapolis, Ind.			29.52	749.8	61	16.1	70	S	12	5.4			10n		S	0.01	0.3	Light rain	
Indianola, Tex.			30.09	764.3	57	13.9	76	N	37	16.5			8s			0	0	Cloudy	
Jacksonville, Fla.			30.04	763.0	64	17.8	88	NE	4	1.8		8ck	0	SW		0	0	Fair	
Keokuk, Iowa			29.61	752.1	40	4.4	100	NW	22	9.8			10n			0.72	18.3	Light rain	
Key West, Fla.			29.99	761.7	71	21.7	85	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.04	763.0	60	15.6	94	SW	10	4.5		Haz	Haz			0	0	Hazy	
Knoxville, Tenn.			29.91	759.7	53	11.7	86	E	2	0.9		10cs	Fog			0	0	Cloudy	
La Crosse, Wis.			29.79	754.9	35	1.7	100	N	9	4.0			10n		N	0.88	22.4	Light rain	
Leavenworth, Kan.			29.93	760.2	38	3.3	81	N	14	6.3			10s		N	1.86	47.2	Cloudy	
Louisville, Ky.			29.63	752.6	66	18.9	64	S	12	5.4			10s		SW	0	0	Cloudy	
Lynchburg, Va.			29.94	760.5	50	10.0	86	Calm	0	0		2c	0	W		0	0	Clear	
Malone, N. Y.			29.73	755.1	46	7.8	100	N	1	0.4			10n			0.39	9.9	Light rain	
Marquette, Mich.			29.70	754.4	40	4.4	81	W	8	3.6			10s		W	0	0	Cloudy	
Memphis, Tenn.			29.81	757.2	62	16.7	88	SW	5	2.2			10s		SW	0.47	11.9	Cloudy	
Milwaukee, Wis.			29.51	749.5	42	5.6	100	NE	22	9.8			10n		NE	1.37	34.8	Heavy rain	
Mobile, Ala.			29.94	760.5	72	22.2	95	S	8	3.6			10n		S	0.08	2.0	Light rain	
Montgomery, Ala.			30.01	762.2	61.5	16.4	82	E	2	0.9			10s		SW	0	0	Threatening	
Morgantown, W. Va.	28.77	730.7	29.79	756.7	58	14.4	72	S	8	3.6		10c	Sm'e	SW		0	0	Cloudy	
Mt. Washington, N. H.	23.64	600.4	30.00	762.0	40	4.4	100	NW	24	10.7			Fog			0.54	13.7	Foggy	
Nashville, Tenn.			29.74	755.4	64	17.8	83	S	14	6.3			10s		S	0.08	2.0	Cloudy	
New Haven, Conn.			29.81	757.2	55	12.8	80	S	2	0.9		Haz	Fog			0	0	Fair	
New London, Conn.			29.87	758.7	52	11.1	100	Calm	0	0			Fog			0	0	Dense fog	
New Orleans, La.			29.91	759.7	67	19.4	87	Calm	0	0			10s		NW	2.59	65.8	Threatening	
Newport, R. I.			29.86	758.4	54	12.2	93	SW	6	2.7		0	1s			0	0	Clear	
New York, N. Y.			29.87	758.7	56	13.3	87	SW	3	1.3		Haz	Fog			0	0	Foggy	
Norfolk, Va.			29.99	761.7	60	15.6	88	S	8	3.6		Haz	Haze			0	0	Hazy	
North Platte, Neb.	27.15	689.6	29.89	759.2	19	— 7.2	69	NW	10	4.5		2ck	8ks	W	NW	0	0	Cloudy	
Omaha, Neb.	28.84	732.5	29.95	760.7	35	1.7	85	NW	14	6.3			10s		NW	1.00	25.4	Cloudy	
Oswego, N. Y.			29.72	754.9	56	13.3	80	SE	4	1.8			10s		W	0.30	7.6	Cloudy	
Pembina, Dakota			29.97	761.2	31	— 0.5	100	NW	3	1.3			10n			Inap.	Inap.	Light snow	
Philadelphia, Pa.			29.89	759.2	55	12.8	87	W	10	4.5		0	Fog			0	0	Fair	
Pike's Peak, Col.	17.58	446.5	29.79	756.7	1	—17.2	71	W	20	8.9		8cs	0			0.04	1.0	Fair	
Pittsburgh, Pa.			29.75	755.6	57	13.9	75	S	5	2.2		2c	Sm'e	N		0	0	Smoky	
Port Huron, Mich.			29.52	749.8	56	13.3	68	S	12	5.4		10cs	Haze	SW		Inap.	Inap.	Hazy	
Portland, Me.			29.80	756.9	49	9.4	93	N	8	3.6		10k	Fog	W		Inap.	Inap.	Cloudy	
Portland, Oregon			30.23	767.8	39	3.9	91	NW	4	1.8		0	0			0	0	Clear	
Punta Rassa, Fla.			30.02	762.5	70.0	21.1	90	NE	8	3.6		5c	0	SW		0	0	Fair	
Rochester, N. Y.			29.66	753.4	59	15.0	70	S	8	3.6		5ck	Haz	W		0.28	7.1	Fair	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	35	1.7	70	NW	1	0.4		2c	0			0	0	Clear	
Sandy Hook, N. J.			29.84	757.9	56	13.3	93	Calm	0	0		0	Haze			0	0	Hazy	
San Diego, Cal.			30.04	763.0	52	11.1	64	NE	4	1.8		0	2s		NE	0	0	Clear	
San Francisco, Cal.			30.04	763.0	52	11.1	90	Calm	0	0			10s			0	0	Cloudy	
Santa Fé, N. M.	23.25	590.5	29.79	756.7	27	— 2.8	88	NE	4	1.8		5k	0			0.12	3.0	Fair	
Savannah, Ga.			30.05	763.3	59	15.0	94	Calm	0	0		5c	Fog			0	0	Foggy	
Shreveport, La.			30.09	764.3	50	10.0	72	NW	12	5.4			10s		NW	1.82	46.2	Cloudy	
Smithville, N. C.			30.07	763.8	66	18.9	90	Calm	0	0		0	Fog			0	0	Fair	
Springfield, Mass.			29.82	757.4	51.5	10.8	86	Calm	0	0			Fog			0.005	0.13	Dense fog	
St. Louis, Mo.			29.66	753.4	51	10.6	71	NW	24	10.7			10s			0.11	2.8	Cloudy	
St. Marks, Fla.			30.01	762.2	64	17.8	94	SE	3	1.3		5c	2s	NW	SE	0	0	Fair	
St. Paul, Minn.			29.80	756.9	37	2.8	90	NW	8	3.6			10n			Inap.	Inap.	Light rain	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.80	756.9	51	10.6	86	SW	16	7.2		2c	5s	W	W	0	0	Hazy	
Toledo, Ohio			29.64	752.8	60	15.6	70	S	12	5.4			10s		SW	0	0	Cloudy	
Tucson, Arizona	27.57	700.3	30.12	765.0	39	3.9		S				5c	0	W		0	0	Fair	
Tybee Island, Ga.			30.02	762.5	70	21.1	90	Calm	0	0		2c	2s	E		0	0	Fair	
Vicksburg, Miss.			29.94	760.5	62.5	16.9	97	SW	4	1.8		10s	2n			1.83	46.5	Threatening	
Virginia City, M. T.	24.30	617.2	29.78	756.4	20	— 6.4	79	Calm	0	0		10k	0	W		0	0	Cloudy	
Washington, D. C.			29.90	759.4	57	13.9	87	S	4	1.8		Haz	Sm'e			0	0	Hazy	
Wilmington, N. C.			30.07	763.8	58	14.4	100	Calm	0	0			Fog			0	0	Foggy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.88	758.9	56	13.3	93	SW	6	2.7			Fog			0	0	Dense fog	
Yankton, Dakota	28.73	729.7	30.06	763.5	34	1.1	69	NW	14	6.3			10s		NW	0	0	Cloudy	
Yuma, Arizona			30.06	763.5	52	11.1		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.03	762.7	78	25.6	82	Calm	0	0		5c	5n			0.09	2.3		James Gall.
Navassa, W. I.					80	26.7		SW			1					.0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.11	688.6	29.89	759.2	65	18.3	94	Calm	0	0		0	8c			0.73	18.5	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	83	28.3	79	E			2	5k	5k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	29.99	761.7			82.4	28.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.17	639.3			65.0	18.3	85	Calm			0	4k	1s			0.09	2.3	Fair	Thomas Herran.
York Factory, B. A.			29.78	756.4	10.0	—12.2	90	NW	12	5.4			10n			0.05*	1.3*		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	73.5	23.1		E			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Force.	Clouds. Amount.	Clouds. Direction.	Rain-fall. State of ocean.	Rain-fall. Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Philadelphia, Penn.			29.87	758.7	56	13.3	93	SW	4	1.8		Sm'e			Smoky	Capt. James Jorgensen.
Steamer Leipzig. N. 49°, 45′, W. 11°, 45′.	E ¾ S	10	30.30	769.6	56.8	13.8	93	S		6		.8		S	Stormy	Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,802 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. *Amount of precipitation from midnight until 8 a. m.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 3, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.29	769.3	65.5	18.6	43	SE			3		0			0	0	Clear	Charnot.
Algiers			30.27	768.9	51.4	10.8	66	N			2		8			Inap.	Inap.	Cloudy	Peter.
La Calle			30.12	765.1	57.9	14.4	51	NW			4		5			0.236	6.0	Fair	Fleury.
Tunis			30.15	765.8	54.3	12.4	79				3		7			1.083	27.5	Cloudy	Jacques.
Sfax			30.13	765.3				NNW											
Saïda			30.17	766.2	54.5	12.5	50	SSE			2		1			0	0	Clear	Millot.
Tebessa			30.10	764.5	39.2	4.0		W			5		10			0	0	Hidden	Bourgeois.
Geriville			30.27	768.9	58.6	14.8	34	NE			5		3			0	0	Fair	Lemaillot.
Laghouat			30.26	768.6	54.7	12.6	48	N			4		0			0	0	Clear	Guyot.
Biskra			30.23	767.7	64.4	18.0	40	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.19	766.9	41.4	5.2	65	SW			2		8			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.00	762.1	43.2	6.2	94	W			2		10			0.063	1.6		Dr. Wierzbiski.
Eperies			30.04	763.0	40.6	4.8	68	S			1		9k		SE	0	0		Julius Mikolik.
Gratz	28.86	733.1	30.13	765.3	49.1	9.5	67	W			2		8			0	0		Andreas Rospini.
Hermannstadt	28.65	727.6	30.13	765.2	36.7	2.6	85	NE			1		8			0	0		Prof. Reissenberger.
Kremsmünster	28.82	732.1	30.21	767.4	39.9	4.4	84	WNW			3		10			0.118	3.0		Prof. C. Wagner.
Lemberg			29.94	760.4	38.8	3.8	83	NW			2		9			0.016	0.4		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.10	764.6	54.3	12.4	44	NNE			2		9cs			0	0		I.R.Hydrographic Of'ce
Szegedin			30.11	764.7	42.8	6.0	74	N			1		10			0	0		Karl Stancel.
Trieste			30.17	766.3	54.5	12.5	47	E			1		9			0	0		Prof. V. Farolfi.
Vienna			30.10	764.4	43.7	6.5	71	W			5		3			0.039	1.0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.22	767.6	48.4	9.1	83	WSW			4		10ks		WNW	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Per Low'r 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.98	761.5	54.0	12.2		SW	3	1.3			7			0.010	0.25	Misty	William Boswell.
Ardrossan			30.08	764.0	52	11.1		WNW			2		8					Raining	William McNeil.
Armagh, Observatory			30.14	765.5	49.0	9.4		SSW	6	2.7			10					Gloomy	S. Call, for Dr. Robinson
Birr Castle, (Parsonstown)			30.16	766.1	55.0	12.8		WSW			1-2		10					Overcast	J. Dreyer.
Bradford			30.11	764.8	51.5	10.8		W			1		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	82.5	28.1		NE			2		4					*D. clouds	Sergt. J. F. Halanen, A
Cambridge, Observatory			30.20	767.1	47.5	8.6		SW			1		10					Raining	H. Todd. [H. C
Cardington			30.21	767.3	47.0	8.3		W			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell
Chatham, School M. E.			30.25	768.3	50.5	10.3		SE			1		9					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.83	732.3	30.36	771.1	48.4	9.1		W			2		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.90	632.4			37.0	2.8	71	NE			1		8			0.051	1.5	*D. clouds	Francis Redford, M. A
Donaghadee			30.10	764.5	49	9.4		WSW			3		10					Raining	J. Mac Gowan.
Dover			30.23	767.8	50	10.0		W			2		6					½ clouded	J. Costello.
Eccles, (near Manchester)			30.15	765.8	49.7	9.8		S	0.4	0.2			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			30.30	769.6	55.2	12.9		SSW			1		7					Overcast	The Staff.
Fort Napier, (Natal)	27.96	710.2	30.19	766.8	62.6	17.0		E			1		10					Overcast	Pvt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.93	760.2	87.0	30.6		N			0		5					*D. clouds	
Galway, Queen's College			30.28	769.1	48	8.9		N			1		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.23	767.8	64.0	17.8		E			3		0					Blue sky	Corpl. C. Aitken, A. H. C
Glasgow, Observatory			30.05	763.3	50.0	10.0		W			1		10					Overcast	Lewis Stuart.
Great Yarmouth			30.17	766.3	49	9.4		W			3		7					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.24	768.1	50.3	10.2		WSW			1		10					Overcast	The Staff, for G. B. Airy
Guernsey			30.32	770.1	53.5	11.9		SW			1		7					*D. clouds	Dr. S. L. Hoskins.
Helston			30.26	768.6	54	12.2		SW			4		2c			0	0	*D. clouds	M. P. Moyle.
Holyhead			30.17	766.3	52	11.1		W			2		10					Raining	John Tilston.
Kew, Observatory			30.26	768.6	49.8	9.9		WSW	7	3.1			10					Misty	The Staff.
Kingstown			30.18	766.6	52	11.1		W			1		10					Raining	George Mitchell.
Leicester Museum			30.22	767.6	47.8	8.8		W			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.92	760.0	62.2	16.8		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C
Nairn			29.96	761.0	55	12.8		W			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			29.99	761.7	78.0	25.6		NE			1		2					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.20	767.1	49.2	9.6		W			1		10n			0.17	4.3	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.20	767.1	47.0	8.3		SW			2		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.20	767.1	53	11.7		SW			2		10					Overcast	I. Lucas.
Plymouth			30.29	769.4	54	12.2		WSW			2		7					*D. clouds	John Merrifield.
Roche's Point			30.21	767.3	55	12.8		SW			3		10					Overcast	W. Kennedy.
Saint Ann's Head			30.24	768.1	55	12.8		SW			4		10					Overcast	John C. Walker.
Saint Helier, (Jersey)			30.34	770.6	54.0	12.2		SW			3		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.02	762.5	44.5	6.9		E	22	9.8			10					Raining	Rev. C. Clouston, LL. D
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)																			Sergt. W. H. Lyne.
Sheffield			30.15	765.8	51.1	10.6		SW			1		10			0.27	6.9	Overcast	W. F. Cooper.
Silloth Rectory			30.10	764.5	52.1	11.2	92	W			1		10			0.04	1.1	Overcast	Rev. Francis Redford.
Stonyhurst, Observatory			30.14	765.5	50.8	10.4		W			2		10					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.94	760.5	53	11.7		WNW			1		10					Overcast	John Smith.
Stratfield Turgiss			30.36	771.1	48.3	9.1		W			2		10					Overcast	Rev. Charles H. Griffith
Thurso			29.98	761.5	47	8.3		ESE			3		10					Raining	John Trotter.
Truro, Royal Institution			30.30	769.6	58	14.4		W			6		5					*D. clouds	W. Newcombe.
Valencia, Observatory			30.17	766.3	56.5	13.6		SSW	15	6.7			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					52	11.1		SSW			4		10			0.20	5.1		Thomas Dawson.
Cape Good Hope, Obs'y			30.18	766.6	72.0	22.2	49	SSW	17	7.6		0	1						The Staff, for E. J. Stone
Hobart Town, (Tasmania)			29.81	757.2	61.5	16.4	94	E			1		10n			0.01	0.3	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.06	763.5	52.2	11.2		W			4		10k-			0	0	Overcast	Andrew Glob.
Mauritius, Observatory			29.97	761.2				WSW	16.8	7.5						0	0		C. Meldrum.
Melbourne, Observatory			29.83	757.7	53.0	11.7	79	E	4	1.8			4			0	0	Fine	Rev. L. J. Emery.
Monach L't-house, (Hebrides)			30.02	762.5	53	11.7		SW			3		10			0.2	5.1		J. Youngclauss.
North Unst, (Shetland Is.)			30.12	765.0	44	6.7		E			4		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind from 16 to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Mauritius and North Unst as read out and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105.7 feet, or 1,556.0 meters; Fort Napier, 2,200 feet, or 67.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the SECRETARY OF THE EXTERIOR DEPARTMENT.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.84	758.0	41.5	5.3	42	NNW			2		1						
Fanöe			29.94	760.5	43.9	6.6	87	NNW			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.09	764.3	39.4	4.1	93	E			2		5						
Thorshavn, (Faröe)			30.12	765.0	42.8	6.0	72	E			4		10						
Vestervig			29.95	760.7	41.0	5.0	64	NNW			2		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.13	765.2	49.1	9.5	84	N			3		5nk		N	0	0	Cloudy	Normal School.
Amiens			30.27	768.8	51.1	10.6	82	S			3		10			0	0	Covered	Normal School.
Avignon			30.21	767.2	51.1	10.6	50	N			6		2		N	0	0	Light clouds	Normal School.
Bar-sur-Seine			30.37	771.4	43.0	6.1	90	W			1		10			0	0	Covered	C. Saillard.
Beaumette, (near Angers)			30.39	772.0	45.7	7.6	80	E	2.2	1.0					N	0	0		Beaumette Observ'tory
Beauvais			30.33	770.4	50.5	10.3	74	WNW			2		10		WNW	0	0	Covered	Normal School.
Besançon			30.39	771.9	45.0	7.2	74	NE			2		8		NE	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.43	772.9	45.9	7.7	72	N			4		2ck		S	0	0	Slightly cl'dy	Normal School.
Bourges			30.41	772.4	46.4	8	86	W			2		10		W	0	0	Covered	Normal School.
Brest			30.28	769.0	60.6	15.9	66	SW			2	2c		SW		0	0		Naval Observatory.
Carcassonne			30.31	769.9	51.8	11	47	SW			2		0			0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.13	765.2	44.2	6.8	98	N			2		7		SE	0	0		Normal School.
Châlons-sur-Marne			30.37	771.4	49.5	9.7	71	NE			2		10k			0	0	Covered	Normal School.
Clermont			30.36	771.2	47.3	8.5	64	SW			1		2			0	0		Puy de Dome Obs'y.
Commercy			30.35	770.9	44.2	6.8	85	W			4		10			0	0	Covered	Normal School.
Commune de Gréasque*			30.19	766.7	59.5	15.3	17	NW			2		2		NW	0	0		M. Kina.
Grenoble			30.32	770.0	43.5	6.4	83	NNE			2		0			0	0	Clear	Normal School.
La Roche-sur-Yon					50.7	10.4	72	ENE			2		0			0	0	Clear	Normal School.
Le Mans			30.40	772.2	45.7	7.6	89	NE			2		2		NE	0	0	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			30.36	771.2	45.5	7.5	71	NE			2		5		N	0	0	Cloudy	Normal School.
Lorient			30.39	771.9	55.8	13.2	60	SSE			2		0			0	0	Clear	Naval Observatory.
Mâcon			30.42	772.6	47.1	8.4	72	NNE			1		5		N	0	0	Cloudy	Normal School.
Metz			30.37	771.5	43.9	6.6	86	SW			2		10			0	0		M. Schuster.
Mirecourt			30.37	771.3	44.8	7.1	82	N					10		E	0	0	Covered	Normal School
Nismes			30.19	766.9	54.9	12.7	35	N			6		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			30.29	769.4	47.5	8.6	78	NW			2		2		N	0	0	Slightly cl'dy	Normal School.
Paris, Observatory			30.35	771.0	50.5	10.3	67	W			1		10k		NW	0	0	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.30	769.7	47.5	8.6		N			2		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.36	771.1	52.5	11.4	54	E			3		0			0	0	Blue sky	Naval Observatory.
Rouen			30.33	770.4	51.8	11.0	77	WNW			1		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	29.15	740.4	30.25	768.4	51.8	11		ESE			1		0			0	0	Clear	Normal School.
Villefranche			30.35	771.0	50.7	10.4	72	E			3		2		N	0	0	Slightly cl'dy	Normal School
Sub-Series.																			
Fort de France, Martinique			29.82	757.3	81.0	27.2													L'Abbé Marchésl.
Marseilles			30.13	765.2	64.8	18.2	80						3			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	25.92	635.4	30.41	772.4	46.6	8.1	46	N	7.4	3.33			4		N	0	0		—. Falguère.
Montsouris, Paris			30.33	770.4	51.8	10.7	70	W			2		10		WNW	0	0		Montsouris Observ'tory.
Perpignan			30.21	767.4	61.7	16.5	23	NE	11.2	5.00			3		NE	0	0		Dr. Flues.
Pic du Midi, (Summit,) H. P.	21.38	543.0			34.3	1.3		NE			2		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.67	575.8			39.2	4.0		NE			1		5			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.34	770.7	51.4	10.8	71	W			1		10			0	0	Covered	E. Renou.
Toulouse			30.37	771.4	49.1	9.5	46	NNW			1		3			0	0		Toulouse Observatory.
Tours			30.38	771.6	48.6	9.2	66	NE			1		1			0	0	Almost clear	C. Marquet.
Versailles, (near Paris)			30.34	770.7	51.4	10.8	73	NW			1		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.21	767.4	48.2	9.0	86	NNW	15.9	7.10			10			0.059	1.50	Rainy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 5; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.11	764.9	43.3	6.3	96	WNW			1		10			0.039	1.0	Raining	Prof. T. Roh.
Berlin			29.94	760.5	48.2	9.0	89	SW			1		10			0.236	6.0	Raining	Prof. Arndt.
Breslau			29.98	761.4	45.7	7.6	86	W			6		10			0.146	3.7	Raining	Royal University Obs'y.
Carlsruhe			30.30	769.5	45.3	7.4	74	SW			5		10					Raining	A. Senz.
Cassel			30.15	765.7	44.8	7.1	88	W			4		10	W		0.177	4.5		Dr. H. Möhl.
Emden			30.08	764.1	51.1	10.6	94	W			3		10			0.024	0.6		Prof. Prestel.
Frankfort on the Main			30.24	768.1	46.6	8.1	66	SW			2		10			0.020	0.5		Physical Society.
Friedrichshafen			30.33	770.4	45.0	7.2	70	SW			4		3			0.591	15.0	Raining	M. Wilhelm.
Hamburg			29.97	761.2	48.0	8.9	96	WSW			3		10			0.327	8.3	Raining	Captain F. Hegemann.
Kiel			29.92	759.9	45.0	8.9	92	N			3		10			0.106	2.7		Prof. G. Karsten.
Königsberg, (Prussia.)			29.63	752.7	38.5	3.6	90	NW			5		7			0	0		Prof. E. Luther.
Koslin			29.80	756.8	43.3	6.3		NW			2		5			0.240	6.1		H. Müller.
Leipsic			30.10	764.6	44.2	6.8	90	SW			4		10	WSW		0.654	16.6	Raining	Prof. Bruhns.
Memel			29.61	752.0	40.8	4.9	65	WNW			4		10ks			0.228	5.8	Showery	Reinbrecht & Skalweit.
Münster			30.13	765.3	47.8	8.8	92	SW			4		10			0.067	1.7		Prof. E. Reis.
Neufahrwasser			29.69	754.1	43.9	6.6	84	WNW			3		7			0.039	1.0	Rainy	A Lothe.
Posen			29.88	759.0	49.1	9.5	81	W			5		9						Dr. Magener.
Strassburg, (in Alsace)			30.35	770.8	46.4	8.0	70	SW			3		10	SW		0.035	0.9		Dr. Schur.
Stuttgart			30.29	769.4	45.5	7.5	74	W			1		8			0.016	0.4	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.22	767.5	46.6	8.1	78	WSW			5		10			0.335	8.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.66	728.0	30.22	767.6	40.1	4.5	86	W	9	4			10	W		0.138	3.5	Foggy	Dr. von Bebber.
Wustrow, Naval School			29.93	760.1	45.1	7.3	84	NNW			5		10			0.091	2.3		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 33°, 40′, W. 16°, 33′.			30.21	767.2	70.9	21.6	70	SE			3		3		SE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.86	758.4	66.4	19.1		S										¼ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.11	764.7	50.5	10.3	23	Calm	0	0			10			0	0		Prof. Giovanni Clodi.
Padua			30.12	765.1	48.6	9.2	46	SW	1.3	0.6			9			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.13	765.2	50.4	10.2	43	S	0.7	0.3			2	N		0	0		Alm. Da Schio.
Verona			30.12	765.1	52.7	11.5	61	E			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.76	730.4	30.11	764.7	50.4	10.2	46	S			2		3			0	0		Prof. Trionfini Carlo.
Domodossola			30.11	764.7	51.8	11.0	46	Calm			0		3			0	0		Prof. Giuseppe Calza.
Milan																0	0		Ab. Gio. Capelli.
Pavia			30.15	765.7	49.3	9.6	43	SW			4		3	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.15	765.8	47.8	8.8	50	ENE	0	0			2			0	0		Prof. P. F. Denza.
Mondovi	28.22	716.9	30.19	766.8	52.7	11.5	25	E			2		1	NNE		0	0		Prof. C. Bruno.
Porto Maurizio			30.17	766.2	57.4	14.1	34	SW			2		4			0	0		Prof. L. Vassallo.
Genoa			30.11	764.7	61.5	16.4	19	N	0.7	0.3			2			0	0		Prof. Garibaldi.
Piacenza			30.15	765.9	50.4	10.2	44	SW	4.3	1.9			5			0	0		Dott. G. Manzi.
Parma			30.13	765.2	52.7	11.5	60	W			2		1			0	0		Prof. P. Pigorini.
Bologna			30.15	765.8	50.0	10.0	34	WNW			1		3	S		0	0		Prof. A. Palagi.
Florence			30.13	765.4	57.2	14.0	40	NE			4		5	N		0	0		Cav. F. Meucci.
Leghorn			30.11	764.8	56.3	13.5	27	NE	6.9	3.1			6	N		0	0		Prof. P. Monte.
Siena	28.85	732.8	30.09	764.2	53.2	11.8	37	NE	8.1	3.6			7	NE		0	0		Prof. L. Toscani.
Urbino	28.54	724.8	30.14	765.6	45.1	7.3	70	NNE			6		7			0.23	6.0	Raining	Prof. P. Serpieri.
Pesaro			30.13	765.3	54.5	12.5	50	N	32.2	14.4			2	N		0	0		Prof. Luigi Guidi.
Ancona			30.10	764.4	52.2	11.2	62	NW			4		2	N		0	0		Prof. F. De—Bosis.
Grosseto			30.10	764.4	56.8	13.8	46	NNE			6		4	SE		0	0		Avv. P. Ponticelli.
Rome			29.97	761.2	58.5	14.7	29	N	12.5	5.6			0			0	0		Prof's P. Secchi & L. Respighi.
Naples, O. U.			29.98	761.6	58.6	14.8	38	SE			8		3	NE		0	0		Prof. L. Palmieri.
Lecce			29.82	757.3	54.3	12.4	84	NNE	28.6	12.8			9			0.28	7.2	Raining	Prof. C. De—Giorgi.
Cosenza			29.92	760.0	55.4	13.0	66	W	5.6	2.5			7			0.01	0.3	Light rain	Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.7	66.4	19.1	76	SE			4		5	SW		0	0		Prof. F. Cafiero.
Palermo			29.85	758.1	56.3	13.5	66	NW	5.6	2.5			10			0.07	2.0	Raining	Prof. G. Cacciatore.
Caltanissetta	27.89	708.3	29.84	758.0	53.6	12.0	58	NW			4		5	S		0.05	1.3	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.99	761.7	54.0	12.2	39	NW	1.3	0.6			3	NW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.24	768.0	50.4	10.2		WNW			5								
Groningen			30.02	762.4	49.8	9.9		W			4								
Helder			30.10	764.5	50.4	10.2		W			4								
Utrecht			30.11	764.8	52.3	11.3	85	WSW			2		10			0	0	Dark	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.00	761.9	36.3	2.4	55	Calm	0	0			8			0	0		
Brönö			29.82	757.5	36.3	2.4	74	WNW	18	8			10			0.53	13.5	Light snow	
Christiania			29.85	758.2	39.4	4.1	37	NNW	22.6	10.1			1			0	0		
Tromsö			29.69	754.1	24.1	— 4.4	77	S	4	2			5			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.93	760.2	67.6	19.8	81	S	1.8	0.8			7			0	0		Dr. J. A. Sampaio.
Campo Major			30.23	767.7	66.0	18.9	46	E	9.4	4.2			0			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.08	764.0	70.9	21.6	63	SE	7.0	3.1			5			0	0		Capt. D. A. de Cunha.
Lisbon			30.24	768.0	60.6	15.9	63	NE	9.8	4.4			0			0	0		The Observatory.
Ponta Delgada, (Azores)			29.99	761.7	67.6	19.8	87	SE	0.6	0.28			3			0.268	6.8		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amounnt of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.82	757.5	42.8	6.0	88	SW	16	7			10						Astronomical Obs.
Wilna			29.71	754.5	34.7	1.5	80	SW	2	1			10						Astronomical Obs.
Dorpat			29.56	750.9	32.5	0.3	85	SSE	7	3			8						Physical Cabinet.
St. Petersburg			29.63	752.6	30.9	— 0.6	75	S	11	5			10						Central Physical Obs.
Knopio			29.62	752.3	18.5	— 7.5	100	E	7	3			10					Foggy	Ch. Forsten.
Kieff			29.92	760.0	39.6	4.2	77	SW	9	4			9						Physical Cabinet.
Nikolaiev			30.06	763.4	39.0	3.9	85	N	13	6			10						Kurdukof.
Kertch			30.03	762.8	59.0	15.0	99	SSW	4	2			10						Lagorio.
Moscow			29.93	760.2	29.3	— 1.5	94	S	7	3			10						Meteorological Obs.
Lugan			29.82	757.3	55.6	13.1	94	SSW	20	9			10			Rain	Rain		Meteorological Obs.
Archangel			29.72	754.9	26.1	— 3.2	91	SE	9	4			10						Ogorodnikof.
Tiflis	28.70	728.9	30.09	764.2	67.8	19.9	51	E	18	8			1						Physical Observatory.
Astrakhan			30.21	767.3	48.[illegible]	9.1	58	SE	4	2			0						Sebastianof.
Kasan			30.03	762.7	31.[illegible]	— 0.3	98	S	9	4			10					Light snow	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.36	745.8	30.36	771.2	27.[illegible]	— 2.5	64	SSE	4	2			10						Meteorological Obs.
Nukuss			30.29	769.4	39.	4.0	46	ENE	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.51	775.0	12.[illegible]	—11.0	100	N	0	0			1						Meteorological Obs.
Yeniseisk			30.45	773.3	18.5	— 7.5	98	S	2	1			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.24	768.1	32.9	0.5	62	NW	13	6			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.89	759.2	25.9	— 3.4	50	Calm	0	0			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.27	768.9	59.2	15.1	53	SE	3.7	1.67		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.21	767.2	67.1	19.5	45	ESE	21.[illegible]	9.6		0	1		E	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.73	755.2	21.9	— 5.6	96	NE			2		10			0	0		
Umea			29.67	753.6	24.6	— 4.1	79	NNW			2		5			0	0		
Hernosand			29.70	754.4	29.5	— 1.4	80	N			4		8			0	0		
Stockholm			29.54	750.4	32.2	0.1	49	NNW			4		5			0	0		
Wisby			29.62	752.3	37.4	3.0	62	NNW			8		5			0.102	2.6		
SUB-SERIES.																			
Upsala			29.57	751.0	32.7	0.4	74	NNW	11.2	5.0			5		NW	0.102	2.59	Snowing	Dr. Hildebrandsson.

NOTE.—The originals give the wind-force by the scale 0 to 6, and Upsala also velocity in meters per second; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain- all is measured at 8 a. m., local time.

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.86	733.0	30.31	769.8	46.0	7.8	60	N			2		0			0	0	Clear	The Observatory.
Zurich	28.66	727.9	30.33	770.4	43.9	6.6	73	W			1		10			0	0	Covered	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +6.9 mm; Thermometer, —1.3 cent.; Relative Humidity, —15 per cent.

NOTE—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.00	761.9	56.7	13.7	92	NNE	8	3.5			10		NNE	0	0		
Fao, (Persian Gulf)																			
Salonica			29.82	757.3	50.4	10.2		NE			2		10					Raining	
Valona			29.71	754.5	57.9	14.4		E			2		10					Raining	
Varna			29.96	761.0	41.0	5.0		E			2		10					Raining	
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.08	764.1	77.0	25.0	59	NW			1		4c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.66	753.4	40.8	4.9		Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.67	753.6	45	7.2		SW	11	4.9			10s		SW	0.40	10.2	Cloudy	W. R. Bigg.
*Chatham, N. B			29.70	754.4	42	5.6	99	E	2	0.9			10s		E	0.02	0.5	Light rain	G. A. Blair.
Charlottetown, P. E. Island			29.77	756.1	45	7.2	92	S	10	4.5			10s			In up.	n up.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.61	752.1	47.7	8.7	72	SW			6		10s			0	0	Unsettled	James Smith, M. A.
Dalhousie, N. B			29.65	753.1	38.0	3.3	99	E			4							Raining	H. A. Johnson.
Esquimault, B. C			29.94	760.5	40.3	4.6	91	NW				9ck	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.66	753.4	43.3	6.3	98	SE	2	0.9			Fog			0.02	0.5	Mist, Fog	Prof. Harrison.
*Fort Garry, Manitoba			29.85	758.2	28	— 2.2	96	NW	4	1.8		5k	2ks	W	W	0	0	Cloudy	James Stewart.
Goderich, Ontario			29.78	756.4	41.4	5.2	94	NW			3		10n			0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.65	727.7	29.76	755.9	39	3.9		W			1		10n			0.17	4.3	Cloudy	James Grant.
*Halifax, N. S			29.80	756.9	47	8.3	99	SE	13	5.8			Fog			0.10	2.6	Light rain	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.68	753.9	46	7.8	77	SW	23*	10.3*			10ks		SW	0.56	14.2	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.93	760.2	41.8	5.4	93	S	4	1.8			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.51	749.5	49	9.4	71	SW	25	11.2			1s, hz		SW	0.22	5.6	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.54	750.3	47	8.3	78	S	18	8.0		8k	0	W		0.16	4.1	Clearing	J. B. Haney.
*Parry Sound, Ontario			29.63	752.6	40	4.4	78	NW	13	5.8		0	2ks		NW	0.26	6.6	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.79	756.7	42	5.6	58	W	19	8.5		10k	0	W		0.23	5.8	Cloudy	H. Morgan.
Port Hastings, N. S			29.78	756.4	48.7	9.3		SE	6	2.7						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.80	756.9	40	4.4	70	W	20	8.9		5ck	0	W		0.13	3.3	Fair	M. Payne.
*Quebec, Quebec			29.49	749.0	44	6.7	100	Calm	0	0			10n			0.43	10.9	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.67	753.6	48	8.9	96	S	8	3.6			10n			0.06	1.5	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.69	754.1	42	5.6	83	NW	9	4.0			10n		N	0.16	4.1	Light rain	K. Stewart.
Stayner, Ontario			29.65	753.1	40	4.4	95	NW	18	8.0			10n		NW	0.09	2.3	Threatening	R. J. Cole.
Stratford, Ontario	28.43	722.1	29.72	754.9	38.6	3.7	84	W	15	6.7			10s			0.210	5.33	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.95	760.7	42	5.6	98	SE	5	2.2			10s		S	0.04	1.0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.70	754.4	43	6.1	76	W	15	6.7		2ck	0	W		0.28	7.1	Fair	Magnetic Observatory.
Woodstock, Ontario			29.79	756.7	39.6	4.2	95	W	18	8.0			10ks			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.93	760.2	35.0	1.7	74	N	4	1.8		4ks	4s			0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. *Estimated.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.61	752.1	55	12.8	80	NW	2	0.9		5k	5ks	SW	SW	0.04	1.0	Cloudy	
Alpena, Mich.			29.72	754.9	38	3.3	90	W	10	4.5			10s		W	1.30	33.0	Cloudy	
Atlantic City, N. J.			29.75	755.6	59	15.0	100	W	4	1.8			10n		SW	0.65	16.5	Light rain	
Augusta, Ga.			29.90	759.4	66	18.9	89	Calm	0	0		2c	0	W		0.01	0.3	Fair	
Baltimore, Md.			29.79	756.7	59	15.0	59	NW	12	5.4			10n		W	0.15	3.8	Light rain	
Barnegat, N. J.			29.75	755.6	59	15.0	94	W	9	4.0			10n			0.20	5.1	Light rain	
Bismarck, Dakota	28.02	711.7	29.71	754.6	28	— 2.2	89	NE	3	1.3			10s			Inap.	Inap.	Cloudy	
Boston, Mass.			29.68	751.3	60	15.6	94	S	20	8.9			10n		SW	0.05	1.3	Light rain	
Breckenridge, Minn.			29.88	758.9	29	— 1.7	89	SW	4	1.8			10s			0	0	Cloudy	
Buffalo, N. Y.			29.72	754.9	44	6.7	52	NW	26	11.6		10k	0	W		0.42	10.7	Cloudy	
Burlington, Vt.			29.53	750.0	55	12.8	68	W	10	4.5		2k	5s	W		0.17	4.3	Cloudy	
Cairo, Ill.			30.08	764.0	42	5.6	74	W	4	1.8		0	0			0.02	0.5	Clear	
Cape Hatteras, N. C.			29.82	757.4	70	21.1	84	S	12	5.4		10cs	0			0	0	Cloudy	
Cape Henry, Va.			29.82	757.4	63	17.2	94	S	6	2.7			10s		SW	0.24	6.1	Threatening	
Cape Lookout, N. C.			29.90	759.4	68	20.0	94	SW	11	4.9		2ks	5s			0.07	1.8	Fair	
Cape May, N. J.			29.74	755.4	62	16.7	94	W	16	7.2			10n			0.30	7.6	Light rain	
Charleston, S. C.			29.90	759.4	68	20.0	94	SW	4	1.8		5cs	2s	W	W	0	0	Fair	
Cheyenne, Wyoming	23.81	604.8	29.75	755.6	21	— 6.1	60	W	4	1.8		0	0			0	0	Clear	
Chicago, Ill.			29.91	759.7	40	4.4	82	SW	8	3.6		5k	5s	W		0.20	5.1	Cloudy	
Cincinnati, Ohio			29.93	760.2	45	7.2	67	NW	6	2.7			10ks		W	0.10	2.5	Cloudy	
Cleveland, Ohio			29.88	758.9	42	5.6	83	SW	13	5.8			10s		W	0.13	3.3	Cloudy	
Corsicana, Tex.			30.13	765.3	41	5.0	73	NE	3	1.3		5ck	0			0	0	Fair	
Davenport, Iowa			30.00	762.0	39	3.9	72	W	8	3.6			10s		W	0.34	8.6	Cloudy	
Denison, Tex.			30.13	765.3	41	5.0	82	SE	1	0.4		0	0			0	0	Clear	
Denver, Col.	24.62	624.8	29.84	757.9	28	— 5.0	86	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			29.82	757.4	42	5.6	58	W	6	2.7			10s		W	0.08	2.0	Cloudy	
Dodge City, Kan.	27.32	693.9	29.66	753.4	36	2.2	70	SE	10	4.5		5cs	2s	S	S	0	0	Cloudy	
Dubuque, Iowa			29.95	760.7	37	2.8	80	W	5	2.2			10s			0.15	3.8	Cloudy	
Duluth, Minn.			29.83	757.7	36	2.2	70	N	4	1.8			10s			0	0	Cloudy	
Eastport, Me.			29.61	752.1	51	10.6	93	SW	12	5.4			10s, f.			0.15	3.8	Threatening	
Erie, Pa.			29.78	756.4	45	7.2	67	W	22	9.8			10ks		W	0.22	5.6	Cloudy	
Escanaba, Mich.			29.80	756.9	36	2.2	70	NW	8	3.6			10s		NW	0.05	1.3	Cloudy	
Fort Gibson, Indian Ter.			30.11	764.8	31	— 0.6	79	E	3	1.3		2c	0	W		0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.84	732.5	29.99	761.7	38	3.3	71	SE	2	0.9		5cs	0			0	0	Fair	
Fort Sully, Dakota																			
Florence, Arizona	28.40	721.3	29.93	760.2	48	8.9		SW				0	0			0	0	Clear	
Galveston, Tex.			30.10	764.5	54	12.2	73	NE	13	5.8		0	0			0	0	Clear	
Grand Haven, Mich.			29.82	757.4	43	6.1	67	NW	18	8.0		0	5s		NW	0.93	23.6	Fair	
Indianapolis, Ind.			29.86	758.4	43	6.1	66	W	3	1.3			10s		W	0.24	6.1	Cloudy	
Indianola, Tex.			30.10	764.5	55	12.8	73	NE	22	9.8		2cs	0			0	0	Fair	
Jacksonville, Fla.			29.94	760.5	68	20.0	90	SW	9	4.0		8k	0	SW		0.03	0.8	Fair	
Keokuk, Iowa			29.98	761.5	39	3.9	71	W	8	3.6			10s		W	0.20	5.1	Cloudy	
Key West, Fla.			29.98	761.5	76	24.4	81	NE	8	3.6		2cs	0			0	0	Clear	
Kittyhawk, N. C.			29.86	758.4	67	19.4	90	SW	14	6.3			10s		SW	0	0	Cloudy	
Knoxville, Tenn.			30.00	762.0	46	7.8	54	NW	6	2.7			10ks		SW	0.15	3.8	Cloudy	
La Crosse, Wis.			29.90	759.4	38	3.3	71	W	4	1.8			10s		W	0.02	0.5	Cloudy	
Leavenworth, Kan.			30.08	764.0	31	— 0.6	89	Calm	0	0		0	0			0	0	Clear	
Louisville, Ky.			30.00	762.0	44	6.7	84	W	4	1.8			10s		W	0.05	1.3	Cloudy	
Lynchburg, Va.			29.80	756.9	60	15.6	73	W	3	1.3		0	0			0.18	4.6	Clear	
Malone, N. Y.			29.40	746.7	49	9.4	71	W	20	8.9			10s		W	0.16	4.1	Cloudy	
Marquette, Mich.			29.80	756.9	35	1.7	80	W	5	2.2			10s		NW	0.48	12.2	Threatening	
Memphis, Tenn.			30.12	765.0	42	5.6	83	NW	2	0.9		0	Fog			0	0	Clear	
Milwaukee, Wis.			29.92	760.0	30	— 1.1	89	W	8	3.6		5c	Fog	W		1.06	26.9	Fair	
Mobile, Ala.			30.03	762.7	54	12.2	73	N	12	5.4		5c	0	NW		0.42	10.7	Fair	
Montgomery, Ala.			30.04	763.0	52	11.1	69	NW	9	4.0		0	Haze			1.05	26.7	Clear	
Morgantown, W. Va.	28.84	732.5	29.90	759.4	46	7.8	76	W	13	5.8			10s		W	0.29	7.4	Cloudy	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	38	3.3	100	W	48	21.5			Fog			0.83	21.1	Foggy	
Nashville, Tenn.			30.03	762.7	47	8.3	69	NW	3	1.3		10k	0	W		0.18	4.6	Cloudy	
New Haven, Conn.			29.69	754.1	62	16.7	83	SW	10	4.5			10s		SW	0.15	3.8	Cloudy	
New London, Conn.			29.68	753.9	59	15.0	100	SW	11	4.9			10n			0.10	2.5	Light rain	
New Orleans, La.			30.05	763.3	56.5	13.6	66	N	12	5.4		5c	0	W		0.02	0.5	Fair	
Newport, R. I.			29.69	754.1	57	13.9	100	SE	16	7.2			10n		SW	0.22	5.6	Light rain	
New York, N. Y.			29.71	754.6	59	15.0	88	SW	10	4.5			10s		SW	0.25	6.3	Cloudy	
Norfolk, Va.			29.82	757.4	65	18.3	89	S	6	2.7			10n		SW	0.28	7.1	Light rain	
North Platte, Neb.	26.93	684.0	29.62	752.3	21	— 6.1	56	Calm	0	0		0	2ks			0	0	Clear	
Omaha, Neb.	28.86	733.0	29.98	761.5	29	— 1.7	89	Calm	0	0		2ck	0	W		0	0	Fair	
Oswego, N. Y.			29.72	754.9	48	8.9	66	W	20	8.9			10ks		W	0.05	1.3	Cloudy	
Pembina, Dakota			29.82	757.4	28	— 2.2	88	Calm	0	0			10s			0.01	0.3	Cloudy	
Philadelphia, Pa.			29.76	755.9	59	15.0	70	NW	17	7.6		2ck	5s	SW	W	0.22	5.6	Cloudy	
Pike's Peak, Col.	17.57	446.3	29.78	756.4	5	—15.0	100	W	26	11.6		2s	0			0.04	1.0	Fair	
Pittsburgh, Pa.			29.86	758.4	45	7.2	76	W	20	8.9		1c	9ks	W	W	0.29	7.4	Cloudy	
Port Huron, Mich.			29.79	756.7	39.1	3.9	81	SW	9	4.0		Haze	2s		W	0.15	3.8	Hazy	
Portland, Me.			29.60	751.8	49	9.4	93	Calm	0	0			Fog			0.04	1.0	Foggy	
Portland, Oregon			30.02	762.5	36	2.2	90	SE	1	0.4			10s			0	0	Foggy	
Punta Rassa, Fla.			29.98	761.5	71.5	21.9	87	E	4	1.8		2c	Haze	SW		0	0	Fair	
Rochester, N. Y.			29.71	754.6	45	7.2	60	W	21	9.4		8k	0	W		0.16	4.1	Fair	
Salt Lake City, Utah	25.51	647.9	29.84	757.9	32	0.0	79	NW	2	0.9		0	0			0	0	Clear	
Sandy Hook, N. J.			29.68	753.9	61	16.1	83	SW	12	5.4			10ks		SW	0.13	3.3	Cloudy	
San Diego, Cal.			29.92	760.0	47	8.3	77	Calm	0	0		0	5s			0	0	Fair	
San Francisco, Cal.			29.92	760.0	50	10.0	89	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.08	586.2	29.62	752.3	33	0.6	79	E	6	2.7		5k	0			0	0	Fair	
Savannah, Ga.			29.91	759.7	67	19.4	90	SW	4	1.8		5c	Smoke			0	0	Fair	
Shreveport, La.			30.19	766.8	42	5.6	83	N	2	0.9		0	0			0	0	Clear	
Smithville, N. C.			29.90	759.4	69	20.6	90	SW	10	4.5			10ks		SW	0.04	1.0	Cloudy	
Springfield, Mass.			29.61	752.1	59	15.0	90	SW	4	1.8		2cs, hz.	8s	SW	S	0.03	0.8	Cloudy	
St. Louis, Mo.			30.06	763.5	41	5.0	73	NW	8	3.6			10s			0	0	Cloudy	
St. Marks, Fla.			29.94	760.5	68	20.0	94	NW	2	0.9		2cs	5s	W	NW	0	0	Fair	
St. Paul, Minn.			29.86	758.4	36	2.2	70	SW	3	1.3			10s			Inap.	Inap.	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.61	752.1	54	12.2	93	S	16	7.2			10s		W	0	0	Cloudy	
Toledo, Ohio			29.83	757.7	44	6.7	67	SW	10	4.5			10n		SW	0.07	1.8	Light rain	
Tucson, Arizona	27.42	696.5	29.97	761.2	40	4.4		S				8c	0	NW		0	0	Fair	
Tybee Island, Ga.			29.88	758.9	65	18.3	100	SW	4	1.8		5c	2s	SW		0	0	Fair	
Vicksburg, Miss.			30.16	765.8	41	5.0	91	NE	4	1.8		0	0			0.01	0.3	Clear	
Virginia City, M. T.	24.05	610.9	29.53	750.0	27	— 2.8	88	SW	8	3.6			10ks		W	0	0	Cloudy	
Washington, D. C.			29.80	756.9	56	14.4	57	NW	20	8.9			8s		SW	0.08	2.0	Clearing	
Wilmington, N. C.			29.89	759.2	67	19.4	94	S	5	2.2			10s		SW	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.71	754.6	57	13.9	93	SW	16	7.2			10s		SW	0.65	16.5	Cloudy	
Yankton, Dakota	28.65	727.7	29.99	761.7	26	— 3.3	75	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona			29.89	759.2	58	14.4		NE				0	2s		NW	0	0	Fair	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.07	763.8	78	25.6	82	Calm	0	0		5c	0			0	*0		James Gall.
Navassa, W. I.					78	25.6		E			1					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.14	689.3	29.92	760.0	66	18.9	90	NE	1.0	0.4		2c	0	NE		0.10	2.5	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.99	761.7	84	28.9	75	E			2	5k	5k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			82.4	28.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.2	17.9	87	SW			2		10n			0.84	21.3	Cloudy	Thomas Herran.
York Factory, B. A.			29.87	758.7	1.0	—17.2	86	NW	7	3.1			9s			0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	73.5	23.1		E			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
MARINE SERIES.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Greenwich Pier.			29.70	754.4	62	16.7	77	SW	2	0.9			8ks		NW			Cloudy	Capt. James Jorgensen
Steamer Leipzig. N. 49°, 50′, W. 5°, 56′.	E	10	30.28	769.1	57.9	14.4		E			3		..k		E	Smooth		Blue sky	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Farenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 4, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie en Algérie.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.25	768.3	67.1	19.5	46	Calm			0		2			0	0	Clear	Charnot.
Algiers			30.26	768.6	63.3	17.4	57	NNW			1		2			0	0	Clear	Peter.
La Calle			30.14	765.5	57.2	14.0	87	SW			3		9			0.787	20.0	Hidden	Fleury.
Tunis			30.15	765.9	60.6	15.9	77	NW			4		8			0.114	2.9	Cloudy	Jacques.
Sfax			30.13	765.4															
Saïda			30.13	765.2	62.6	17.0	21	SSE			1		2			0	0	Clear	Millot.
Tebessa			30.14	765.5	50.0	10.0		NW			4		10			0	0	Hidden	Bourgeois.
Geriville			30.29	769.3	54.5	12.5	30	NE			3		2			0	0	Clear	Lemaillot.
Laghouat			30.28	769.2	55.4	13.0	38	N			2		0			0	0	Clear	Guyot.
Biskra			30.22	767.5	67.3	19.6	20	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.95	760.6	46.2	7.9	73	SW			2		6			0.039	1.0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.04	762.9	32.7	0.4	96	W			3		10			0.228	5.8		Dr. Wierzbiski.
Eperies			29.97	761.1	32.4	0.2	83	S			2		10			0	0		Julius Mikolik.
Gratz	28.66	728.0	29.93	760.1	48.9	9.4	70	SW			2		9			0	0		Andreas Rospini.
Hermannstadt	28.45	722.6	29.92	760.0	37 8	3.2	83	NE			1		10			0.126	3.20		Prof. Reissenberger.
Kremsmünster	28.60	726.3	29.97	761.3	39.9	4.4	84	W			3		10			0.402	10.2		Prof. C. Wagner.
Lemberg			29.90	759.5	34.5	1.4	89	NW			1		10			0.031	0.8		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.97	761.1	55.6	13.1	61	WNW			1		108			0	0		I.R.Hydrographic Of'ce
Szegedin			30.09	764.3	43.7	6.5	75	Calm			0		10			0	0		Karl Stancel.
Trieste			29.98	761.5	56.3	13.5	65	Calm			0		10			0	0		Prof. V. Farolfi.
Vienna			29.90	759.4	42.8	5.7	86	W			3		10			0.441	11.2	Raining	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.22	767.6	44.8	7.1	84				1		10ks		NE	0.378	9.60	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.36	771.1	46.9	8.3		SE	8	3.6			5			0.095	2.4	Blue sky	William Boswell.
Ardrossan			30.32	770.1	51	10.6		NE			1		8					Foggy	William McNeil.
Armagh, Observatory			30.35	770.9	52.9	11.6		SW	2	0.9			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.34	770.6	52.1	12.2		Calm			0		8					Misty	J. Dreyer.
Bradford			30.32	770.1	51.4	10.8		N			1		10			0.12	3.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.5	29.2		NE			1		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.30	769.6	51.8	11.0		NNW			1		10					Raining	H. Todd. [H.C.
Cardington			30.30	769.6	53.0	11.7		NW			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.31	769.9	52.8	11.6							7					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	-5.87	733.3	30.48	774.2	58.0	14.4		Calm			0		5					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.76	628.9			31.8	— 0.1	78	E			2		10			0.441	11.2	Snowing	Francis Redford, M. A.
Donaghadee			30.32	770.1	54	12.2		NNW			3		8					*D. clouds	J. Mac Gowan.
Dover			30.25	768.3	54	12.2		NNE			3		10					Misty	J. Costello.
Eccles, (near Manchester)			30.30	769.6	51.6	10.9		SW					10					Foggy	Thomas Mackereth.
Falmouth, Observatory			30.34	770.6	55.9	13.3		SE			1		2					*D. clouds	The Staff.
Fort Napier, (Natal)	-7.67	702.8	29.91	759.7	64.9	18.3		E			1		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.98	761.5	74.0	23.3		Calm?			1?		10					Overcast	
Galway, Queen's College			30.27	768.8	49	9.4		Calm			0		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.21	767.3	64.5	18.1		E			4		0					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.31	769.9	49.4	9.7		NE			2							Misty	Lewis Stuart.
Great Yarmouth			30.29	769.4	48	8.9		ESE			4		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.30	769.6	53.4	11.9		N			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			30.31	769.9	57.5	13.7		NNE			1		4					*D. clouds	Dr. S. F. Hoskins.
Helston			30.32	770.1	57	13.9		E			4		2c			0	0	*D. clouds	M. P. Moyle.
Holyhead			30.32	770.1	55	12.8		WNW			1		4?					Overcast?	John Tilston.
Kew, Observatory			30.30	769.6	53.4	11.9		W	3	1.3			10					Misty	The Staff.
Kingstown			30.36	771.1	52	11.1		WNW			2		10					Misty	George Mitchell.
Leicester Museum			30.33	770.4	52.5	11.4		Calm			0		10					Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.94	760.5	65.2	18.4		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.30	769.6	47	8.3		WNW			1		10					Raining	W. D. Penny.
Nassau, (Bahamas)			30.12	765.0	79.0	26.1		NE			1		2					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.33	770.4	52.5	11.4		WNW			1		10k		WNW	0.256	6.3	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.31	769.9	51.8	11.0		NW			0–1		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.29	769.4	54	12.2		NW			1		10			Blank	Blank	Misty	J. Lucas.
Plymouth			30.31	769.9	56.8	13.8		ENE			1		6					*D. clouds	John Merrifield.
Roche's Point			30.31	769.9	53	11.7		NW			2		5					Foggy, cl'dy	W. Kennedy.
Saint Ann's Head			30.35	770.9	56	13.3		Calm			0		9					Misty	John C. Walker.
Saint Helier, (Jersey)			30.29	769.4	59.6	15.3		NE			3		0					Clear	A. P. Amy.
Sandwick Manse, (Orkneys)			30.34	770.6	44.5	6.9		SE	10	4.5			0					Blue sky	Rev. C. Clouston, L.L. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.80	756.9	48.4	9.1		N			3		10					Raining	Sergt. W. H. Lyne.
Sheffield			30.33	770.4	53.1	11.7		NE			1		10			0.017	0.43	Overcast	W. F. Cooper.
Silloth Rectory			30.32	770.1	52.3	11.3	84	W			2		7			0.040	1.02	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.32	770.1	50.4	10.2		NE			0		10					Overcast	Rev. S. J. Perry.
Stornoway, Lewis Co., (Hebr.)			30.25	768.3	50	10.0		Calm			0		10					Overcast	John Smith.
Stratfield Turgiss			30.31	769.9	53.5	11.9		NE			1		10					Overcast	Rev. Charles H. Griffith.
Thurso			30.31	769.9	49	9.4		S			1		4					*D. clouds	John Trotter.
Truro, Royal Institution			30.31	769.9	58	14.4		NW			4		4					*D. clouds	W. Newcombe.
Valencia, Observatory			30.32	770.1	57.9	14.4		SSE	16	7.2			5					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					55	12.8		W			3		5			0.80	20.3		Thomas Dawson.
Cape Good Hope, Obs'y			29.99	761.7	70.6	21.4	57	SSW	30	13.4		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.44	747.8	68.0	20.0	78	N			2		5k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.36	771.1	50.0	10.0		E			2	10ck				0.02	0.5	Overcast	Andrew Gibb.
Mauritius, Observatory			29.95	760.7				NNE	7.0	3.1						0	0		C. Meldrum.
Melbourne, Observatory			29.51	749.5	68.9	20.5	54	NE	4	1.8			0			0	0	Fine	L. L. J. Ellery.
Monach L't-house, (Hebrides)			30.26	768.6	52	11.1		SW			3		10			0.1	2.5		J. Youngclause.
North Unst, (Shetland Is.)			30.32	770.1	45	7.2		NW			4		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
SECRETARY OF THE EXTERIOR DEPARTMENT.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.14	765.6	36.1	2.3	79	WNW			2		1						
Faröe			30.22	767.5	44.8	7.1	70	NW			4		7						
Godthaab, (Greenland)																			
Stykkishólm, (Iceland)			30.13	765.3	40.5	4.7	94	SE			4		8						
Thorshavn, (Faröe)			30.29	769.3	45.1	7.3	79	Calm			0		9						
Vestervig			30.21	767.3	40.3	4.6	73	NW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, we [illegible] by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Alengon			30.32	770.0	49.6	9.8	93	NE			3		10			0	0	Covered	Normal School.
Amiens			30.22	767.6	54.0	12.2	86	E			3		5		E	0.217	5.5	Cloudy	Normal School.
Avignon			30.12	765.1	54.0	12.2	46	N			8		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.23	767.9	44.8	7.1	91	W			1		10			0.051	1.3	Light fog	C. Saillard.
Beaumette, (near Angers)			30.32	770.2	52.7	11.5	83	N	4.0	1.8					N	0	0		Beaumette Observ'tory
Beauvais			30.28	769.2	54.3	12.4	70	ENE			1		10			0.010	0.25	Covered	Normal School.
Besançon			30.28	769.2	42.1	5.6	91	S			2		8		SW	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.35	770.9	42.6	5.9	88	N			2		10n		S	0	0	Covered	Normal School.
Bourges			30.31	769.8	45.7	7.6	90	SW			2		10		SW	0	0	Covered	Normal School.
Brest			30.27	768.8	55.6	13.1	86	Calm			0		10			0	0	Misty	Naval Observatory.
Carcassonne			30.31	769.9	53.6	12	57	W			4		5		E	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			30.20	767.1	47.3	8.5	96	NE			2		5		SE	0	0		Normal School.
Châlons-sur-Marne			30.22	767.5	50.5	10.3	86	NW			2		10n			0.039	1.0	Covered	Normal School.
Clermont			30.26	768.6	53.6	12.0	39	N			1		8			0	0		Puy de Dome Obs'y.
Commercy			30.24	768.0	43.9	6.6	97	W			4		10kr		W	0.150	3.8	Covered	Normal School.
Commune de Gréasque*			30.02	762.6	54.1	12.3	31	NW			8		5		NW	0	0		M. Kina.
Grenoble			30.26	768.7	41.4	5.2	86	NE			2		2ks		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					56.1	13.4	71	NE			1		8		SE	0	0	Very cloudy	Normal School.
Le Mans			30.31	769.8	52.3	11.3	78	NE			2		8		NE	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.27	768.9	42.3	5.7	97	SE			1		10			0.126	3.2	Raining	Normal School.
Lorient			30.36	771.2	58.6	14.8	66	N			1		5		NNW	0	0	Cloudy	Naval Observatory.
Mâcon			30.33	770.3	43.2	6.2	88	NW			1		5			0	0	Cloudy	Normal School.
Metz			30.24	768.0	45.7	7.6	92	W			2		10			0	0		M. Schuster.
Mirecourt			30.22	767.6	46.0	7.8	88	NW					10		E	0	0	Covered	Normal School.
Nismes			30.12	765.1	55.8	13.2	45	NW			2		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			30.24	768.0	50.4	10.2	93	NNW			2		2		N	0	0	Slightly cl'dy	Normal School.
Paris, Observatory			30.26	768.7	53.1	11.7	75	NW			2		8k		N	0.036	0.92	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			30.22	767.6	49.5	9.7		N			2		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.34	770.6	54.5	12.5	67	ENE			2		0			0	0	Blue sky	Naval Observatory.
Rouen			30.29	769.3	55.0	12.8	83	NW			1		2		W	0	0	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	29.15	740.4	30.25	768.4	51.8	11		NW			1		0			0	0	Clear	Normal School.
Villefranche			30.30	769.6	45.9	7.7	70	NNW			2		10			0	0	Covered	Normal School
Sub-Series.																			
Fort de France, Martinique			29.84	758.0	78.8	26													L'Abbé Marchésl.
Marseilles			30.02	762.5	54.9	12.7	35	NW			6		8			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	25.00	635.1	30.39	771.9	47.3	8.5	43	NNW	18.6	8.33			2		N	0	0		—, Falguère.
Montsouris, Paris			30.25	768.3	52.9	11.6	76	NW			2		10		NNW	0.039	1.0		Montsouris Observ'tory.
Perpignan			30.19	766.9	62.8	17.1	25	N	22.4	10.00			6		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.39	543.2			33.1	0.6		N					2					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.3			39.6	4.2		N			2		2			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.26	768.6	53.4	11.9	78	NW			1		8			0.055	1.4	Covered	E. Renou.
Toulouse			30.34	770.7	52.5	11.4	61	NW			1		7			0	0		Toulouse Observatory.
Tours			30.29	769.3	50.7	10.4	82	NW			1		5		N	0.020	0.5		C. Marquet.
Versailles, (near Paris)			30.27	768.8	52.9	11.6	84	N			1		8			0.048	1.21	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.4	42.4	5.8	73	NW	3.8	1.70			10			0.008	0.20		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 324 meters, or 1,063.1 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bamberg			30.17	766.3	35.1	1.7	88	N			6		8	N		0.079	2.0	Rain & snow	Prof. T. Hoh.
Berlin			30.17	766.3	40.8	4.9	44	N			1		0			0.197	5.0		Prof. Arndt.
Breslau			30.08	764.0	36.5	2.5	55	N			3		5	N		0.150	3.8		Royal University Obs'y.
Carlsruhe			30.11	764.9	43.9	6.6	94	SW			4		10			0.854	21.7		A. Senz.
Cassel			30.26	768.7	37.9	3.3	66	NE			4		2	NE		0	0		Dr. H. Möhl.
Emden			30.35	771.0	41.5	5.3	67	E			1		0			0.354	9.0		Prof. Prestel.
Frankfort on the Main			30.19	766.7	43.7	6.5	60	NNE			5		4			0.193	4.9		Physical Society.
Friedrichshafen			30.19	766.8	41.9	5.5	89	SW			8		10			0.150	3.8	Raining	M. Wilhelm.
Hamburg			30.28	769.1	40.8	4.9	58	NNW			3		1s			0.280	7.1	Clear	Captain F. Hegemann.
Kiel			30.23	767.9	41.2	5.1	46	NW			2		0			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.88	758.9	37.4	3.0	66	NW			5		4			0.185	4.7	Snowing	Prof. E. Luther.
Köslin			30.10	764.4	40.1	4.5		NW			1		2			0	0		H. Müller.
Leipsic			30.21	767.2	34.7	1.5	85	N			2		6	N		0.366	9.3	Snowing	Prof. Bruhns.
Memel			29.80	756.9	35.4	1.9	71	N			7		7s			0.358	9.1	Squally	Reinbrecht & Skalweit.
Münster			30.25	768.4	44.6	7.0	86	NE			2		10			0.390	9.9		Prof. E. Heis.
Neufahrwasser			30.00	762.0	41.7	5.4	69	N			6		5			0.055	1.4		A Lothe.
Posen			30.10	764.4	38.3	3.5	59	NW			5		2						Dr. Magener.
Strassburg, (in Alsace)			30.17	766.2	44.6	7.0	93	SW			1		10	SW		0.331	8.4	Raining	Dr. Schur.
Stuttgart			30.07	763.6	44.2	6.8	88	W			2		10			0.362	9.2	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.08	763.9	50.0	10.0	78	N			6		3			0.008	0.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.51	724.1	30.07	763.6	37.6	3.1	91	NNE	11	5			10	NW		0.248	6.3	Raining	Dr. von Bebber.
Wustrow, Naval School			30.23	767.7	41.7	5.4	52	NW			4		4			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," At Funchal.			30.17	766.2	72.5	22.5	92	E			2		3		N				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.79	756.6	61.7	16.5		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.95	760.6	48.6	9.2	53	Calm	0	0			10			0	0		Prof. Giovanni Clodig.
Padua			29.95	760.6	43.5	6.4	77	NNW	2.7	1.1			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.96	761.0	47.1	8.4	57	SE	0	0			9			0	0		Alm. Da Schio.
Verona			29.95	760.7	42.4	5.8	60	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.61	726.7	29.96	761.0	48.2	9.0	49	S			2		9			0	0		Prof. Trionfini Carlo.
Domodossola			29.93	760.3	55.8	13.2	35	N			6		3			0	0		Prof. Giuseppe Calzia.
Milan																			Ab. Gio. Capelli.
Pavia			29.98	761.5	49.5	9.7	57	S			2		7			0	0		Prof. Gio. Cantoni.
Moncalieri			30.00	762.1	49.8	9.9	59	NNW	0.7	0.3			2	NE		0	0		Prof. P. F. Denza.
Mondovi	28.07	712.9	30.03	762.8	46.8	8.2	59	NW			2		2	N		0	0		Prof. C. Bruno.
Porto Maurizio			30.00	762.1	58.3	14.6	50	W			2		6			0	0		Prof. L. Vassallo.
Genoa			29.97	761.2	62.2	16.8	42	Calm	0	0			4	N		0	0		Prof. Garibaldi.
Piacenza			30.00	762.0	46.9	8.3	69	SW	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			29.97	761.1	49.8	9.9	67	SW			2		10			0	0		Prof. P. Pigorini.
Bologna			30.04	762.9	48.2	9.0	45	NW			1		7	SE		0	0		Prof. A. Palagi.
Florence			30.01	762.3	49.1	9.5	72	W			2		10	W		0	0		Cav. F. Meucci.
Leghorn			29.98	761.4	54.7	12.6	53	NE	2.5	1.1			10			0	0		Prof. P. Monte.
Siena	28.75	730.3	29.99	761.7	51.6	10.9	55	NW	0	0			10	N		0.016	0.4	Light rain	Prof. L. Toscani.
Urbino	28.49	723.6	30.06	763.4	49.8	9.9	72	S			2		10			0	0		Prof. P. Serpieri.
Pesaro			29.98	761.6	54.5	12.5	62	E	13.0	5.8			10	W		0.031	0.8	Light rain	Prof. Luigi Guidi.
Ancona			29.98	761.5	55.4	13.0	57	W			4		10			0.039	1.0	Light rain	Prof. F. De—Bosis.
Grosseto			30.02	762.5	57.2	14.0	49	NW			2		8	SE		0	0		Avv. P. Ponticelli.
Rome			29.96	761.0	59.9	15.5	37	N	1.5	0.6			9			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.98	761.5	61.2	16.2	34	NNE			4		3	N		0	0		Prof. L. Palmieri.
Lecce			29.93	760.2	55.4	13.0	60	NNW	15.0	6.7			7			0	0		Prof. C. De—Giorgi.
Cosenza			29.97	761.1	56.3	13.5	65	SE	4.5	1.9			2			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.88	759.0	64.4	18.0	72	SE			2		8			0	0		Prof. F. Cafiero.
Palermo			29.90	759.4	61.0	16.1	57	WNW	2.7	1.1			7			0.047	1.2	Light rain	Prof. G. Cacciatore.
Caltanissetta	28.00	711.3	29.96	761.0	54.0	12.2	63	WNW			6		10	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.98	761.5	58.6	14.8	34	SW	0	0			4	W		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.28	769.2	48.2	9.0		ENE			4								
Groningen			30.26	768.6	42.1	5.6		NE			3								
Helder			30.31	769.9	42.8	6.0		NE			2								
Utrecht			30.23	767.8	43.7	6.5	54	ENE			4		2			0.020	0.5	Light cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.26	768.7	36.0	2.2	82	Calm	0	0			2			0.177	4.5		
Brönö			30.07	763.6	30.6	— 0.8	66	Calm	0	0			3			0	0		
Christiania			30.16	766.0	37.8	3.2	54	WNW	6.3	2.8			2			0	0		
Tromsö			30.04	762.9	25.5	— 3.6	82	SW	4	2			0			0.028	0.7		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.84	758.0	67.1	19.5	92	S	3.1	1.4			6			0.713	18.1		Dr. J. A. Sampaio.
Campo Major			30.23	767.8	69.8	21.0	30	ENE	2.5	1.1			0			0	0		Dr. A. M. R dos Santos.
Funchal, (Madeira,)			30.11	764.9	71.2	21.8	84	Calm	0	0			9			0.114	2.9	Raining	Capt. D. A. de Cunha.
Lisbon			30.27	768.9	62.4	16.9	56	NE	8.7	3.9			0			0	0		The Observatory.
Ponta Delgada, (Azores)			29.90	759.4	68.0	20.0	80	ESE	3.7	1.67			3			0.217	5.5		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.97	761.1	37.0	2.8	64	NW	11	5			3						Astronomical Obs.
Wilna			29.77	756.1	34.7	1.5	76	W	7	3			8						Astronomical Obs.
Dorpat			29.59	751.5	30.7	— 0.7	92	NNW	7	3			10					Light snow	Physical Cabinet.
St. Petersburg			29.50	749.4	31.3	— 0.4	99	NE	9	4			10					Light snow	Central Physical Obs.
Kuopio			29.78	756.5	19.8	— 6.8	100	NE	13	6			10						Ch. Forsten.
Kieff			29.77	756.0	37.4	3.0	69	NNW	4	2			9						Physical Cabinet.
Nikolaiev			29.55	750.5	33.3	0.7	94	NNW	7	3			10						Kurdakof
Kertch			29.77	756.1	54.7	12.6	97	Calm	0	0			10					Rain & fog	Lagorio.
Moscow			29.62	752.3	34.2	1.2	87	S	9	4			8						Meteorological Obs.
Lugan			29.76	755.9	39.6	4.2	97	ENE	11	5			10			Blank	Blank		Meteorological Obs.
Archangel			29.78	756.3	26.6	— 3.0	91	ENE	7	3			10						Ogorodnikof.
Tiflis	28.66	728.0	30.07	763.7	62.2	16.8	62	Calm	0	0			0						Physical Observatory.
Astrakhan			30.06	763.5	47.7	8.7	86	SE	13	6			10						Sebastianof.
Kasan			29.95	760.6	29.1	— 1.6	94	Calm	0	0			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.07	738.4	30.06	763.4	31.5	— 0.3	51	S	4	2			10						Meteorological Obs.
Nukuss			30.37	771.4	36.7	2.6	65	ENE	7	3			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.58	776.7	13.5	—10.3	100	NW	0	0			10						Meteorological Obs.
Yeniseisk			30.36	771.2	15.8	— 9.0	86	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.22	767.5	39.6	4.2	57	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.93	760.2	30.9	— 0.6	62	NW	2	1			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,541.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.26	768.5	61.0	16.1	45	SE	2.9	1.06		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.23	767.8	71.0	22.0	46	ESE	8.1	3.6		0	0			0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.02	762.4	17.6	— 8.0	88	N			2		0			0	0		
Umea			30.06	763.5	18.5	— 7.5	86	NNW			2		10			0	0		
Hernosand			29.97	761.3	26.2	— 3.2	78	N			2		1			0.024	0.6		
Stockholm			29.96	760.9	30.2	— 1.0	94	NNW			4		5			0.028	0.7		
Wisby			29.95	760.6	36.0	2.2	89	N			8		10			0.020	0.5		
SUB-SERIES.																			
Upsala			29.99	761.7	28.4	— 2.0	94	NW	15.4	6.9			10			0.025	0.62	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.78	731.0	30.24	768.1	42.3	5.7	83	S			1		10			0	0	Misty	The Observatory.
Zurich	28.54	724.8	30.22	767.6	40.5	4.7	90	W			1		10			0.465	11.8	Raining	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +4.8 mm; Thermometer, —3.2 cent.; Relative Humidity, +8 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.85	758.3	48.4	9.1	92	N	16	7.0			10		N	0.992	25.2	Raining	
Fao, (Persian Gulf)			30.23	767.7	82.4	28.0		NW			1		0						
Salonica			29.85	758.2	60.4	15.8		NW			4		5						
Valona			29.81	757.2	55.9	13.3		NW			2		5						
Varna			29.80	757.0	42.8	6.0		NE			2		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.94	760.4	75.9	24.4	67	NE			2		3cs			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.70	754.4	38.8	3.8		NW	7	3.1			9			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.18	766.6	33	0.6		Calm	0	0			10s		W	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			29.70	754.4	37	2.8	85	W	11	4.9		8k	2ks	W	W	0.11	2.8	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.71	754.6	43	6.1	75	W	15	6.7		5k	0			0.06	1.6	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			30.08	764.0	34.7	1.5	83	SW			1		10s			0.22	5.6	Fair	James Smith, M. A.
Dalhousie, N. B			29.73	755.1	36.2	2.3	80									0.42	10.7	Threatening	H. A. Johnson.
Esquimault, B. C			29.70	754.4	42.3	5.7	100	N					10			0.41	10.4	Rainy	W. H. Bevis.
Fredericton, N. B			29.85	758.2	39.1	3.9	72	W	13	5.8			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.27	768.8	6	—14.4	95	N	6	2.7		5ck	5ks	N	N	0.06	1.57	Fair	James Stewart.
Goderich, Ontario			30.22	767.6	41.9	5.5	86	NW			2		10n			0.23	5.99	Unsettled	H. J. Strang, M. A.
Granton, Ontario	29.07	738.4	30.21	767.3	36	2.2		W			1	1cs	0	E		0	0	Clear	James Grant.
*Halifax, N. S			29.73	755.1	46	7.8	93	W	10	4.5			5ks		NW	0.103	2.6	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.16	766.1	39	3.9	95	Calm	0	0		5ck	2s			0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.63	752.6	51.0	10.6	94	NW	4	1.8		1k	0	NW		0.25	6.3	Clear	C. H. Rigby.
*Montreal, Quebec			30.07	763.8	34	1.1	83	W	16	7.2		2k	0	W		0.01	0.3	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.09	764.3	34	1.1	81	S	2	0.9			10ks		W	Inap.	Inap.	Threatening	J. B. Haney.
*Parry Sound, Ontario			30.16	766.1	38	3.3	81	W	13	5.8		0	0			0.08	2.0	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.21	767.3	40	4.4	73	W	7	3.1		10k	0	NW		0	0	Cloudy	H. Morgan.
Port Hastings, N. S			29.70	754.4	54.8	12.7		NW	5	2.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.21	767.3	41	5.0	78	W	12	5.4			10ks		W	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.00	762.0	34	1.1	71	SW	1	0.4		2k	0	W		0.03	0.8	Clear	Capt. Ashe, R. N.
St. John, N. B			29.88	758.9	39	3.9	82	W	10	4.5		5k	0			0	0		G. Murdoch, C. E.
*Saugeen, Ontario			30.15	765.8	40	4.4	78	W	4	1.8			10n			0.12	3.0	Cloudy	K. Stewart.
Stayner, Ontario			30.17	766.3	39	3.9	80	NW	8	3.6		8k	0	NW		Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.88	733.5	30.22	767.6	33.2	0.7	92	W	4	1.8		5ck	0	NW		0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.68	753.9	53	11.7	93	SW	5	2.2		0	2ks			0.24	6.1	Clear	T. C. Hill.
*Toronto, Ontario			30.20	767.1	39	3.9	82	W	7	3.1			8ks		W	0.04	1.0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.22	767.6	36.6	2.6	86	W	2	0.9			7ks			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.84	757.9	39.0	3.9	100	SE	2	0.9		5ks	5n			0.02	0.5	Light rain	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.10	764.5	44	6.7	84	Calm	0	0		5k	5ks	NW	NW	0	0	Cloudy	
Alpena, Mich.			30.17	766.3	36	2.2	80	SW	8	3.6		10ck	0	SW		0	0	Cloudy	
Atlantic City, N. J.			30.18	766.6	43	6.1	75	NW	8	3.6		0	0			0.06	1.5	Clear	
Augusta, Ga.			30.19	766.8	48	8.9	78	N	2	0.9		0	0			0	0	Clear	
Baltimore, Md.			30.26	768.3	45	7.2	60	NW	4	1.8		Haze	Sm'e			Inap.	Inap.	Smoky	
Barnegat, N. J.			30.16	766.1	45	7.2	67	NW	17	7.6		0	0			0.01	0.3	Clear	
Bismarck, Dakota	.8.34	719.8	30.12	765.0	14	—10.0	81	NE	3	1.3			10s			0.07	1.8	Cloudy	
Boston, Mass.			30.02	762.5	40	4.4	72	W	8	3.6		0	Haze			0	0	Clear	
Breckenridge, Minn.			30.07	763.8	24	— 4.4	88	NW	16	7.2			10n		NW	Inap.	Inap.	Light snow	
Buffalo, N. Y.			30.17	766.3	42	5.6	65	NW	8	3.6		10k	0	NW		0	0	Clearing	
Burlington, Vt.			30.07	763.8	35	1.7	61	E	4	1.8		2k	0	N		0	0	Fair	
Cairo, Ill.			30.26	768.6	39	3.9	63	NE	2	0.9		5c	0			0	0	Fair	
Cape Hatteras, N. C.			30.08	764.0	57	13.9	57	NE	28	12.5			10s		NE	0.11	2.8	Cloudy	
Cape Henry, Va.			30.21	767.3	52	11.1	66	N	18	8.0		2k	0	NW		0	0	Fair	
Cape Lookout, N. C.			30.17	766.3	57	13.9	69	NE	28	12.5			10s			0	0	Cloudy	
Cape May, N. J.			30.18	766.6	47	8.3	69	N	28	12.5		0	0			0.05	1.3	Clear	
Charleston, S. C.			30.15	765.8	55	12.8	68	NE	12	5.4		0	0			0	0	Clear	
Cheyenne, Wyoming	23.89	606.8	29.83	757.7	29	— 1.7	48	SW	4	1.8		5ck	0	W		0	0	Fair	
Chicago, Ill.			30.21	767.3	43	6.1	58	SW	7	3.1			10s			0	0	Cloudy	
Cincinnati, Ohio			30.27	768.8	41	5.0	73	N	1	0.4			Fog			0	0	Foggy	
Cleveland, Ohio			30.27	768.8	39	3.9	63	SW	9	4.0		0	5s		N	0	0	Fair	
Corsicana, Tex.			30.06	763.5	55	12.8	68	SE	3	1.3			10s			0	0	Cloudy	
Davenport, Iowa			30.18	766.6	43	6.1	74	SW	10	4.5			Fog			0	0	Foggy	
Denison, Tex.			30.07	763.8	54	12.2	93	SE	7	3.1			10s			0	0	Cloudy	
Denver, Col.	24.69	627.1	29.91	759.7	27	— 2.8	77	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			30.23	767.8	40	4.4	73	W	4	1.8			10s		W	0	0	Cloudy	
Dodge City, Kan.	27.29	693.2	29.63	752.6	34	1.1	80	S	4	1.8		2c	0	W		0.18	4.6	Clear	
Dubuque, Iowa			30.15	765.8	42	5.6	83	S	5	2.2			10s			0	0	Cloudy	
Duluth, Minn.			30.06	763.5	35	1.7	80	Calm	0	0			10n			0.02	0.5	Light snow	
Eastport, Me.			29.87	758.7	40	4.4	73	W	12	5.4		0	0			0.05	1.3	Clear	
Erie, Pa.			30.21	767.3	45	7.2	60	NW	12	5.4			10ks		NW	0	0	Cloudy	
Escanaba, Mich.			30.14	765.5	33	0.6	79	SW	6	2.7			10s		W	0	0	Cloudy	
Fort Gibson, Indian Ter.			30.05	763.3	48	8.9	62	SE	7	3.1			10s			0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.76	730.5	29.88	758.9	47	8.3	60	S	7	3.1		2cs	0			0	0	Fair	
Fort Sully, Dakota																			
Florence, Arizona	28.43	722.1	29.96	761.0	50	10.0		SE				0	0			0	0	Clear	
Galveston, Tex.			30.06	763.5	68	20.0	79	SE	8	3.6			10s		S	0	0	Cloudy	
Grand Haven, Mich.			30.19	766.8	43	6.1	58	W	9	4.0		0	5s		W	0	0	Fair	
Indianapolis, Ind.			30.32	770.1	34	1.1	90	Calm	0	0		0	Fog			0	0	Foggy	
Indianola, Tex.			30.01	762.2	71	21.7	85	SE	4	1.8			10s		S	0	0	Cloudy	
Jacksonville, Fla.			30.14	765.5	60	15.6	53	N	6	2.7		8k	0	NW		0	0	Fair	
Keokuk, Iowa			30.14	765.5	41	5.0	82	S	3	1.3			10s		S	0	0	Cloudy	
Key West, Fla.			30.08	764.0	70	21.1	84	NE	6	2.7		0	0			0	0	Clear	
Kittyhawk, N. C.			30.20	767.1	55	12.8	55	N	36	16.1		5k	0	NW		0.04	1.0	Fair	
Knoxville, Tenn.			30.28	769.1	35	1.7	80	NW	6	2.7		2cs	Fog	SW		0	0	Fair	
La Crosse, Wis.			30.05	763.3	41	5.0	82	S	12	5.4			Fog			0	0	Foggy	
Leavenworth, Kan.			30.07	763.8	45	7.2	85	SE	6	2.7			10s			0.2	6.1	Threatening	
Louisville, Ky.			30.30	769.6	37	2.8	90	N	4	1.8		2c	0			0	0	Clear	
Lynchburg, Va.			30.27	768.8	44	6.7	67	Calm	0	0		2k	0	W		0	0	Clear	
Malone, N. Y.			30.07	763.8	38	3.3	80	SW	4	1.8		10k	0	NW		0	0	Cloudy	
Marquette, Mich.			30.09	764.3	36	2.2	62	SW	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			30.22	767.0	43	6.1	75	E	6	2.7		8ck,c	Sm'e	SW		0	0	Cloudy	
Milwaukee, Wis.			30.22	767.6	36	2.2	80	W	6	2.7		10s	Fog	W		0.04	1.0	Cloudy	
Mobile, Ala.			30.18	766.6	49	9.4	77	N	2	0.9		5c	9s	NW		0	0	Cloudy	
Montgomery, Ala.			30.21	767.3	44	6.9	75	N	3	1.3		5c	Sm'e	W		0	0	Fair	
Morgantown, W. Va.	29.19	741.4	30.28	769.1	41	5.0	73	NW	6	2.7			10s		W	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.50	596.9	29.86	758.4	14	—10.0	100	NW	108	48.3			Fog			0	0	Foggy	
Nashville, Tenn.			30.23	767.8	38	3.3	90	N	1	0.4		2c	Fog	W		0	0	Fair	
New Haven, Conn.			30.10	764.5	46	7.8	60	NW	10	4.5		Haze	Fog			0	0	Clear	
New London, Conn.			30.09	764.3	45	7.2	60	Calm	0	0		0	0			0.03	0.8	Clear	
New Orleans, La.			30.12	765.0	56	13.3	71	NE	6	2.7		7c	0	W		0	0	Fair	
Newport, R. I.			30.07	763.8	45	7.2	75	NW	12	5.4		0	0			0.09	2.3	Clear	
New York, N. Y.			30.16	766.1	45	7.2	60	NW	8	3.6		0	Haze			0	0	Clear	
Norfolk, Va.			30.23	767.8	51	10.6	52	N	14	6.3		8ck	0	W		0.01	0.3	Fair	
North Platte, Neb.	27.01	686.0	29.67	753.6	27	— 2.8	88	Calm	0	0			Fog			0	0	Dense fog	
Omaha, Neb.	28.90	734.0	29.99	761.7	43	6.1	91	S	5	3.6		8cs	0			0	0	Fair	
Oswego, N. Y.			30.15	765.8	46.0	8.1	76	W	12	5.4		0	8ks		NW	0.07	1.8	Fair	
Pembina, Dakota			30.25	768.3	5.0	—14.7	88	N	3	1.3		0	9s		N	Inap.	Inap.	Fair	
Philadelphia, Pa.			30.21	767.3	45	7.2	60	N	12	5.4		0	Sm'e			Inap.	Inap.	Clear	
Pike's Peak, Col.	17.58	446.5	29.80	756.9	8	—13.3	33	NW	22	9.8		0	0			0.06	1.5	Clear	
Pittsburgh, Pa.			30.25	768.3	41	5.0	74	NW	3	1.3		2c	0	W		0	0	Fair	
Port Huron, Mich.			30.22	767.6	39	3.9	81	W	6	2.7			10s		SW	0	0	Cloudy	
Portland, Me.			29.99	761.7	42	5.6	71	Calm	0	0		0	0			0	0	Clear	
Portland, Oregon			29.81	757.2	46	7.8	85	N	8	3.6			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.11	764.8	71	21.9	87	NE	5	2.2		2cs	Haze	SW		0	0	Fair	
Rochester, N. Y.			30.16	766.1	40	4.4	73	W	6	2.7		5ck	Sm'e	W		Inap.	Inap.	Fair	
Salt Lake City, Utah	25.49	647.4	29.82	757.4	37	2.8	62	E	2	0.9		5ck	0			0	0	Fair	
Sandy Hook, N. J.			30.11	764.8	46	7.8	69	NW	16	7.2		0	0			0	0	Clear	
San Diego, Cal.			29.98	761.5	57	13.9	76	E	4	1.8			10s		E	0	0	Cloudy	
San Francisco, Cal.			29.87	758.7	56	13.3	87	Calm	0	0			10n			0.04	1.0	Light rain	
Santa Fé, N. M.	23.19	589.0	29.73	755.1	27	— 2.8	77	N	9	4.0		0	0			0	0	Clear	
Savannah, Ga.			30.14	765.5	51	10.6	71	N	4	1.8		0	0			0	0	Clear	
Shreveport, La.			30.18	766.6	52	11.1	73	E	4	1.8			10s			0	0	Cloudy	
Smithville, N. C.			30.15	765.8	56	13.3	73	N	10	4.5		8k	0	NE		0	0	Cloudy	
Springfield, Mass.			30.08	764.0	43	6.1	75	Calm	0	0		0	1s			0	0	Clear	
St. Louis, Mo.			30.27	768.8	44	6.7	52	SW	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.16	766.1	52	11.1	79	N	6	2.7		5c	0	W		0	0	Fair	
St. Paul, Minn.			30.04	763.0	37	2.8	80	SE	3	1.3			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.05	763.3	42	5.6	65	W	8	3.6		0	0			0	0	Clear	
Toledo, Ohio			30.21	767.3	43	6.1	75	SW	2	0.9		0	8s		SW	Inap.	Inap.	Foggy	
Tucson, Arizona	27.51	698.7	30.05	763.3	41	5.0		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.11	764.8	55	12.8	68	N	9	4.0		0	0			0	0	Clear	
Vicksburg, Miss.			30.09	767.1	49	9.4	67	SE	1	0.4		10k	Sm'e	SW		0	0	Cloudy	
Virginia City, M. T.	24.03	610.4	29.51	749.5	21	— 6.1	79	Calm	0	0		10k	0	W		0.01	0.3	Cloudy	
Washington, D. C.			30.27	768.8	44	6.7	60	N	8	3.6		0	Haze			Inap.	Inap.	Clear	
Wilmington, N. C.			30.17	766.3	55	12.8	62	NE	11	4.9			10s			Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.06	763.5	47	8.3	71	NW	10	4.5		Haze	Sm'e			0.29	7.4	Hazy	
Yankton, Dakota	28.71	729.2	30.07	763.8	25	— 3.9	87	Calm	0	0		5cs	Fog	NW		0	0	Fair	
Yuma, Arizona			29.96	761.0	53	11.7		N				0	0			0	0	Clear	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.14	765.5	78	25.6	82	Calm	0	0		2c	2s			0	0		James Gall.
Navassa, W. I.					83	28.3		NE			1					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.19	690.6	29.97	761.2	66	18.9	90	Calm	0	0		0	0			0.18	4.6	Fine, Clear	C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	84	28.9	71	NE			3	3c	5k	E		0.120	3.0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.7			84.2	29.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			64.0	17.8	92	Calm			0		10n			1.09	27.7	Light rain	Thomas Herran.
York Factory, B. A.			30.00	762.0	— 5.0	—20.6	82	W	14	6.3		2c	0	W		0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	71	21.7		SE			3					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
MARINE SERIES.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Greenwich Pier.			30.11	764.8	46	7.8	85	NW	8	3.6		5c	0	NW				Fair	Capt. James Jorgensen.
Steamer Leipzig. N. 50°, 45', W. 1°, 20'.	ENE	11	30.35	770.9	56.8	13.8	100	NW			2		3k		NW	Smooth		Blue sky	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,832 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-palio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 5, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.19	766.9	66.4	19.1	32	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.15	765.7	65.1	18.4	74	NNE			1		2			0	0	Clear	Peter.
La Calle			30.07	763.8	63.7	17.6	73	NW			3		7			0.354	9.0	Cloudy	Fleury.
Tunis			30.05	763.2	64.8	18.2	55	NW			5		5			0.43	11.	Fair	Jacques.
Sfax			30.09	764.3															
Saida			30.15	765.7	62.6	17.1	34	SSE			1		1			0	0	Clear	Millot.
Tebessa			30.08	764.1	49.5	9.7		N			4		10			0	0	Hidden	Bourgeois.
Geriville			30.24	768.2	52.2	11.2	40	N			2		5			0	0	Fair	Lemaillot.
Laghouat			30.23	767.7	59.5	15.3	47	NE			1		0			0	0	Clear	Guyot.
Biskra			30.13	765.2	69.8	21.0	30	NW			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.28	769.0	40.5	4.7	36	NE			3		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.20	767.1	32.7	0.4	96	W			3		8			0.012	0.3		Dr. Wierzbiski.
Eperies			30.15	765.7	32.7	0.4	78	N			3		6cks		S	0.107	2.73		Julius Mikolik.
Gratz	28.95	735.4	30.25	768.4	39.2	4.0	39	WNW			5		1			0	0		Andreas Rospini.
Hermannstadt	28.48	723.4	29.97	761.2	32.4	0.2	92	NW			3		10			0.293	7.45	Snowing	Prof. Reissenberger.
Kremsmünster	28.91	734.3	30.32	770.2	33.1	0.6	75	WNW			2		7			0	0		Prof. C. Wagner.
Lemberg			30.08	764.0	30.2	— 1.0	84	NW			1		9			0	0		Dr. T. Stanecki.
Nyiregyhaz t																			Habgsuda Daniel.
Pola			30.19	766.7	45.1	7.3	28	ENE			4		1k			0	0		I.R.Hydrographic Of'ce
Szegedin			30.18	766.5	37.4	3.0	50	NE			1		10			0	0		Karl Stancel.
Trieste			30.21	767.3	45.5	7.5	27	ENE			2		0			0	0		Prof. V. Farolfi.
Vienna			30.26	768.6	36.0	2.2	62	WNW			3		8			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.31	769.8	41.2	5.1	79	WSW			2	8ck	0	NNW		0.002	0.05		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London. Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.16	766.1	52.4	11.3		WNW	17	7.6			7			0.00	0.1	*D. clouds	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			30.32	770.1	53.7	12.1		W	4	1.8									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.35	770.9	52.2	11.2		S			1		10					Overcast	J. Dreyer.
Bradford																0.04	1.0		J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.2	29.0		NE			2		7					Overcast	Sergt. J. F. Hulanen, A.
Cambridge, Observatory			30.27	768.8	52.1	11.2		SW			1		10					Overcast	H. Todd. [H.C.
Cardington			30.29	769.4	52.6	11.4		W			0		10					Foggy	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.32	770.1	47.6	8.7							9					Gloomy	Capt. Fellowes, R. E.
Dartmoor	28.89	733.8	30.42	772.7	51.0	10.6		N			1		8					Fine	R. E. Power.
Davos Platz, (Switzerland)	24.83	630.7			31.5	— 0.3	68	Calm			0		0			0.21	5.5	Blue sky	Francis Redford, M. A.
Donaghadee			30.27	768.8	54	12.2		WSW			2		8					*D. clouds	J. Mac Gowan.
Dover			30.29	769.4	48	8.9		SSW			2		7					Gloomy	J. Costello.
Eccles, (near Manchester)			30.26	768.6	52.5	11.4		WSW	3.0	1.3			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			30.36	771.1	55.7	13.2		WNW			1		9					Overcast	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.86	758.4	59.5	15.3		E			1		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.94	760.5	85.0	29.4		N			1		5					*D. clouds	
Galway, Queen's College			30.27	768.8	47	8.3		Calm			0		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.17	766.3	66.6	19.2		E			3		1					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.20	767.1	55.0	12.8		W			1		2					Blue sky	Lewis Stuart.
Great Yarmouth			30.25	768.3	48	8.9		WSW			2		8					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.28	769.1	51.5	10.8		WSW			1		10			Rain	mm	Foggy	The Staff, for G. B. Airy.
Guernsey			30.32	770.1	57.5	14.2		NW			1		4					*D. clouds	Lt. R. F. Hoskins.
Helston			30.33	770.4	56	13.3		NW			0		..c			0	0	*D. clouds	M. P. Moyle.
Holyhead			30.29	769.4	54	12.2		WNW			2		4					*D. clouds	John Tilston.
Kew, Observatory			30.30	769.6	52.3	11.8		ENE	2	0.9			9					Misty	The Staff.
Kingstown			30.33	770.4	52	11.1		WNW			4		10					Misty	George Mitchell.
Leicester Museum			30.30	769.6	52.0	11.1		W			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.86	758.4	62.0	16.7		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.18	766.6	52	11.1		WNW			1		8					¾ cloud d.	W. D. Penny.
Nassau, (Bahamas)			30.11	764.8	78.0	25.6		NE			4		1					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.27	768.8	52.6	11.4		WSW			1		10k,d		WNW	0.02	0.5	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.27	768.8	53.0	11.7		W			3		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.27	768.8	56	13.3		Calm			0		9					Overcast	J. Lucas.
Plymouth			30.34	770.6	57.4	14.1		NNE			1		7					*D. clouds	John Merrifield.
Roche's Point			30.36	771.1	54	12.2		SSW			1		10					Overcast	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			30.32	770.1	60.0	15.6		NNW			2		2					¾ cloud d.	A. P. Amy.
Sandwick Manse, (Orkneys)			30.19	766.8	49.1	9.5		NW	17	7.6			4					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.85	758.2	49.0	9.4		NNW			1		10					Raining	Sergt. W. H. Lyne.
Sheffield			30.25	768.3	55.9	13.3		NW			1		8			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.19	766.8	54.0	12.2	93	SW			3		6			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.25	768.3	52.8	11.6		W			2								Rev. S. J. Perry.
Stornoway, Lewis Co., (Hebr.)			30.20	767.1	51	10.6		NW			4		5					*D. clouds	John Smith.
Stratfield Turgiss			30.32	770.1	55.7	13.2		NE			1		6					*D. clouds	Rev. Charles H. Griffith
Thurso			30.15	765.8	49	9.4		NW			4		7					*D. clouds	John Trotter.
Truro, Royal Institution			30.35	770.9	56	13.3		NW			2		8					Gloomy	W. Newcombe.
Valencia, Observatory			30.33	770.4	58.0	14.4		SE	5	2.2			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					54	12.2		SE			2		10			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			29.87	758.7	83.2	28.4	41	SSE	9	4.0		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.41	747.0	65.0	18.3	88	N			2		4k			0	0		Francis Abbott, F. R. A. S.
Leith, Restalrig Park			30.19	766.8	54.9	12.7		NW			2	7ck				0.06	1.5	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			29.97	761.2				ENE	9.7	4.3						0.28	7.1		C. Meldrum.
Melbourne, Observatory			29.83	757.7	48.2	9.0	80	NW	14	6.3			0			0.10	2.5	Fine, clear	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.29	769.4	53	11.7		NW			3	5	3	N		0	0		J. Youngehause.
North Unst, (Shetland Is.)			30.09	764.3	46	7.8		NW			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
SECRETARY OF THE EXTERIOR DEPARTMENT.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.17	766.2	39.4	4.1	72	W			2		3						
Fanö			30.18	766.6	42.3	5.7	86	Calm			0		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.28	769.0	40.6	4.8	97	SE			4		8						
Thorshavn, (Faröe)			30.31	769.8	41.2	5.1	69	NNE			2		0						
Vestervig			30.12	765.0	41.0	5.0	84	SW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, w[illegible] by [illegible] symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			30.32	770.2	48.2	9.0	95	NNE			2		10			0	0	Covered	Normal School.
Amiens			30.32	770.1	43.5	6.4	82	ESE			2		5		SE	0	0	Cloudy	Normal School.
Avignon			30.17	766.3	53.8	12.1	54	N			6		10			0	0	Covered	Normal School.
Bar-sur-Seine			30.32	770.2	40.3	4.6	80	NE			2		10			0.037	0.9	Covered	C. Saillard.
Beaumette, (near Angers)			30.30	769.7	53.8	12.1	76	N	2.0	0.9					E	0	0		Beaumette Observ'tory
Beauvais			30.34	770.6	44.4	6.9	78	ENE			1		10			0	0	Covered	Normal School.
Besançon			30.33	770.3	42.8	6	82	ESE			2		8		W	0.228	5.8	Very cloudy	Normal School.
Bourg en Bresse			30.39	772.0	46.4	8	83	N			4		10n		S			Raining	Normal School.
Bourges			30.35	770.8	48.2	9	94	W			2		10		W	0.012	0.3	Covered	Normal School.
Brest			30.30	769.6	57.7	14.3	82	Calm			0		9k			0	0		Naval Observatory.
Carcassonne			30.27	768.9	53.6	12	58	E			4		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.38	771.6	47.7	8.7	83	N			2		4		E	0	0		Normal School.
Châlons-sur-Marne			30.34	770.7	39.2	4.0	87	E			2		10n			0	0	Covered	Normal School.
Clermont			30.20	769.4	48.4	9.1	93	NNE			2		10			0	0		Puy de Dome Obs'y.
Commercy			30.37	771.4	36.5	2.5	87	E			2		10kn		E	0	0	Covered	Normal School.
Commune de Gréasque*			30.13	765.2	58.5	14.7	44	N			1		8		SW	0	0		M. Kina.
Grenoble			30.22	767.5	49.6	9.8	65	NNW			8		0			0	0	Clear	Normal School.
La Roche-sur-Yon					53.2	11.8	76	NNE			1		5		S	0	0	Cloudy	Normal School.
Le Mans			30.41	772.4	49.6	9.8	95	NE			2		8		NE	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.29	769.4	43.7	6.5	82	N			1		8		NE	0	0	Very cloudy	Normal School.
Lorient			30.38	771.7	57.9	14.4	61	NNE			1		8		NE	0	0	Very cloudy	Naval Observatory.
Mâcon			30.37	771.4	45.1	7.3	91	N			1		10			0.126	3.2	Covered	Normal School.
Metz			30.39	771.8	37.0	2.8	76	NNE			2		4		N	0	0		M. Schuster.
Mirecourt			30.29	769.4	43.7	6.5	80	NE					10		SW	0	0	Covered	Normal School
Nismes			30.15	765.9	56.8	13.8	32	NE			2		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			30.17	766.3	46.8	8.2	97	NNE			2		10			0.04	1.	Covered	Normal School.
Paris, Observatory			30.33	770.3	45.5	7.5	75	E			2		10			0.004	0.10	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.25	768.4	50.0	10		N			2		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.33	770.3	56.5	13.6	62	NE			2		8		SW	0	0	¾ covered	Naval Observatory.
Rouen			30.36	771.1	47.1	8.4	92	N			1		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	29.17	740.8	30.27	768.9	49.1	9.5		S			1		2		E	0	0	Slightly cl'dy	Normal School.
Villefranche			30.28	769.1	50.0	10	73	E			1		8			0	0	Very cloudy	Normal School
Sub-Series.																			
Fort de France, Martinique			29.84	757.8	81.3	27.4													L'Abbé Marchésl.
Marseilles			30.09	764.2	60.8	15.7	32	NW			2		10			0	0	Very cloudy	Marseilles Observatory.
Mont-Louis	24.99	634.7	30.35	771.0	49.5	9.7	50	NW	13.0	5.83			5		NW	0	0		—, Falguère.
Montsouris, Paris			30.30	769.7	45.3	7.4	79	E			1		10			0.008	0.2		Montsouris Observ'tory.
Perpignan			30.21	767.3	59.9	15.5	52	NE	18.0	8.33			5		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.37	542.8			37.4	3.0		SW			2		2					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.66	575.5			41.0	5.0		SW			2		2			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.32	770.0	44.8	7.1	84	E			1		10			0.008	0.2	Very cloudy	E. Renou.
Toulouse			30.38	771.6	51.6	10.9	70	NNW			2		1			0	0		Toulouse Observatory.
Tours			30.31	769.9	53.2	11.8	76	NW			1		10		N	0	0		C. Marquet.
Versailles, (near Paris)			30.32	770.0	45.7	7.6	77	ENE			1		10			0	0	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.16	766.1	39.0	3.9	80	WNW	0.7	0.30			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 324 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,438.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			30.21	767.3	34.7	1.5	75	E			2		6	E		0.024	0.5	Snowing	Prof. T. Hoh.
Berlin			30.27	768.9	36.5	2.5	82	W			1		5			0	0		Prof. Arndt.
Breslau			30.25	768.3	33.8	1.0	81	WNW			4		8	NW		Inap.	Inap.		Royal University Obs'y.
Carlsruhe			30.32	770.2	38.1	3.4	70	N			1		9			Inap.	Inap.		A. Senz.
Cassel			30.38	771.6	35.6	2.0	66	WSW			2		5	NW		0	0		Dr. H. Möhl.
Emden			30.32	770.0	43.0	6.6	91	WSW			1		5			0.008	0.2		Prof. Prestel.
Frankfort on the Main			30.38	771.6	33.8	1.0	65	E			2		6			0	0		Physical Society.
Friedrichshafen			30.35	770.9	37.0	2.8	67	ESE			2		8			0.043	1.1	Rain & snow	M. Wilhelm.
Hamburg			30.27	768.9	39.7	4.3	87	WSW			1		6c,k			0	0	Foggy	Captain F. Hegemann.
Kiel			30.22	767.6	40.5	4.7	68	SW			2		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.08	764.0	33.6	0.9	84	SW			2		3			0.512	13.0	Snowing	Prof. E. Luther.
Köslin			30.20	767.1	36.5	2.5		NW			1		3			0.039	1.0		H. Müller.
Leipsic			30.05	763.3	34.2	1.2	92	SW			1		10			0.008	0.2		Prof. Bruhns.
Memel			30.05	763.2	34.7	1.5	76	W			1		5ks			0.134	3.4	Smoke-haze	Reinbrecht & Skalweit.
Münster			30.35	770.9	39.0	3.9	77	SW			2		0			0	0		Prof. E. Heis.
Neufahrwasser			30.09	764.2	33.6	0.9	92	NNW			4		10			0.012	0.3	Snowy	A Lothe.
Posen			30.21	767.3	37.9	3.3	59	NW			7		7						Dr. Magener.
Strassburg, (in Alsace)			30.35	770.9	36.3	2.4	81	NE			1		10			0.130	3.3		Dr. Schur.
Stuttgart			30.34	770.5	36.5	2.5	70	E			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.28	769.0	34.9	1.6	72	NE			1		5			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.76	730.4	30.34	770.6	34.0	1.1	73	WSW	2	1			5	WSW		0.118	3.0		Dr. von Bebber.
Wustrow, Naval School			30.29	769.3	41.2	5.1	65	NNW			3		3			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," At Funchal.			30.21	767.4	75.2	24.0	97	ESE			2		2		ESE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.83	757.6	58.5	14.7		NE										¼ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			30.17	766.2	46.9	8.3	24	SW	3.1	1.4			0			0	0		Prof. Giovanni Clodig.
Padua			30.19	766.8	48.2	9.0	32	ESE	12.5	5.6			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.19	766.8	48.6	9.2	41	E	2.5	1.1			3	N		0	0		Alm. Da Schio.
Verona			30.17	766.3	50.0	10.0	62	E			4		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.80	731.6	30.15	765.9	48.2	9.0	39	SE			4		3			0	0		Prof. Trionfini Carlo.
Domodossola			30.11	764.9	51.8	11.0	52	S			4		1			0	0		Prof. Giuseppe Carza.
Milan																0	0		Ab. Gio. Capelli.
Pavia			30.17	766.2	50.0	10.0	49	NE			8		0			0	0		Prof. Gio. Cantoni.
Moncalieri			30.15	765.8	51.4	10.8	53	ESE	9.8	4.4			2	N		0	0		Prof. F. F. Denza.
Mondovi	28.17	715.6	30.14	765.5	49.5	9.7	48	NNE			2		3	N		0	0		Prof. C. Bruno.
Porto Maurizio			30.13	765.4	59.2	15.1	35	E			4		5	N		0	0		Prof. L. Vassallo.
Genoa			30.10	764.4	61.5	16.4	25	SW	1.3	0.6			0			0	0		Prof. Garibaldi.
Piacenza			30.17	766.2	49.8	9.9	45	E	23.7	10.6			1			0	0		Dott. G. Manzi.
Parma			30.19	766.8	50.2	10.1	55	E			4		0			0	0		Prof. P. Pigorini.
Bologna			30.17	766.4	50.0	10.0	34	E			6		3	S		0	0		Prof. A. Palagi.
Florence			30.16	766.1	50.9	10.5	40	NE			6		0			0	0		Cav. F. Meucci.
Leghorn			30.10	764.5	54.1	12.3	25	ENE	17.4	7.8			2	N		0	0		Prof. P. Monte.
Siena	28.88	733.6	30.12	765.0	46.0	7.8	28	N	14.3	6.4			0			0	0		Prof. L. Toscani.
Urbino	28.61	726.7	30.22	767.5	39.6	4.2	50	E			6		4			0.197	5.0	Raining	Prof. P. Serpieri.
Pesaro			30.21	767.2	46.6	8.1	48	NE	39.1	17.5			1	NE		0.331	8.4	Raining	Prof. Luigi Guidi.
Ancona			30.17	766.4	50.0	10.0	62	ENE			4		1			0.354	9.0		Prof. F. De— Bosis.
Grosseto			30.11	764.7	53.4	11.9	28	NNE			6		3	SE		0	0		Avv. P. Ponticelli.
Rome			30.01	762.2	57.4	14.1	30	NNE	12.5	5.6			0?			0.020	0.5	Light rain?	Prof's. P. Secchi & L. Respigni
Naples, O. U.			30.00	762.0	55.4	13.0	33	NNE			6		3	N		0	0		Prof. L. Palmieri.
Lecce			29.91	759.7	54.3	12.4	59	NNE	23.7	10.6			8			0.075	1.9	Raining	Prof. C. De—Giorgi.
Cosenza			29.93	760.1	56.1	13.4	63	NW	5.6	2.5			7			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.92	759.9	64.0	17.8	70	N			2		10	S		0.215	5.4	Raining	Cav. F. Cafiero.
Palermo			29.86	758.5	57.2	14.0	75	NE	11.2	5.0			10			0.327	8.3	Raining	Prof. G. Caccatore.
Caltanissetta	27.90	708.7	29.86	758.4	53.2	11.8	68	NW			4		5	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.01	762.3	50.7	10.4	60	NE	6.9	3.1			5	WNW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

Flushing			30.34	770.5	44.6	7.0		SSW			2								
Groningen			30.21	767.2	43.9	6.6		SW			3								
Helder			30.23	767.9	45.5	7.5		SSW			4								
Utrecht			30.24	768.2	43.2	6.2	70	SSW			2		8			0.047	1.2	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.98	761.5	39.2	4.0	97	E	4	2			10			0.362	9.2	Raining	
Bröno			29.91	759.8	30.6	— 0.8	62	E	7	3			5			0	0		
Christiania			29.99	761.8	34.7	1.5	72	SSW	3.6	1.6			7			0	0		
Tromsö			29.97	761.1	28.0	— 2.2	75	SW	4	2			0			0.020	0.5		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.89	759.3	64.8	18.2	80	Calm	0	0			2			0.039	1.0		Dr. J. A. Sampaio.
Campo Major			30.23	767.9	66.2	19.0	32	ENE	9.4	4.2			0			0	0		Dr. A. M. R dos Santos.
Funchal, (Madeira,)			30.13	765.2	72.5	22.5	75	SSE	0.4	0.17			10			0	0		Capt. D. A. de Cunha.
Lisbon			30.23	767.7	59.7	15.4	57	NE	12.5	5.6			0			0	0		The Observatory.
Ponta Delgada, (Azores)			29.93	760.2	68.0	20.0	71	NW	5.0	2.22			6			1.470	37.5		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Warsaw			30.10	764.5	35.6	2.0	64	WNW	11	5			7						Astronomical Obs.
Wilna			30.04	763.1	30.7	— 0.7	63	NE	2	1			10						Astronomical Obs.
Dorpat			29.95	760.8	26.4	— 3.1	89	W	7	3			8						Physical Cabinet.
St. Petersburg			29.78	756.5	29.1	— 1.6	71	NW	11	5			10						Central Physical Obs.
Kuopio			29.85	758.2	20.7	— 6.3	100	NNW	7	3			10						Ch. Forsten.
Kieff			29.98	761.5	34.7	1.5	61	NNW	7	3			9						Physical Cabinet.
Nikolaiev			29.99	761.7	35.1	1.7	75	N	29	13			8						Kurdakof
Kertch			29.78	756.5	54.0	12.2	95	NNW	9	4			10					Raining	Lagorio.
Moscow			29.87	758.8	28.4	— 2.0	84	S	7	3			9						Meteorological Obs.
Lugan			29.75	755.6	38.3	3.5	85	N	16	7			10						Meteorological Obs.
Archangel			29.49	749.1	24.1	— 4.4	91	ENE	13	6			10					Snowing	Ogorodnikof.
Tiflis	28.48	722.2	29.84	757.8	56.7	13.7	91	E	4	2			3						Physical Observatory.
Astrakhan			29.77	756.2	46.0	7.8	94	SE	11	5			10						Sebastianof.
Kasan			29.83	757.7	31.6	— 0.2	94	Calm	0	0			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.06	738.0	30.04	763.0	32.5	0.3	89	SSE	7	3			10						Meteorogical Obs.
Nukuss			30.21	767.4	49.6	9.8	23	E	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.78	781.7	10.8	—11.8	97	Calm	0	0			0						Meteorological Obs.
Yeniseisk			30.38	771.7	14.2	— 9.9	73	WSW	4	2			3						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.32	770.1	40.8	4.9	28	NW	20	9			6						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.94	760.5	27.3	— 2.6	58	NW	13	6			8						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Madrid			30.21	767.2	61.9	16.6	29	E	2.2	1.0		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.20	767.0	67.8	19.9	61	S	4.7	2.0		0	0			0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Haparanda			30.00	762.0	24.1	— 4.4	95	N			2		10			0	0		
Umea			30.05	763.3	25.9	— 3.4	78	NE			2		10			0	0		
Hernosand			30.05	763.3	21.9	— 5.6	85	NW			2		10			0	0		
Stockholm			30.07	763.6	26.1	— 3.3	87	NW			2		1			0	0		
Wisby			30.10	764.6	32.7	0.4	92	NNW			6		7			0	0		
SUB-SERIES.																			
Upsala			30.08	764.0	21.6	— 5.8	85	NNW	0	0			0			0.002	0.05		Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.80	731.4	30.25	768.3	45.5	7.5	68	NW			1		9			0.008	0.2	Covered	The Observatory.
Zurich	28.62	726.9	30.31	769.8	39.2	4.0	73	NE			1		6			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +5.2 mm; Thermometer, —1.3 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.89	759.2	48.4	9.1	87	NNW	10	4.5			10		N	0.307	7.8	Raining	
Fao, (Persian Gulf)																			
Salonica			29.81	757.2	55.8	13.2		NW			1		10						
Valona			29.79	756.7	55.4	13.0		NW			2		5						
Varna			29.88	759.0	41.0	5.0		NE			6		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.86	758.4	75.0	23.9	78	W			3		8n		W	0	0	Overcast	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario			30.44	773.2	30	— 1.1		Calm	0	0		0	5s		W	0	0	Fair	W. R. Bigg.
*Chatham, N. B.			30.17	766.3	30	— 1.1	93	W	2	0.9		8ck	0	NW		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			30.13	765.3	36	2.2	67	W	4	1.8			10s			0	0	Cloudy	H. J. Cundill, C. E.
Cornwall, Ontario			30.35	770.9	30.7	— 0.7	92	NW			1		Fog			Inap.	Inap.	Foggy	James Smith, M. A.
Dalhousie, N. B.					30	— 1.1	72	NW			2					0	0	Bright	H. A. Johnson.
Esquimault, B. C.			30.22	767.6	40.8	4.9	96	Calm				10ck	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.26	768.6	30.0	— 1.1	78	W	6	2.7		1ck	0	W		0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.29	769.4	10	—12.2	92	NW	3	1.3		Haze	2s	N	NW	0	0	Fair	James Stewart.
Goderich, Ontario			30.34	770.6	41.9	5.5	85	SW			2	10k		SW		0.051	1.3	Cloudy	H. J. Strang, M. A.
Granton, Ontario	29.20	741.7	30.34	770.6	36	2.2		Calm			0		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			30.13	765.3	32	0.0	84	NW	4	1.8		0	0			Inap.	Inap.	Clear	F. Allison, M. A.,
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.41	772.4	39	3.9	83	Calm	0	0		10cs	0			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			30.02	762.5	35.4	1.9	100	N	10	4.5			10n			0.02	0.5	Overcast	C. H. Rigby.
*Montreal, Quebec			30.37	771.4	34	1.1	81	N	2	0.9		0	2ks			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.37	771.4	28	— 2.2	77	Calm	0	0		10ck	0	W		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.35	770.9	38	3.3	99	S	13	5.8			10n		SW	0.16	4.1	Light rain	Rev. R. Mosley.
Port Dover, Ontario			30.37	771.4	36	2.2	90	NW	5	2.2		10k	0	NW		0	0	Cloudy	H. Morgan.
Port Hastings, N. S.																			Peter Grant.
Port Stanley, Ontario			30.35	770.9	36	2.2	89	N	5	2.2			10n			0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.34	770.6	29	— 1.7	77	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.27	768.8	31	— 0.6	63	NW	2	0.9		4ck	0			0	0		G. Murdoch, C. E.
*Saugeen, Ontario			30.38	769.1	41	5.0	87	SW	1	0.4			10ks		SW	0.11	2.8	Light rain	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	29.02	737.1	30.34	770.6	38.8	3.8	92	Calm	0	0			10s			0.03	0.8	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.04	763.0	36	2.2	75	NW	13	5.8			10ks		NW	0.02	0.5	Cloudy	T. C. Hill.
*Toronto, Ontario			30.38	771.6	39	3.9	81	W	4	1.8			10s		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.37	771.4	36.1	2.3	94	Calm	0	0		0?	0?			0	0	Cloudy?	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.74	755.4	40.5	4.7	96	NW	3	1.3		4ks	4s			0.07	1.8	Misty	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.35	770.9	37	2.8	80	Calm	0	0		5k	0	S		0	0	Fair	
Alpena, Mich.			30.24	768.1	40	4.4	82	SW	4	1.8		5c	0	SW		Inap.	Inap.	Fair	
Atlantic City, N. J.			30.35	770.9	42	5.6	74	N	8	3.6		10k	0	NW		0	0	Cloudy	
Augusta, Ga.			30.33	770.4	50	10.0	86	N	1	0.4		5cs	0	W		0	0	Fair	
Baltimore, Md.			30.39	771.9	45	7.2	60	N	5	2.2		5ck	5s			0	0	Cloudy	
Barnegat, N. J.			30.34	770.6	45	7.2	60	N	12	5.4			10s		NW	0	0	Cloudy	
Bismarck, Dakota	28.21	716.5	29.95	760.7	20	— 6.7	84	NE	2	0.9			10s			Inap.	Inap.	Cloudy	
Boston, Mass.			30.29	769.4	40	4.4	63	W	9	4.0		5cs	Haze	SW		0	0	Fair	
Breckenridge, Minn.			30.00	762.0	29	— 1.7	89	N	4	1.8			10s		N	Inap.	Inap.	Cloudy	
Buffalo, N. Y.			30.32	770.1	39	3.9	72	SW	1	0.4			10s		W	0	0	Cloudy	
Burlington, Vt.			30.36	771.1	37	2.8	62	N	4	1.8		2k	0	N		0	0	Fair	
Cairo, Ill.			30.25	768.3	45	7.2	76	Calm	0	0		5k	0	W		0	0	Fair	
Cape Hatteras, N. C.			30.23	767.8	56	13.3	68	NE	16	7.2		2c	Haze			0	0	Fair	
Cape Henry, Va.			30.36	771.1	51	10.6	62	NE	14	6.3		5ck	2s	W		0	0	Fair	
Cape Lookout, N. C.			30.27	768.8	54	12.8	79	NE	22	9.8		0	0			0	0	Clear	
Cape May, N. J.			30.35	770.9	46	7.8	61	N	16	7.2		10k	0	W		0	0	Cloudy	
Charleston, S. C.			30.30	769.6	56	13.3	80	NE	14	6.3		8cs	0	W		0	0	Fair	
Cheyenne, Wyoming	23.91	607.3	29.85	758.2	36	2.2	52	W	20	8.9		0	1s			0	0	Clear	
Chicago, Ill.			30.23	767.8	40	4.4	73	S	3	1.3		2k	2s	S		0	0	Fair	
Cincinnati, Ohio			30.25	768.3	45	7.2	67	E	2	0.9		0	2ks		W	0	0	Fair	
Cleveland, Ohio			30.34	770.6	40	4.4	72	SE	6	2.7			10s			0	0	Cloudy	
Corsicana, Tex.			30.10	764.5	62	16.7	88	S	7	3.1			10s			0.08	2.0	Cloudy	
Davenport, Iowa			30.20	767.1	43	6.1	75	SE	4	1.8		5k	7ks	SW	SW	Inap.	Inap.	Cloudy	
Denison, Tex.			30.09	764.3	58	14.4	94	SE	5	2.2			10s		S	0.01	0.3	Cloudy	
Denver, Col.	24.69	627.1	29.91	759.7	32	0.0	50	S	7	3.1		0	0			0	0	Clear	
Detroit, Mich.			30.32	770.1	43	6.1	66	Calm	0	0			10s			0	0	Cloudy	
Dodge City, Kan.	27.28	692.9	29.60	751.8	37	2.8	90	SE	4	1.8			10s		SE	0	0	Cloudy	
Dubuque, Iowa			30.20	767.1	38	3.3	90	S	2	0.9		5cs	0			Inap.	Inap.	Fair	
Duluth, Minn.			30.09	764.3	37	2.8	80	NE	6	2.7			10s			0.09	2.3	Cloudy	
Eastport, Me.			30.26	768.6	32	0.0	69	NW	10	4.5		0	8s			0	0	Fair	
Erie, Pa.			30.35	770.9	41	5.0	83	SW	10	4.5		8ck	Haze	W		0	0	Fair	
Escanaba, Mich.			30.22	767.6	34	1.1	95	W	3	1.3			10s			0.07	1.8	Cloudy	
Fort Gibson, Indian Ter.			30.05	763.3	52	11.1	72	SE	8	3.6			10s		S	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.82	732.0	29.90	759.4	62	16.7	83	S	8	3.6			10s			0.03	0.8	Cloudy	
Fort Sully, Dakota																			
Florence, Arizona	28.51	724.1	30.05	763.3	50	10.0		SW				0	0			0	0	Clear	
Galveston, Tex.			30.12	765.0	67	19.4	97	E	10	4.5			10s			0	0	Cloudy	
Grand Haven, Mich.			30.24	768.1	43	6.1	75	SE	6	2.7		2ck	4s	W	W	0.06	1.5	Fair	
Indianapolis, Ind.			30.28	769.1	43	6.1	75	Calm	0	0		0	2s			0	0	Clear	
Indianola, Tex.			30.08	764.0	68	20.0	100	NE	5	2.2			Fog			0	0	Foggy	
Jacksonville, Fla.			30.22	767.6	63	16.7	94	N	10	4.5			10s			0	0	Cloudy	
Keokuk, Iowa			30.15	765.8	42	5.6	91	SE	5	2.2			10n		SE	0.06	1.5	Light rain	
Key West, Fla.			30.11	764.8	75	23.9	90	NE	12	5.4			10n			0.10	2.5	Heavy rain	
Kittyhawk, N. C.			30.34	770.6	55	12.8	93	NE	23	10.3		0	5s			0	0	Fair	
Knoxville, Tenn.			30.32	770.1	44	6.7	75	N	2	0.9		3ck	Haze	W		0	0	Fair	
La Crosse, Wis.			30.12	765.0	44	6.7	75	S	12	5.4			10s		S	0	0	Cloudy	
Leavenworth, Kan.			30.02	762.5	47	8.3	85	SE	6	2.7		0	5s		SW	0.01	0.3	Fair	
Louisville, Ky.			30.27	768.8	43	6.1	83	N	1	0.4		0	0			0	0	Clear	
Lynchburg, Va.			30.40	772.1	45	7.2	84	Calm	0	0		10k	0	W		0	0	Cloudy	
Malone, N. Y.			30.38	771.6	35	1.7	85	S	4	1.8		10k	0	SW		0	0	Cloudy	
Marquette, Mich.			30.19	766.8	37	2.8	80	SW	4	1.8			10s		SW	0	0	Cloudy	
Memphis, Tenn.			30.26	768.6	48	8.9	71	Calm	0	0			10ks			0	0	Cloudy	
Milwaukee, Wis.			30.16	766.1	37	2.8	80	W	4	1.8		5ks	Fog	W		0	0	Fair	
Mobile, Ala.			30.21	767.3	56	13.3	87	N	4	1.8		8c	2s	NW		0	0	Cloudy	
Montgomery, Ala.			30.18	766.1	60.7	10.3	82	NW	2	0.9		Haz	10cs		S	0	0	Cloudy	
Morgantown, W. Va.	29.23	742.4	30.33	770.4	40	4.4	82	W	1	0.4			10s		W	0	0	Cloudy	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	13	—10.6	62	NW	15	6.7		1c	5s	N	NW	0	0	Fair	
Nashville, Tenn.			30.24	768.1	50	10.0	64	Calm	0	0		10k	0	W		Inap.	Inap.	Cloudy	
New Haven, Conn.			30.34	770.6	44	6.7	67	N	5	2.2			10s		N	0	0	Cloudy	
New London, Conn.			30.33	770.4	43	6.1	75	Calm	0	0		0	10s		SW	0	0	Cloudy	
New Orleans, La.			30.16	766.1	63	17.2	72	NE	8	3.6			10s		NE	0	0	Cloudy	
Newport, R. I.			30.32	770.1	44	6.7	75	N	6	2.7			10ks		NW	0	0	Cloudy	
New York, N. Y.			30.37	771.4	44	6.7	52	N	6	2.7			10ks		SW	0	0	Cloudy	
Norfolk, Va.			30.36	771.1	49	9.4	51	NE	5	2.2		8ck	0	SW		0	0	Fair	
North Platte, Neb.	28.98	683.3	29.59	751.6	35	1.7	90	Calm	0	0			Fog			0	0	Dense fog	
Omaha, Neb.	28.88	733.5	29.96	761.0	45	7.2	84	SE	7	3.1		5cs	0	W		0	0	Fair	
Oswego, N. Y.			30.38	771.6	38	3.4	85	SE	4	1.8		8ck	2s	NW		0	0	Cloudy	
Pembina, Dakota			30.19	766.8	13.7	—10.3	90	N	5	2.2			10s			0	0	Cloudy	
Philadelphia, Pa.			30.38	771.6	44	6.7	59	NE	6	2.7		2ck	5s	N		0	0	Cloudy	
Pike's Peak, Col.	17.59	446.8	29.80	756.9	0	—12.8	100	W	42	18.8		1s	Fog		W	0	0	Fair	
Pittsburgh, Pa.			30.33	770.4	41.7	5.3	78	E	2	0.9		2ck	5s	W		0	0	Fair	
Port Huron, Mich.			30.34	770.6	41	5.0	83	Calm	0	0			10n		SW	Inap.	Inap.	Light rain	
Portland, Me.			30.28	769.1	43	6.1	60	Calm	0	0		2c	Haz	W		0	0	Fair	
Portland, Oregon			30.36	771.1	38	3.3	91	SW	2	0.9			Fog			0.14	3.6	Foggy	
Punta Rassa, Fla.			30.16	766.1	71.5	21.9	92	NE	10	4.5		5ck	2s	SW	NE	0	0	Fair	
Rochester, N. Y.			30.35	770.9	37	2.8	80	SW	6	2.7		10ck	Fog	W		0	0	Cloudy	
Salt Lake City, Utah	25.76	654.3	30.09	764.3	42	5.6	83	N	6	2.7			10n			0.03	0.8	Light rain	
Sandy Hook, N. J.			30.32	770.1	47	8.3	55	N	5	2.2			10ks			0	0	Cloudy	
San Diego, Cal.			30.12	765.0	53	11.7	86	NE	4	1.8		5c	0	NE		0	0	Fair	
San Francisco, Cal.			30.12	765.0	53	11.7	79	NW	4	1.8		5c	0			0.02	0.5	Fair	
Santa Fé, N. M.	23.36	593.3	29.88	758.9	29	— 1.7	77	NE	2	0.9		0	0			0	0	Clear	
Savannah, Ga.			30.27	768.8	55	12.8	79	NE	3	1.3		5ck	5s			0	0	Cloudy	
Shreveport, La.			30.20	767.1	57	13.9	75	Calm	0	0		1c	0			0	0	Clear	
Smithville, N. C.			30.22	770.1	49	9.4	71	N	9	4.0		1c	0	W		0	0	Fair	
Springfield, Mass.			30.34	770.6	40	4.4	81	Calm	0	0		8ck	Fog	SW		0	0	Fair	
St. Louis, Mo.			30.22	767.6	45	7.2	60	S	4	1.8		5ck	0	S		Inap.	Inap.	Fair	
St. Marks, Fla.			30.23	767.8	59	15.0	87	E	6	2.7			10s			0	0	Cloudy	
St. Paul, Minn.			30.01	762.2	42	5.6	91	SE	8	3.6			10s		S	0.39	9.9	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.30	769.6	43	6.1	66	NW	8	3.6		5k	0	NW		0	0	Fair	
Toledo, Ohio			30.29	769.4	46	7.8	68	Calm	0	0			10s		W	0	0	Cloudy	
Tucson, Arizona	27.05	702.3	30.20	767.1	42	5.6		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.26	768.6	59	15.0	94	NE	18	8.0			10ks		NE	0	0	Threatening	
Vicksburg, Miss.			30.24	768.1	54	12.2	73	SE	5	2.2		10k	0	S		0	0	Cloudy	
Virginia City, M. T.	24.25	615.9	29.73	755.1	28	— 2.2	67	SW	14	6.3		10k	0	NW		0.03	0.8	Cloudy	
Washington, D. C.			30.40	772.1	43	6.1	67	N	1	0.4		10k	Smk	W		0	0	Cloudy	
Wilmington, N. C.			30.34	770.6	46	7.8	76	NE	5	2.2		1cs	0	W		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.33	770.4	45	7.2	76	N	6	2.7			10s		NW	0	0	Cloudy	
Yankton, Dakota	28.68	728.5	30.00	762.0	37	2.8	85	SE	8	3.6			Fog		SE	0	0	Cloudy	
Yuma, Arizona			30.13	765.3	56	13.3		N				0	2s		NW	0	0	Fair	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.17	766.3	77	25.0	72	Calm	0	0		5c	2s			0	0		James Gall.
Navassa, W. I.					85	29.4		NE			1					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	29.96	761.0	67	19.4	78	NE	1.0	0.4		5c	0	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A			30.00	762.0	83	28.3	79	E			2	4k	4k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.01	762.2			82.4	28.0		E								0.27	7.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			64.5	18.1	87	Calm			0	5ck	2s			0.02	0.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.26	768.6	— 4.5	—20.3	82	W	14	6.3		4cs	0	S		0	0		J. Fortescue, W. Wood.
Honolulu, O'ahu, H. I.			29.99	761.7	73.5	23.1		SE			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
MARINE SERIES.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Greenwich Pier.			30.30	769.6	46	7.8	77	NNE	4	1.8		10k	0	W				Overcast	Capt. James Jorgensen.
Steamer Leipzig. N. 52°, 30′, E. 3°, 48′.	NE	10	30.23	767.8	50.0	10.0		W			3		10			smooth		Raining	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Farenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-palio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 6, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.15	765.9	66.6	19.2	49	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.15	765.8	64.4	18.0	62	N			2		0			0	0	Clear	Peter.
La Calle			30.08	762.8	63.0	17.2	68	SW			3		6			0.276	7.0	Fair	Fleury.
Tunis			30.04	763.1	59.5	15.3	83	E			3		6			0.157	4.0	Fair	Jacques.
Sfax			30.10	764.5															
Saida			30.18	766.5	62.4	16.9	41	SSE			3		1			0	0	Clear	Millot.
Tebessa			30.07	763.7	49.1	9.5		W			3		10			0	0	Hidden	Bourgeois.
Geriville			30.23	767.7	54.3	12.4	67	N			1		3			0	0	Fair	Lemaillot.
Laghouat			30.17	766.3	58.6	14.8	53	NE			1		0			0	0	Clear	Guyot.
Biskra			30.10	764.6	69.8	21.0	49	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.14	765.5	36.7	2.6	59	SW			2		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.11	764.8	32.7	0.4	92	NE			1		0			0.008	0.2		Dr. Wierzbiski.
Eperies			30.11	764.7	32.0	0.0	78	Calm			0		5s,k		S	0	0		Julius Mikolik.
Gratz	28.82	731.9	30.12	765.1	34.7	1.5	73	SW			3		0			0	0		Andreas Rospini.
Hermannstadt	28.59	726.2	30.08	764.0	31.8	— 0.1	85	NW			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.61	726.6	30.00	761.9	36.0	2.2	75	NE			1		2			0	0		Prof. C. Wagner.
Lemberg			30.11	764.8	32.9	0.5	83	SW			2		8			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.10	764.5	44.2	6.8	29	ENE			3		7.8			0	0		I.R.Hydrographic Of'ce
Szegedin			30.11	764.7	36.0	2.2	61	Calm			0		5			0	0		Karl Stancel.
Trieste			30.12	765.0	45.5	7.5	56	Calm			0		5			0	0		Prof. V. Faroili.
Vienna			29.66	753.3	37.8	3.2	50	S			2		0			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 843.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.07	763.6	48.9	9.4	72	N			3	0	3		NNW	0.402	10.2		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.33	770.4	43.2	6.2		NNW	12	5.4			7			0.040	1.02	*D. clouds	William Boswell.
Ardrossan			30.36	771.1	46	7.8		E			2		8					Misty	William McNeil.
Armagh, Observatory			30.35	770.9	49.9	9.9		NNE	2	0.9			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.35	770.9	52.2	11.2		Calm			0		10					Drizzling	J. Dreyer.
Bradford			30.28	769.1	48.1	8.9		N			2		4			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.91	759.7	84.5	29.2		NE			1		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.24	768.1	48.0	8.9		N			2		7			Blank		*D. clouds	H. Todd. (H.C.
Cardington			30.25	768.3	49.4	9.7		N			1		8					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.22	767.6	49.7	9.8		NW			2		7					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.82	732.0	30.34	770.6	51.0	10.6		N			1		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.08	626.9			25.0	— 3.9	74	Calm			0		10			0.081	1....	Snowing	Francis Redford, M. A.
Donaghadee			30.31	769.9	51	10.6		SSE			3		10					Overcast	J. Mac Gowan.
Dover			30.18	766.6	50	10.0		N			3		6					¾ clouded	J. Costello.
Eccles, (near Manchester)			30.27	768.8	50.8	10.4		NE	0.4	0.2			5					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.30	769.6	55.6	13.1		NW			2		9					Overcast	The Staff.
Fort Napier, (Natal)	27.46	697.5	29.70	754.4	77.0	25.0		SE			2		3					*D. clouds	Pt'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.96	761.0	84.0	28.9		N			1		7					*D. clouds	
Galway, Queen's College			30.26	768.6	50	10.0		N			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.10	764.5	68.8	20.4		W			4		0					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.33	770.4	45.4	7.4		NE			1		8					*D. clouds	Lewis Stuart.
Great Yarmouth			30.17	766.3	47	8.3		N			4		7					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.24	768.1	50.7	10.4		N			2		9					The Staff, for G. B. Airy.	
Guernsey			30.26	768.6	56	13.3		NNW			1		3					*D. clouds	Dr. S. F. Hoskins.
Helston			30.30	769.6	57	13.9		N			0		4c			0	0	*D. clouds	M. P. Moyle.
Holyhead			30.29	769.4	53	11.7		N			3		3					*D. clouds	John Tilston.
Kew, Observatory			30.25	768.3	49.9	9.9		N	8	3.6			10					Gloomy	The Staff.
Kingstown			30.33	770.4	52	11.1		N			4		10					Gloomy	George Mitchell.
Leicester Museum			30.29	769.4	48.1	8.9		NE			1		4					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.94	760.5	61.2	16.2		NW			2		4c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.37	771.4	44	6.7		NW			2		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	78.0	25.6		NE			3		2					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.28	769.1	49.9	9.9		NNW			3		7c,k	N	NNW	0.009	0.2	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.28	769.1	47.4	8.6		NNE			2		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.25	768.3	50	10.0		N			1		10					Gloomy	J. Lucas.
Plymouth			30.27	768.8	56.5	13.6		NNW			1		10					Overcast	John Merrifield.
Roche's Point			30.33	770.4	54	12.2		SSE			1		10					Overcast	W. Kennedy.
Saint Ann's Head			30.30	769.6	54	12.2		N			1		8					Showery	John C. Walker.
Saint Helier, (Jersey)			30.24	768.1	58.7	14.7		N			3		2					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.38	771.6	43.8	6.6		N	16	7.2			3					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.61	752.1	50.1	10.1		NE			3		10					Raining	Sergt. W. H. Lyne.
Sheffield			30.29	769.4	48.4	9.1		NNE			2		7			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.32	770.1	47.6	8.7	76	W			1		2			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.30	769.6	48.0	8.9		NE			1		4					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.37	771.4	49	9.4		NNE			2		2					Blue sky	John Smith.
Strathfield Turgiss			30.26	768.6	50.7	10.4		N			1		8					*D. clouds	Rev. Charles H. Griffith
Thurso			30.35	770.9	44	6.7		NNE			3		7					*D. clouds	John Trotter.
Truro, Royal Institution			30.32	770.1	58	14.4		N			3		9					Gloomy	W. Newcombe.
Valencia, Observatory			30.33	770.4	57.1	13.9		NW	7	3.1			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					53	11.7		E			3		5			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			29.99	761.7	73.0	22.8	55	SSE	22	9.8		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.42	747.3	65.0	18.3	82	W			5		4k			0.25	6.3		Francis Abbott, F. R. A. S.
Leith, Restalrig Park			30.37	771.4	46.0	7.8		NE			2					0.05	1.3	Fine	Andrew Gibb.
Mauritius, Observatory			30.01	762.2				SE	15.1	6.8						0	0		C. Meldrum.
Melbourne, Observatory			29.83	757.7	60.0	15.6	73	WNW	11	4.9			10			0	0	Gloomy	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.34	770.6	46	7.8		NE			4	5	0	NE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.32	770.1	41	5.0		N			6	3	4	NNE		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105.7 feet, or 1,556.0.7 meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.57	751.1	36.1	2.3	80	WNW			6		10						
Faröe			29.90	759.5	36.1	2.3	72	N			6		6						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.23	767.8	44.4	6.9	99	SE			4		5					Raining	
Thorshavn, (Faröe)			29.69	754.0	40.3	4.6	65	N			2		2						
Vestervig			29.92	759.9	34.5	1.4	72	N			6		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.24	768.0	49.1	9.5	90	NNW			3		10k		NW	0.04	1.	Covered	Normal School.
Amiens			30.13	765.2	55.0	12.8	72	W			3		5		N	0.079	2.0	Cloudy	Normal School.
Avignon			30.12	765.1	54.7	12.6	33	N			3		0			0	0	Clear	Normal School.
Bar-sur-Seine					44.4	6.9	93	S			1		10			0.091	2.3	Foggy	C. Saillard.
Beaumette, (near Angers)			30.20	767.0	54.1	12.3	87	W	4.0	1.8					N	0.004	0.1		Beaumette Observ'tory
Beauvais			30.17	766.4	43.4	11.9	57	N			3		2		N	0.04	1.	Slightly cl'dy	Normal School.
Besançon			30.23	767.8	34.5	1.4	93	SSW			2		8		SW	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.33	770.3	39.4	4.1	77	SE			2		10n		S			Raining	Normal School.
Bourges			30.13	765.4	48.2	9	97	SW			2		10		SW	0.094	2.4	Covered	Normal School.
Brest			30.22	767.6	56.3	13.5	79	NNE			1		8		NNE	0	0		Naval Observatory.
Carcassonne			30.16	766.0	53.6	12	55	E			4		1		W	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.17	766.3	54.3	12.4	86	N			1		10		E	0.08	2.	Covered	Normal School.
Châlons-sur-Marne			30.11	764.7	48.2	9.0	89	NW			2		8n		S	0.268	6.8	Very cloudy	Normal School.
Clermont			30.19	766.7	47.8	8.8	83	NW			1		10			0.031	0.8		Puy de Dome Obs'y.
Commercy			30.15	765.7	38.3	3.5	97	W			2		10			0.098	2.5	Covered	Normal School.
Commune de Gréasque*			30.13	765.2	54.9	12.7	46	NW			2		2		NW	0	0		M. Kina.
Grenoble			30.21	767.4	45.3	7.4	82	NNE			2		8ck		E	0	0	Very cloudy	Normal School.
La Roche-sur-Yon					55.4	13.0	79	S			1		10		N	0	0	Covered	Normal School.
Le Mans			30.22	767.5	53.1	11.7	87	N			2		8		N	0.014	0.35	Very cloudy	Normal School.
Lons-Le-Saulnier			30.20	767.0	36.1	2.3	96	S			1		10			0.319	8.1	Rain & snow	Normal School.
Lorient			30.30	769.5	58.3	14.6	70	NW			1		8		NW	0	0	Very cloudy	Naval Observatory.
Mâcon			30.29	769.3	40.1	4.5	90	WSW			2		10			0	0	Covered	Normal School.
Metz			30.15	765.8	36.3	2.4	94	SW			2		10			0.122	3.1	Snowing	M. Schuster.
Mirecourt			30.15	765.8	37.2	2.9	81	S					10		W	0	0	Covered	Normal School.
Nismes			30.13	765.4	56.5	13.6	47	N			2		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			30.16	766.0	51.1	10.6	97	NNW			2		5		SE	0.24	6.	Cloudy	Normal School.
Paris, Observatory			30.15	765.9	53.8	12.1	70	NW			2		5ck		NW	0.030	0.7	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			30.19	766.8	48.9	9.4		N			2		0			0	0	Clear	Normal School.
Rochefort, Observatory			30.27	768.8	57.2	14.0	76	WNW			1		5		S	0	0	½ covered	Naval Observatory.
Rouen			30.19	766.8	55.2	12.9	68	N			2		2		N	0.024	0.6	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	29.15	741.2	30.27	768.9	55.4	13		NW			1		0			0	0	Clear	Normal School.
Villefranche			30.21	767.3	48.2	9	84	W			1		10		W	0	0	Covered	Normal School
Sub-Series.																			
Fort de France, Martinique			29.80	757.0	78.8	26													L'Abbé Marchési.
Marseilles			30.07	763.8	56.3	13.5	45	WNW			1		2			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.96	633.9	30.36	771.2	42.4	5.8	71	ESE	7.	3.33			2		N	0*	0		—. Falguère.
Montsouris, Paris			30.14	765.6	54.0	12.2	75	NNW			2		4		N	0.051	1.3		Montsouris Observ'tory.
Perpignan			30.20	767.1	59.5	15.3	53	N	16.8	7.50			6		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.27	540.2			25.9	— 3.4		N			2		3					Fair	M. Bayiac.
Pic du Midi, (Plantade,) H. P.	22.59	573.7			31.1	— 0.5		N			2		3			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.15	767.8	53.8	12.1	78	N			1		2			0.024	0.6		E. Renou.
Toulouse			30.32	770.1	52.5	11.4	61	NW			2		1			0	0		Toulouse Observatory.
Tours			30.19	766.9	48.0	8.9	87	NNW			2		10		NW	0	0		C. Marquet.
Versailles, (near Paris)			30.16	766.0	53.6	12.0	83	N			2		7			0.056	1.43	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.24	768.1	37.6	3.1	64	NW	7.4	3.30			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.46 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.94	760.4	34.5	1.4	94	W			3		10			0.059	1.5	Snowing	Prof. T. Hoh.
Berlin			29.79	756.6	33.8	1.0	95	S			4		10			0.134	3.4	Snowing	Prof. Arndt.
Breslau			29.98	761.4	34.0	1.1	76	S			5		10			Inap.	Inap.	Foggy	Royal University Obs'y.
Carlsruhe			30.04	763.0	34.5	1.4	96	SW			5		10			0.268	6.8		A. Senz.
Cassel			29.98	761.5	36.5	2.5	89	SE			3		10	WNW		0.118	3.0	Snowing	Dr. H. Möhl.
Emden			30.02	762.5	40.8	4.9	92	NW			3		10			0.213	5.4		Prof. Prestel.
Frankfort on the Main			30.01	762.2	35.6	2.0	78	SSW			1		10			0.142	3.6		Physical Society.
Friedrichshafen			30.13	765.4	34.7	1.5	91	WSW			4		10			0.295	7.5	Rain & snow	M. Wilhelm.
Hamburg			29.84	758.0	41.7	5.4	57	NW			4		6k	NW		0.118	3.0	Fair	Captain F. Hegemann.
Kiel			29.80	756.9	39.0	4.2	59	SW			7		10			0.079	2.0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.03	762.8	30.6	— 0.8	86	SE			5		8			0	0		Prof. E. Luther.
Köslin			29.78	756.3	31.8	— 0.1		SW			8		6			0.063	1.6		H. Müller.
Leipsic			29.90	759.5	32.4	0.2	94	SSW			3		10					Heavy snow	Prof. Bruhns.
Memel			30.04	763.0	28.9	— 1.7	90	SSE			3		10ks			0.039	1.0		Reinbrecht & Skalweit.
Münster			29.95	760.6	45.5	7.5	75	NE			5		4			0.386	9.8	Snowing	Prof. E. Heis.
Neufahrwasser			29.95	760.8	30.6	— 0.8	92	SSW			5		10			0.051	1.3	Smoke-haze.	A Lothe.
Posen			29.91	759.7	37.4	3.0	70	SW			7		10						Dr. Magener.
Strassburg, (in Alsace)			30.11	764.9	34.5	1.4	98	SW			2		10			Inap.	Inap.	Raining	Dr. Schur.
Stuttgart			30.03	762.8	36.0	2.2	87	W			1		10			0.154	3.9	Rain & snow	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.00	761.9	36.7	2.6	89	W			5		10			0.228	5.8		Prof. Flesch.
Weissenburg, (Bavaria,)	28.44	722.3	30.01	762.2	34.3	1.3	76	SSW	4	2			10			0.043	1.1	Snowing	Dr. von Bebber.
Wustrow, Naval School			29.76	755.8	38.5	3.6	61	NNW			5		10			0.035	0.9		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," At Funchal.			30.20	767.0	76.3	24.6	92	SE			1		1		SE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.74	755.4	52.3	11.3		NW										½ clear	

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

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.08	764.0	42.4	5.8	11	Calm	0	0			5			0	0		Prof. Giovanni Clodig.
Padua			30.08	763.9	46.6	8.1	38	SW	1.[illegible]	0.6			7	NE		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.08	764.1	46.8	8.2	37	SE	1.[illegible]	0.6			6	N		0	0		Alm. Da Schio.
Verona			30.06	763.5	48.2	9.0	48	E			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.72	729.5	30.07	763.8	43.9	6.6	35	S			2		9			0	0		Prof. Trionfini Carl.
Domodossola			30.07	763.7	46.9	8.3	51	Calm			0		9			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.11	764.9	45.3	7.4	53	NE			2		8	NW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.10	764.6	46.8	8.2	52	NNW	0	0			1			0	0		Prof. P. F. Denza.
Mondovi	28.13	714.4	30.09	764.3	41.4	5.2	59	NW			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			30.14	765.5	53.4	11.9	53	E			2		9			0	0		Prof. L. Vassallo.
Genoa			30.08	763.9	54.5	12.5	41	SW	1.[illegible]	0.6			4	N		0	0		Prof. Garibaldi.
Piacenza			30.10	764.4	45.7	7.6	51	S	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			30.10	764.6	48.6	9.2	71	S			2		9			0	0		Prof. P. Pigorini.
Bologna			30.13	765.4	48.0	8.9	34	SE			1		5	N		0	0		Prof. A. Palagi.
Florence			30.11	764.9	50.0	10.0	39	NE			4		4			0	0		Cav. F. Meucci.
Leghorn			30.11	764.8	49.6	9.8	25	ENE	10.[illegible]	4.7			1			0	0		Prof. P. Monte.
Siena	28.84	732.6	30.08	764.0	43.7	6.5	48	ENE	3.	1.4			7	N		0	0		Prof. L. Toscani.
Urbino	28.52	724.5	30.13	765.3	39.4	4.1	67	NE			4		5			0	0		Prof. P. Serpieri.
Pesaro			30.12	765.1	46.2	7.9	55	NNE	19.[illegible]	8.6			4	N		0	0		Prof. Luigi Guidi.
Ancona			30.14	765.6	47.1	8.4	45	N			4		4			0	0		Prof. F. De—Basis.
Grosseto			30.09	764.3	50.4	10.2	32	NNE			6		2	SE		0	0		Avv. P. Ponticelli.
Rome			30.00	762.1	52.2	11.2	24	NNE	11.[illegible]	5.0			4			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.03	762.8	50.4	10.2	35	NE			4		3	NW		0	0		Prof. L. Palmieri.
Lecce			29.92	760.0	46.4	8.0	50	NNE	17.[illegible]	7.8			8			0.437	11.1	Raining	Prof. C. De—Giorgi.
Cosenza			29.97	761.3	50.0	10.0	50	NW	6.[illegible]	2.8			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.6	55.9	13.3	64	NW			6		10	SSW		1.18[illegible]	30.0	Raining	Prof. F. Cafiero.
Palermo			29.84	758.0	55.2	12.9	54	NE	6.[illegible]	2.8			9	NE		0.134	3.4	Raining	Prof. G. Caccatore.
Caltanissetta	27.98	710.8	29.94	760.5	49.5	9.7	45	NE			4		5	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.02	762.6	48.0	8.9	30	NE	3.[illegible]	1.4			5	E		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.13	765.3	49.6	9.8		NNE			5								
Groningen			29.92	759.9	46.2	7.9		NW			5								
Helder			30.06	763.4	45.7	7.6		NNW			6								
Utrecht			30.02	762.4	48.4	9.1	63	NNW			4		6[illegible]			0.173	4.4	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.08	764.1	37.8	3.2	47	N	4	2			0			0	0		
Bróno			30.26	768.6	23.9	— 4.5	47	E	7	3			2			0	0		
Christiania			30.02	762.6	30.9	— 0.6	81	NNE	20.8	9.3			1			0.057	1.4		
Tromsö			30.27	768.9	21.7	— 5.7	82	SW	4	2			3			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.94	760.5	64.8	18.2	77	W	7.4	3.3			4	E		0.008	0.2		Dr. J. A. Sampaio.
Campo Major			30.20	767.0	69.6	20.9	28	ESE	1.3	0.6			1			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.13	765.4	72.0	22.2	77	SE	2.2	0.97			0			0	0		Capt. D. A. de Cunha.
Lisbon			30.15	765.8	62.6	17.0	52	SW	3.8	1.7			2	SSE		0	0		The Observatory.
Ponta Delgada, (Azores)			30.03	762.7	68.0	20.0	74	W	6.2	2.78			4			0.016	0.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.08	763.9	31.3	— 0.4	79	SSE	11	5			10						Astronomical Obs.
Wilna			30.18	766.6	32.9	2.5	57	S	2	1			10						Astronomical Obs.
Dorpat			30.23	767.7	18.9	— 7.3	100	WSW	4	2			0					Foggy	Physical Cabinet.
St. Petersburg			30.19	766.9	28.0	— 2.2	70	NW	4	2			2						Central Physical Obs.
Kuopio			30.22	767.6	16.2	— 8.8	97	Calm	0	0			3						Ch. Forsten.
Kieff			30.15	765.9	31.8	— 0.1	60	ENE	4	2			10						Physical Cabinet.
Nikolaiev			30.08	763.9	34.3	1.3	70	NNE	22	10			7						Kurdakof
Kertch			29.99	761.7	44.2	6.8	93	NE	9	4			10						Lagorio.
Moscow			30.29	769.3	25.9	— 3.4	82	S	4	2			8						Meteorological Obs.
Lugan			29.98	761.6	33.6	0.9	66	N	16	7			5						Meteorological Obs.
Archangel			30.04	763.9	23.0	— 5.0	99	N	9	4			6						Ogorodnikof.
Tiflis	28.46	722.6	29.82	757.5	68.0	20.0	44	N	13	6			7						Physical Observatory.
Astrakhan			29.91	759.6	50.2	10.1	78	SE	7	3			10						Sebastianof.
Kasan			30.11	764.8	27.0	— 2.8	98	N	11	5			10					Snowing	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.23	742.5	30.23	767.7	30.7	— 0.7	64	SE	4	2			3						Meteorological Obs.
Nukuss			30.07	763.7	55.0	12.8	17	ENE	7	3			1						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.77	781.5	14.0	—10.0	94	S	0	0			0						Meteorological Obs.
Yeniseisk			30.24	768.2	19.9	— 6.7	93	S	7	3			10			Snow	Snow		Marks.
Irkutsk																			Usolzef.
Gorga																			Mossin.
Peking, (China)			30.12	765.0	45.3	7.4	30	NW	13	6			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.80	757.0	24.1	— 4.4	24	NW	9	4			1						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Gorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.14	765.6	60.6	15.9	33	NE	3.7	1.67		1	0	NW		0	0	Light clouds	Royal Observatory.
San Fernando			30.16	766.0	64.8	18.2	70	WNW	8.7	3.9		0	1		W	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.35	771.0	23.0	— 5.0	86	N			2		10			0	0		
Umea			30.32	770.1	26.2	— 3.2	82	N			2		10			0	0		
Hernosand			30.26	768.7	28.0	— 2.2	79	NNE			4		8			0	0		
Stockholm			29.89	759.1	32.5	0.3	94	ESE			6		10			0.012	0.3		
Wisby			29.85	758.2	33.8	1.0	92	S			6		10			0.224	5.7	Snowing	
SUB-SERIES.																			
Upsala			29.95	760.8	30.6	— 0.8	97	ENE	15.[illegible]	6.8			10			0.079	2.00	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.74	730.0	30.21	767.2	41.0	5.0	63	S			3		10			0	0	Covered	The Observatory.
Zurich	28.46	722.9	30.17	766.4	33.1	0.6	94	NW			1		10			0.370	9.4	Snowing	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +3.8 mm; Thermometer, —3.6 cent.; Relative Humidity, —12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.59	751.5	50.7	10.4	87	ENE	28	12.5			10		ENE	0.925	23.5		
Fao, (Persian Gulf)																			
Salonica			29.85	758.1	56.1	13.4		NW			4		10			Blank	Blank		
Valona			29.74	755.3	48.4	9.1		NW			2		2						
Varna			29.80	757.0	32.4	0.2		N			8		10					Raining	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.84	757.8	78.4	25.8	64	WSW			1		8ks		SW	0.05	1.3	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.44	773.2	26.0	— 3.3		Calm	0	0			3			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.35	770.9	37	2.8		SE	1	0.4			10s		SE	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.46	773.7	26	— 3.3	90	W	2	0.9		5ck	0	NW		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			30.42	772.7	34	1.1	70	Calm	0	0			10ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.30	769.6	32.7	0.4	87	E			1		Haze			0	0	Dull	James Smith, M. A.
Dalhousie, N. B.			30.47	773.9	25.8	— 3.4	90	E			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.26	768.6	45.3	7.4	92	N					10			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.53	775.4	24.5	— 4.2	94	N	2	0.9		0	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.28	769.1	7	—13.9	93	N	7	3.1		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.89	759.2	42.4	5.8	85	SE			2		10n					Raining	H. J. Strang, M. A.
Granton, Ontario	28.83	732.3	29.95	760.7	41	5.0		E			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			30.42	772.7	29	— 1.7	91	NW	5	2.2		0	0			0	0	Clear	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.32	770.1	39	3.9	82	E	15†	6.7†		10cs	0	E		0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.32?	744.7?	32.0	0.0	98	N	8	3.6		8k	0	N		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			30.37	771.4	34	1.1	96	SE	12	5.4		0	5ks			0	0	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			30.33	770.4	34	1.1	82	NE	2	0.9		10ck	0	W		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.11	764.8	40	4.4	78	E	17	7.6			10n		E	0.11	2.8	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.00	762.0	47	8.3	71	SE	8	3.6			10n		NE	0	0	Threatening	H. Morgan.
Port Hastings, N. S.			30.40	772.1	36.0	2.2		NW	12	5.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.93	760.2	47	8.3	78	S	20	8.9			10n		S	Inap.	Inap.	Lightning	M. Payne.
*Quebec, Quebec			30.41	772.4	31	— 0.6	89	Calm	0	0		5k	5ks	W	W	0	0	Fair	Capt. Ashe, R. N.
St. John, N. B.			30.52	775.2	26	— 3.3	87	Calm	0	0		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.92	760.0	43	6.1	67	SE	8	3.6			10n			0	0	Cloudy	A. Stewart.
Stayner, Ontario			30.05	763.3	37	2.8	91	SE	9	4.0			10n		SW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.98	761.5	39.0	3.9	83	SE	15	6.7			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.37	771.4	33	0.6	74	NW	8	3.6			8ks		NW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.10	764.5	43	6.1	68	E	18	8.0			10n		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.00	762.0	39.8	4.3	97	E	15	6.7			10s			0.75	19.1	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.23	767.8	34.0	1.1	90	N	3	1.3		5ks	5s			0.02	0.5	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. †Estimated.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.39	771.9	29	— 1.7	88	Calm	0	0			Fog			0	0	Foggy	
Alpena, Mich.			29.83	757.7	43	6.1	83	SE	20	8.9			10s		SE	0	0	Cloudy	
Atlantic City, N. J.			30.33	770.4	51	10.6	65	E	15	6.7		2c	2s	W	E	0	0	Fair	
Augusta, Ga.			30.21	767.3	50	10.0	79	NE	3	1.3			10ks			0	0	Cloudy	
Baltimore, Md.			30.34	770.6	43	6.1	75	NE	4	1.8		8ck	Sm'e	W		0	0	Cloudy	
Barnegat, N. J.			30.33	770.4	51	10.6	64	E	15	6.7		5cs	2k	NW	E	0	0	Fair	
Bismarck, Dakota	28.43	722.1	30.20	767.1	18	— 7.8	69	NW	4	1.8			10s			0.09	2.3	Cloudy	
Boston, Mass.			30.43	772.9	35	1.7	80	Calm	0	0			Fog			0	0	Foggy	
Breckenridge, Minn.			30.15	765.8	9	—12.8	79	NW	20	8.9		0	0			0.01	0.3	Clear	
Buffalo, N. Y.			30.03	762.7	46	7.8	47	S	11	4.9			10s		S	0	0	Cloudy	
Burlington, Vt.			30.38	771.6	34	1.1	61	S	1	0.4		2c	0			0	0	Fair	
Cairo, Ill.			29.95	760.7	56	13.3	87	W	10	4.5			10ks		W	0.29	7.4	Cloudy	
Cape Hatteras, N. C.			30.18	766.6	59	15.0	70	NE	15	6.7		2cs	Haze			0	0	Fair	
Cape Henry, Va.			30.29	769.4	54	12.2	70	NE	13	5.8		2c	0	NW		0	0	Clear	
Cape Lookout, N. C.			30.25	768.3	56	13.3	87	NE	24	10.7		2k	Haze	NE		0	0	Fair	
Cape May, N. J.			30.33	770.4	41	5.0	74	NE	10	4.5		5c	2s	W	NE	0	0	Fair	
Charleston, S. C.			30.20	767.1	56	13.3	87	NE	9	4.0			10s			0	0	Cloudy	
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	28	— 2.2	59	W	16	7.2		0	1s			Inap.	Inap.	Clear	
Chicago, Ill.			29.59	751.6	47	8.3	85	SW	14	6.3			10s		SW	0.33	8.4	Threatening	
Cincinnati, Ohio			29.80	756.9	55	12.8	80	SW	13	5.8			10n		SW	0.37	9.4	Light rain	
Cleveland, Ohio			29.89	759.2	47	8.3	74	SE	14	6.3			10n		S	0.02	0.5	Light rain	
Corsicana, Tex.			30.18	766.6	59	15.0	73	N	12	5.4			10s			0	0	Cloudy	
Davenport, Iowa			29.78	756.4	34	1.1	69	W	24	10.7			10s		W	0.57	14.5	Cloudy	
Denison, Tex.			30.27	768.8	49	9.4	50	NE	13	5.8		10cs	0	N		0	0	Cloudy	
Denver, Col.	25.03	637.8	30.25	768.3	19	— 7.2	69	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			29.76	755.9	47	8.3	77	SE	12	5.4			10n			0.15	3.8	Light rain	
Dodge City, Kan.	27.67	702.8	30.09	764.3	31	— 0.6	78	N	14	6.3		0	0			0	0	Clear	
Dubuque, Iowa			29.71	754.6	32	0.0	79	W	13	5.8			10s			0.60	15.2	Cloudy	
Duluth, Minn.			29.74	755.4	36	2.2	80	N	20	8.9			10n		NW	1.55	39.4	Light snow	
Eastport, Me.			30.56	776.2	35	1.7	61	NE	4	1.8		0	0			0	0	Clear	
Erie, Pa.			29.94	760.5	46	7.8	69	SE	30	13.4			10n		S	Inap.	Inap.	Light rain	
Escanaba, Mich.			29.66	753.4	43	6.1	83	SE	16	7.2			10n		SE	0.66	16.8	Heavy rain	
Fort Gibson, Indian Ter.			30.26	768.6	41	5.0	64	NW	12	5.4		0	0			0.21	5.3	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.12	739.6	30.28	769.1	43	6.1	60	NE	3	1.3		0	0			0	0	Clear	
Fort Sully, Dakota																			
Florence, Arizona	28.63	727.2	30.17	766.3	50	10.0		NW				0	0			0	0	Clear	
Galveston, Tex.			30.09	764.3	68	20.0	97	N	8	3.6			Fog			0	0	Foggy	
Grand Haven, Mich.			29.54	750.3	45	7.2	88	SE	12	5.4			10n		SE	0.40	10.2	Light rain	
Indianapolis, Ind.			29.72	754.9	53	11.7	93	S	9	4.0			10n		SW	0.34	8.6	Light rain	
Indianola, Tex.			30.10	764.5	67	19.4	90	NE	4	1.8			Fog			0	0	Dense fog	
Jacksonville, Fla.			30.12	765.0	64	17.8	88	N	4	1.8			10s			0	0	Cloudy	
Keokuk, Iowa			29.88	758.9	35	1.7	60	NW	20	8.9			10s		NW	0.50	12.7	Cloudy	
Key West, Fla.			30.03	762.7	77	25.0	90	E	12	5.4		0	8ks		E	0.45	11.4	Cloudy	
Kittyhawk, N. C.			30.29	769.4	55	12.8	80	NE	20	8.9		0	0			0	0	Clear	
Knoxville, Tenn.			30.10	764.5	44	6.7	75	Calm	0	0		3ck	Fog	SW		0	0	Foggy	
La Crosse, Wis.			29.61	752.1	38	3.3	81	W	6	2.7			10n		W	0.39	9.9	Light snow	
Leavenworth, Kan.			30.18	766.6	33	0.6	79	NW	12	5.4		0	0			0.01	0.3	Clear	
Louisville, Ky.			29.86	758.4	55	12.8	87	S	18	8.0			10n			0.41	10.4	Light rain	
Lynchburg, Va.			30.32	770.1	39	3.9	90	Calm	0	0		10k	0	W		0	0	Cloudy	
Malone, N. Y.			30.22	767.6	36	2.2	70	S	10	4.5		10cs	0	W		0	0	Cloudy	
Marquette, Mich.			29.72	754.9	43	6.1	83	E	12	5.4			10s		SE	0.07	1.8	Threatening	
Memphis, Tenn.			30.02	762.5	58	14.4	100	W	5	2.2			10n		W	0.25	6.3	Light rain	
Milwaukee, Wis.			29.51	749.5	45	7.2	92	SW	8	3.6		10n	Fog	SW		0.17	4.3	Light rain	
Mobile, Ala.			30.10	764.5	58	14.4	93	NE	5	2.2		0	Fog			0	0	Clear	
Montgomery, Ala.			30.15	765.8	55.4	13.1	87	SE	3	1.3		Haz	2ck			0	0	Fair	
Morgantown, W. Va.	28.95	735.3	30.00	762.0	51	10.6	59	SE	14	6.3			10s		SW	0	0	Threatening	
Mt. Washington, N. H.	23.97	608.8	30.33	770.4	19	— 7.2	39	Calm	0	0		0	0			0	0	Clear	
Nashville, Tenn.			30.00	762.0	58	14.4	81	SW	7	3.1			10n		SW	0.09	2.3	Light rain	
New Haven, Conn.			30.38	771.6	37	2.8	71	NE	12	5.4		Haz	0			0	0	Clear	
New London, Conn.			30.40	772.1	39	3.9	70	N	5	2.2		2c	Haze	W		0	0	Fair	
New Orleans, La.			30.08	764.0	64	17.8	89	N	1	0.4		8cs	Sm'e			0	0	Cloudy	
Newport, R. I.			30.42	772.7	41	5.0	82	NE	4	1.8		0	4ks		E	0	0	Fair	
New York, N. Y.			30.37	771.4	43	6.1	75	NE	12	5.4		5k	5ks	NE	NE	0	0	Cloudy	
Norfolk, Va.			30.30	769.6	48	8.9	77	NE	1	0.4		5c	Sm'e			0	0	Fair	
North Platte, Neb.	27.29	693.2	30.04	763.0	23	— 5.0	72	NW	13	5.8			10s			0	0	Cloudy	
Omaha, Neb.	29.03	737.3	30.17	766.3	28	— 2.2	88	NW	16	7.2		0	0			Inap.	Inap.	Clear	
Oswego, N. Y.			30.26	768.6	39	3.9	71	SW	12	5.4			10s		SW	0	0	Cloudy	
Pembina, Dakota			30.27	768.8	8	—13.3	89	NW	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa.			30.36	771.1	39	3.9	72	E	11	4.9		2c	2s	SW		0	0	Fair	
Pike's Peak, Col.	17.89	452.6	30.03	762.7	9	—12.8	36	N	30	13.4		0	0			0	0	Clear	
Pittsburgh, Pa.			30.00	762.0	49	9.4	57	SE	8	3.6			10s		SW	0	0	Cloudy	
Port Huron, Mich.			29.81	757.2	44	6.7	92	SE	12	5.4			10n		SE	0.04	1.0	Light rain	
Portland, Me.			30.46	773.7	36	2.2	61	Calm	0	0		Haze	Haz			0	0	Clear	
Portland, Oregon			30.40	772.1	41	5.0	91	S	1	0.4			Fog			0	0	Foggy	
Punta Rassa, Fla.			30.08	764.0	72.0	22.2	90	NE	10	4.5			10s		NE	0.05	1.3	Cloudy	
Rochester, N. Y.			30.14	765.5	39	3.9	72	SE	13	5.8		5ck	5ks	W	SW	0	0	Cloudy	
Salt Lake City, Utah	26.02	660.9	30.35	770.9	31	— 0.6	60	Calm	0	0		0	0			0.01	0.3	Clear	
Sandy Hook, N. J.			30.32	770.1	46	7.8	85	NE	13	5.8			10ks		SE	0	0	Cloudy	
San Diego, Cal.			30.17	766.3	54	12.2	79	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.22	767.6	54	12.2	86	N	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.49	596.6	30.03	762.7	29	— 1.7	67	E	5	2.2		0	0			0	0	Clear	
Savannah, Ga.			30.17	766.3	56	13.3	87	NE	3	1.3		5k	5s			0	0	Cloudy	
Shreveport, La.			30.16	766.1	62	16.7	94	N	7	3.1			10s		N	0.13	3.3	Cloudy	
Smithville, N. C.			30.25	768.3	50	10.0	86	N	9	4.0			10ks		NE	0	0	Cloudy	
Springfield, Mass.			30.44	773.2	31.4	— 0.3	79	Calm	0	0		8cs	0			0	0	Fair	
St. Louis, Mo.			29.95	760.7	41	5.0	73	NW	24	10.7			10s		W	0.29	5.1	Cloudy	
St. Marks, Fla.			30.12	765.0	60	15.6	94	Calm	0	0			10s			0	0	Cloudy	
St. Paul, Minn.			29.66	753.4	34	1.1	90	NW	24	10.7			10n			0.26	6.6	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.44	773.2	45	7.2	60	E	12	5.4		0	0			0	0	Clear	
Toledo, Ohio			29.70	754.4	47	8.3	92	N	12	5.4			10n			0.25	6.3	Heavy rain	
Tucson, Arizona	27.69	703.3	30.24	768.1	42	5.6		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.14	765.5	60	15.6	94	NE	14	6.3			10ks		E	0	0	Cloudy	
Vicksburg, Miss.			30.13	765.3	56	13.3	93	S	3	1.3		6cs,k	2ks	W		0	0	Cloudy	
Virginia City, M. T.	24.50	622.3	29.98	761.5	27	— 2.8	66	Calm	0	0			10ks		NW	0	0	Cloudy	
Washington, D. C.			30.34	770.6	38	3.3	90	SE	2	0.9		10ck	Fog	W		0	0	Cloudy	
Wilmington, N. C.			30.26	768.6	45	7.2	84	NE	6	2.7		2cs	0	W		0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			30.43	772.9	47	8.3	60	SE	10	4.5		Haze	0			0	0	Clear	
Yankton, Dakota	28.90	734.0	30.28	769.1	23	— 5.0	79	NW	16	7.2			10s		NW	0.08	2.0	Cloudy	
Yuma, Arizona			30.17	766.3	65	18.3		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.12	765.0	77	25.0	76	Calm	0	0		2c	2s	NE	NE	0	0		James Gall.
Navassa, W. I.					84	28.9		NE			2					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.17	690.1	29.96	761.0	67	19.4	78	NE	2.0	0.9		10c	0	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.97	761.2	82	27.8	83	E			2	4k	5ks	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.02	762.6			84.2	29.0		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			65.8	18.8	85	Calm			0	5ck	0			2.72	69.1	Fair	Thomas Herran.
York Factory, B. A.			30.30	769.6	3.5	—15.8	87	SW	4	1.8		4c	3s	S		0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	75.5	24.2		SSE			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Greenwich Pier.			30.30	769.6	40	4.4	83	NE	5	2.2		2c	0	SW				Clear	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 7, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Endeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.02	762.5	67.1	19.5	51	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.07	763.8	64.4	18.0	74	N			1		0			0	0	Clear	Peter.
La Calle			29.96	760.9	62.2	16.8	68	NW			3		5			0.276	7.0	Fair	Fleury.
Tunis			29.99	761.8	59.0	15.0	87	W			3		5			0.087	2.2	Fair	Jacques.
Sfax			30.06	763.4															
Saïda			30.11	764.8	64.8	18.2	43	SSE			2		1			0	0	Clear	Millot.
Tebessa			29.99	761.8	46.4	8.0		NW			1		7			0	0	Cloudy	Bourgeois.
Guelville			30.19	766.7	57.6	14.2	67	NNW			1		0			0	0	Clear	Lemaillot.
Laghouat			30.09	764.3	59.0	15.0	68	Calm			0		0			0	0	Clear	Guyot.
Biskra			30.06	763.5	70.7	21.5	40	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.01	762.3	38.7	3.7	85	SE			1		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.00	762.0	34.2	1.2	92	NE			2		10			0.016	0.4		Dr. Wierzbiski.
Eperies			30.02	762.5	31.8	— 0.1	87	S			2		9s			0	0		Julius Mikolik.
Gratz	28.70	728.9	30.00	761.9	36.3	2.4	75	S			3		10			0	0		Andreas Rospini.
Hermannstadt	28.54	724.8	30.04	763.1	27.3	— 2.6	87	NW			1		7			0.169	4.30		Prof. Reissenberger.
Kremsmünster	28.53	724.6	29.91	759.7	38.1	3.4	66	NW			3		3			0.118	3.0		Prof. C. Wagner.
Lemberg			30.03	762.8	33.6	0.9	94	SE			2		8			Inap.	Inap.		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.92	760.0	48.2	9.0	63	Calm			0		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			30.02	762.4	35.6	2.0	87	E			1		4			0	0		Karl Stancel.
Trieste			29.93	760.2	46.9	8.3	39	E			1		10			0	0		Prof. V. Farolfi.
Vienna			29.95	760.8	32.7	0.4	90	NE			1		2			0.146	3.7		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.98	761.4	43.5	6.4	68	NNW			4		10n		NNW	0.098	2.50	Sprinkling	Royal Observatory

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 4 hours. Inches.	Rain-fall or melted snow in the past 4 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.34	770.6	41.0	5.0		ENE	20	8.9			3			0.030	0.76	Blue sky	William Boswell.
Ardrossan			30.33	770.4	43	6.1		ENE			1		3					Hazy	William McNeil.
Armagh, Observatory			30.32	770.1	45.0	7.2		E	6	2.7			10					Gloomy	S. Cali, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.27	768.8	47.7	8.7		ESE			1		10					Overcast	J. Dreyer.
Bradford			30.24	768.1	44.1	6.7		NE			2		5			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	85.0	29.4		NE			2		8					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.18	766.6	47.0	8.3		N			2		7					*D. clouds	H. Todd. [H.C.
Cardington			30.20	767.1	44.0	6.7		N			1		1					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.25	768.3	45.0	7.2		NE			2		1					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.77	730.7	30.33	770.4	43.6	6.4		NE			1		4					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.69	627.1			24.0	—4.4	83	S			1		10			0.18	4.6	Snowing	Francis Redford, M. A.
Donaghadee			30.30	769.6	45	7.2		E			4		2					Blue sky	J. Mac Gowan.
Dover			30.11	764.8	45	7.2		NNW			4		6					Squally	J. Costello.
Eccles, (near Manchester)			30.26	768.6	46.7	8.2		NE	0.4	0.2			5					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.22	767.6	51.0	10.6		ESE			3		10					Foggy	The Staff.
Fort Napier, (Natal)	27.61	701.3	29.84	757.9	70.5	21.4		E			2		10					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.93	760.2	85.0	29.4		E			1		6					*D. clouds	
Galway, Queen's College			30.22	767.6	49	9.4		SE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.13	765.3	68.5	20.3		SW			3		0					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.31	769.9	42.4	5.8		E			1		1					Blue sky	Lewis Stuart.
Great Yarmouth			30.10	764.5	43	6.1		N			5		6					Rain & hail	G. T. Watson.
Greenwich, Royal Obs'y			30.19	766.8	45.3	7.4		NNW			2		1					*D. clouds	The Staff, for G. B. Airy.
Guernsey			30.21	767.3	49	9.4		NNW			2		0					Blue sky	Dr. S. F. Hoskins.
Helston			30.22	767.6	55	12.8		E			4		10n			0	0		M. F. Moyle.
Holyhead			30.28	769.1	56	7.8		E			3		4					*D. clouds	John Tuston.
Kew, Observatory			30.20	767.1	44.8	7.1		N	14	6.3			2					*D. clouds	The Staff.
Kingstown			30.31	769.9	49	9.4		E			3		9					Overcast	George Mitchell.
Leicester Museum			30.25	768.3	45.2	7.2		N			1		3					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	61.6	16.4		NW			3		6k					*D. clouds	Corpl. P. Bravis, A.H.C.
Nairn			30.37	771.4	38	3.3		ENE			1		10					Overcast	W. L. Penny.
Nassau, (Bahamas)			29.90	759.4	73.5	23.1		SE			4		5					*D. clouds	Sarg. Maj. Henry.
Nottingham, Observatory			30.24	768.1	44.9	7.2		NNW			3		3k		NNE	0	0	Blue sky	R. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.23	767.8	44.3	6.8		NNE			3-4		2					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.20	767.1	44	6.7		NW			2		2					Blue sky	J. Lucas.
Plymouth			30.23	767.8	47.8	8.8		ENE			3		10					Overcast	John Merrifield.
Roche's Point			30.24	768.1	52	11.1		E			4		10					Overcast	W. Kennedy.
Saint Ann's Head			30.24	768.1	47	8.3		ENE			2		6					Hazy	John C. Walker.
Saint Helier, (Jersey)			30.19	766.8	51.0	10.6		NNE			3		5					⅜ clouded	A. P. Any.
Sandwick Manse, (Orkneys)			30.41	772.4	40.2	4.6		ENE	9	4.0			0					Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.92	760.0	41.2	5.1		NNW			2		10					Raining	Sergt. W. H. Lyne.
Sheffield			30.25	768.3	44.0	6.7		N			2		5			0	0	*D. clouds	W. F. Cooper.
Silloth Rectory			30.30	769.6	45.7	7.6	82	Calm			0		0			0	0	Blue sky	Rev. Francis Redford
Stonyhurst, Observatory			30.28	769.1	42.5	5.8		NE			1		5					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis Co., (Hebr.)			30.36	771.1	43	6.1		E			1		2					Blue sky	John Smith.
Stratfield Turgiss			30.23	767.8	45.2	7.3		N			1		0					Blue sky	Rev. Charles H. Griffith.
Thurso			30.36	771.1	45	7.2		NE			2		4					*D. clouds	John Trotter.
Truro, Royal Institution			30.24	768.1	53	11.7		E			4		10					Gloomy	W. Newcombe.
Valencia, Observatory			30.21	767.3	56.2	13.4		SE	5	2.2			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					46	7.8		NE			2		0			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.10	764.5	69.3	20.7	62	S	28	12.5		0	1						The Staff, for J. Stone.
Hobart Town, (Tasmania)			29.23	742.4	62.5	16.9	82	W			7		0			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.34	770.6	42.9	6.1		NE			2	5ck				0	0	Fine	Andrew Gibb.
Mauritius, Observatory			30.04	763.0				ESE	16.6	7.4						0.32	8.1		C. Meldrum.
Melbourne, Observatory			29.86	758.4	53.9	12.2	51	W	28	12.5			4			0	0	Squally	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.35	770.9	45	7.2		E			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.40	772.1	42	5.6		NE			6	2	5	NE					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Malta and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,165.7 feet, or 1,556.07 meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.85	758.3	36.5	2.5	77	ESE			7		8						
Faröe			29.91	759.6	36.9	2.7	80	NNE			6		7						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.07	763.8	47.3	8.5	81	SE					8						
Thorshavn, (Faröe)			30.46	773.7	40.6	4.8	57	Calm			0		10						
Vestervig			30.08	764.1	35.6	2.0	85	NE			8		9						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.17	766.4	50.0	10.0	67	NE			3		8k		NE	0	0	Very cloudy	Normal School.
Amiens			30.05	763.2	46.8	8.2	72	WSW			3		2		WSW	0	0	Slightly cl'dy	Normal School.
Avignon			29.99	761.8	52.9	11.6	45	N			4		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.07	763.7	44.4	6.9	77	N			2		8n		NNW	0.157	4.0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			30.14	765.6	48.4	9.1	89	N	0	0					NW	0.012	0.3		Beaumette Observ'tory
Beauvais			30.13	765.4	45.9	7.7	55	N			3		8		N	0	0	Very cloudy	Normal School.
Besançon			30.09	764.2	42.4	5.8	82	SSW			2		8		SW	0.327	8.3	Very cloudy	Normal School.
Bourg en Bresse			30.15	765.8	43.7	6.5	79	W			2		5kn		SE	0	0	Cloudy	Normal School.
Bourges			30.15	765.8	44.4	6.9	87	NW			2		2		NW	0.150	3.8	Slightly cl'dy	Normal School.
Brest			30.11	764.8	52.0	11.1	77	NE			3		9		NE	0	0	Misty	Naval Observatory.
Carcassonne			30.10	764.4	54.5	12.5	60	W			4		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.13	765.2	45.0	7.2	82	N			1		3		E	0	0		Normal School.
Châlons-sur-Marne			30.05	763.3	41.9	5.5	84	NW			3		10n		SE	0.035	0.9	Covered	Normal School.
Clermont			30.13	765.4	44.2	6.8	67	N			2		10			0.039	1.0		Puy de Dome Obs'y.
Commercy			30.07	763.7	40.6	4.8	80	WNW			2		10kn		WNW	0.010	0.25	Covered	Normal School.
Commune de Gréasque*			29.94	760.4	52.7	11.5	37	NW			6		2		NW	0	0		M. Kina.
Grenoble			30.10	764.6	48.0	8.9	78	NW			4		5k		NE	0	0	Partly cl'dy.	Normal School.
La Roche-sur-Yon					47.8	8.8	83	N			1		8		S	0	0	Very cloudy	Normal School.
Le Mans			30.26	768.5	46.9	8.3	78	NE			1		8		N	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.08	764.1	43.5	6.4	85	W			1		8		W	0	0	Very cloudy	Normal School.
Lorient			30.19	766.8	49.6	9.8	76	NE			2		10			0	0	Covered	Naval Observatory.
Mâcon			30.19	766.7	43.5	6.4	82	NNW			1		10			0.16	4.	Covered	Normal School.
Metz			30.06	763.5	40.3	4.6	85	WNW			2		5		W	0.035	0.9		M. Schuster.
Mirecourt			30.06	763.4	41.7	5.4	87	NW					10		NW	0	0	Covered	Normal School.
Nismes			29.99	761.7	55.9	13.3	75	NW			2		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			30.10	764.6	42.8	6	81	NW			2		5		SE	0	0	Cloudy	Normal School.
Paris, Observatory			30.10	764.6	46.6	8.1	45	NW			3		5ck			0	0	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			30.09	764.3	46.4	8		N			2		10		N	0	0	Covered	Normal School.
Rochefort, Observatory			30.15	765.9	53.6	12.0	67	NE			2		10		S	0	0	Covered	Naval Observatory.
Rouen			30.12	765.1	49.6	9.8	50	NW			2		5		N	0	0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	29.02	737.2	30.11	764.7	55.8	13.2		NW			2		2		E	0	0	Slightly cl'dy	Normal School.
Villefranche			30.20	767.1	50.0	10	84	SE			1		10		S	0.134	3.4	Covered	Normal School
Sub-Series.																			
Fort de France, Martinique			29.76	755.9	80.6	27													L'Abbé Marchési.
Marseilles			29.91	759.7	56.1	13.4	25	NW			6		2			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.83	630.6	30.23	767.7	40.3	4.6	81	NW	18.0	8.33			5		NW	0	0		—. Falguère.
Montsouris, Paris			30.09	764.3	47.3	8.5	60	N			3		6		N	0.002	0.1		Montsouris Observ'tory.
Perpignan			30.04	763.0	58.8	14.9	50	NW	20.7	9.17			3		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.18	537.9			31.1	— 0.5		NE			1		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.46	570.5			32.7	0.4		NE			1		5			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.10	764.4	47.7	8.7	53	NNW			2		2			0.031	0.8		E. Renou.
Toulouse			30.19	766.7	52.3	11.3	79	WNW			1		8			0	0		Toulouse Observatory.
Tours			30.16	766.0	44.2	6.8	67	W			1		8		NW	0	0		C. Marquet.
Versailles, (near Paris)			30.10	764.6	45.7	7.6	69	N			2		8			0.007	0.06	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.21	767.2	42.4	5.8	65	W	3.8	1.70			8			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,536.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,273.5 feet; Commune de Gréasque 322 meters, or 1,056.1 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.80	756.8	36.1	2.3	71	W			3		9	W		0.118	3.0	Snowing	Prof. T. Hoh.
Berlin			29.73	755.2	35.2	1.8	91	S			3		10			0.138	3.5	Snowing	Prof. Arndt.
Breslau			29.93	760.3	33.1	0.6	88	SE			5		6	S		0.039	1.0	Smoke-haze	Royal University Obs'y.
Carlsruhe			29.92	760.0	41.4	5.2	79	SW			3		5			0.021	0.5		A. Senz.
Cassel			29.85	758.2	36.1	2.3	80	NW			6		8			0.114	2.9	Snowing	Dr. H. Möhl.
Emden			29.89	759.3	39.4	4.1	88	NE			3		10			0.106	2.7		Prof. Prestel.
Frankfort on the Main			29.87	758.7	42.8	6.0	55	WSW			2		7			0.059	1.5		Physical Society.
Friedrichshafen			29.97	761.3	38.8	3.8	80	W			4		4			0.150	3.8	Rain & snow	M. Wilhelm.
Hamburg			29.69	754.1	37.2	2.9	80	N			3		8k	NNE		0.063	1.6	Rain & snow	Captain F. Hegemann.
Kiel			29.71	754.7	37.9	3.3	70	NE			4		10			0.150	3.8		Prof. G. Karsten.
Königsberg, (Prussia.)			30.15	765.7	30.7	— 0.7	73	E			7		7			0	0		Prof. E. Luther.
Köslin			29.94	760.4	34.5	1.4		SE			4		3			0	0		H. Müller.
Leipsic			29.78	756.5	34.5	1.4	93	SSW			4		10	WNW		0.091	2.3	Snowing	Prof. Bruhns.
Memel			30.21	767.2	29.7	— 1.3	63	ESE			3		8.8			0.004	0.1		Reinbrecht & Skalweit.
Münster			29.81	757.1	38.3	3.5	91	NW			1		10			0.020	0.5	Snowing	Prof. E. Heis.
Neufahrwasser			30.00	762.0	30.9	— 0.6	81	SSE			4		10			0.157	4.0	Snowy	A Lothe.
Posen			29.94	760.4	34.7	1.5	84	SSE			2		2						Dr. Magener.
Strassburg, (in Alsace)			29.98	761.6	41.5	5.3	76	NW			2		7	NW		0.169	4.3		Dr. Schur.
Stuttgart			29.93	760.2	37.9	3.3	78	W			1		2			0.110	2.8	Rain & snow	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.89	759.2	41.5	5.3	51	WNW			5		7			0.020	0.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.34	719.8	29.90	759.5	34.7	1.5	83	WNW	4	2			9	WNW		0.130	3.3	Snowing	Dr. von Bebber.
Wustrow, Naval School			29.73	755.1	32.9	0.5	92	ESE			6		8			0.169	4.3		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 32°, 30′, W. 17°, 5′.			30.24	768.1	73.9	23.3	79	SSW			1		0		SSW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.87	758.7	54.7	12.6		NW										¼ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.91	759.6	44.6	7.0	36	NE	1.8	0.8			4			0	0		Prof. Giovanni Clodig.
Padua			29.91	759.6	42.8	6.0	44	ENE	3.8	1.7			9	W		0.207	5.2	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.92	760.0	44.2	6.8	44	NE	0.7	0.3			3	E		0	0		Alm. Da Schio.
Verona			29.91	759.6	47.3	8.5	56	W			4		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.52	724.3	29.87	758.6	41.7	5.4	55	E			2		9			0	0		Prof. Trionfini Carlo.
Domodossola			29.86	758.4	43.7	6.5	68	Calm			0		4			0	0		Prof. Giuseppe Cazza.
Milan																			Ab. Gio. Capelli.
Pavia			29.89	759.3	44.2	6.8	60	NE			2		9			0	0		Prof. Gio. Cantoni.
Moncalieri			29.91	759.6	40.8	4.9	77	NNW	0	0			9	SE		0	0		Prof. P. F. Denza.
Mondovi	27.92	709.2	29.89	759.1	41.0	5.0	70	NW			1		1			0	0		Prof. C. Bruno.
Porto Maurizio			29.88	758.9	55.4	13.0	74	ENE			2		8	SW					Prof. L. Vassallo.
Genoa			29.86	758.4	51.8	11.0	62	E	2.5	1.1			10	SW		0.11[illegible]	2.9	Raining	Prof. Garibaldi.
Piacenza			29.91	759.6	43.3	6.3	55	E	6.9	3.1			10			0.10	2.6	Raining	Dott. G. Manzi.
Parma			29.89	759.1	46.6	8.1	68	ENE			2		9			0.07[illegible]	1.9	Raining	Prof. P. Pigorini.
Bologna			29.94	760.4	46.6	8.1	40	W			1		5	N		0	0		Prof. A. Palugi.
Florence			29.91	759.7	48.2	9.0	57	SW			2		6			0	0		Cav. F. Meucci.
Leghorn			29.93	760.1	51.4	10.8	68	ENE	7.4	3.3			9	E		0	0		Prof. P. Monte.
Siena	28.67	728.1	29.90	759.5	46.0	7.8	47	SSE	0	0			1	N		0	0		Prof. L. Toscani.
Urbino	28.36	720.4	29.97	761.2	41.7	5.4	79	SSW			2		5			0	0		Prof. P. Serpieri.
Pesaro			29.93	760.1	47.3	8.5	51	NW	13.0	5.8			3	NW		0	0		Prof. Luigi Guidi.
Ancona			29.90	759.4	48.6	9.2	49	W			4		1			0	0		Prof. F. De— Bosis.
Grosseto			29.91	759.7	52.7	11.5	47	NNE			2		3	SE		0	0		Avv. P. Ponticelli.
Rome			29.91	759.6	53.6	12.0	49	N	1.3	0.6			7			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.95	760.8	55.8	13.2	47	SSW			2		2	NE		0	0		Prof. L. Palmieri.
Lecce			29.93	760.1	49.5	9.7	60	NW	18.6	8.3			6			0.236	6.0	Raining	Prof. C. De—Giorgi.
Cosenza			29.96	761.0	49.8	9.9	51	NW	1.3	0.6			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.94	760.4	56.8	13.8	56	S			2		8			0	0		Prof. F. Cuffero.
Palermo			29.90	759.4	58.8	14.9	62	W	3.8	1.7			9	W		0.024	0.6	Light rain	Prof. G. Cacciatore.
Caltanissetta	27.98	710.6	29.93	760.3	50.5	10.3	58	NNW			2		8	E		0.047	1.2	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.95	760.6	51.6	10.9	61	S	1.8	0.8			3	SE		0.272	6.9		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.34	763.0	44.6	7.0		NNE			5								
Groningen			29.82	757.4	38.5	3.6		N			5								
Helder			29.84	760.5	44.2	6.8		N			6								
Utrecht			29.81	759.6	44.2	6.8	70	NNW			4		5			0.071	1.8	Cloudy	

Note.—The originals give the wind-pressure in *kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the* amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.34	770.6	34.9	1.6	56	NE	13	6			0			0	0		
Brône			30.54	775.7	24.4	— 4.2	64	NE	9	4			1			0	0		
Christiania			30.39	772.0	30.6	— 0.8	58	NE	13.0	5.8			2			0	0		
Tromsö			30.58	776.8	18.7	— 7.4	95	Calm	0	0			0			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.10	764.6	66.6	19.2	83	Calm	0	0			5			0	0		Dr. J. A. Sampaio.
Campo Major			30.07	763.6	63.5	17.5	42	SSW	4.9	2.2			2			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.14	765.6	72.0	22.2	72	SW	3.8	1.69			0			0	0		Capt. D. A. de Cunha.
Lisbon			30.10	764.4	59.2	15.1	66	SSW	2.5	1.1			5	W		0	0		The Observatory.
Ponta Delgada, (Azores)			30.12	765.0	67.3	19.6	79	NE	3.1	1.39			3			0.067	1.7		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.05	763.2	32.0	0.0	89	SE	16	7			10						Astronomical Obs.
Wilna			30.30	769.7	30.6	— 0.8	50	SE	2	1			3						Astronomical Obs.
Dorpat			30.48	774.2	26.8	— 2.9	78	ESE	4	2			5						Physical Cabinet.
St. Petersburg			30.50	774.0	24.6	— 4.1	81	SE	7	3			2					Light fog	Central Physical Obs.
Kuopio			30.48	774.2	22.1	— 5.5	100	NE	7	3			10						Ch. Forsten.
Kieff			30.07	763.8	29.5	— 1.4	66	N	13	6			5						Physical Cabinet.
Nikolaiev			29.91	759.6	28.9	— 1.7	90	N	27	12			10						Kurdakof.
Kertch			29.70	754.4	56.5	13.6	88	SE	9	4			7						Lagorio.
Moscow			30.46	773.7	23.0	— 5.0	90	E	9	4			4						Meteorological Obs.
Lugan			29.84	757.8	32.5	0.3	90	ENE	25	11			10			Blank	Blank		Meteorological Obs.
Archangel			30.47	773.9	19.0	— 7.2	90	Calm	0	0			10						Ogorodnikof.
Tiflis	28.58	725.9	29.98	761.6	59.7	15.4	69	SE	13	6			4						Physical Observatory.
Astrakhan			29.93	760.2	52.1	11.2	60	E	11	5			7						Sebastianof.
Kasan			30.30	769.7	24.0	— 4.1	95	N	16	7			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.33	745.0	30.32	770.0	35.1	1.7	70	Calm	0	0			10						Meteorological Obs.
Nukuss			30.13	765.4	50.4	10.2	28	NE	7	3			0						
Kasaly																			Bobrof.
Tashkend																			Micheison.
Barnaul			30.68	779.2	21.0	— 6.1	90	Calm	0	0			0						Meteorological Obs.
Yeniseisk			30.17	766.4	27.0	— 2.8	95	SW	4	2			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.09	764.3	47.3	8.5	28	NW	18	8			4						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.80	756.9	22.8	— 5.1	68	NW	13	6			1						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.04	763.1	57.6	14.2	52	SE	3.7	1.67		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.13	765.2	65.3	18.5	67	SSE	4.9	2.2		0	4		SSE	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.42	772.6	18.3	— 7.6	89	N			4		7			0	0		
Umea			30.62	777.8	22.6	— 5.2	90	NE			2		7			0	0		
Hernosand			30.58	776.6	26.2	— 3.2	82	N			2		4			0.047	1.2		
Stockholm			30.32	770.2	31.6	— 0.2	81	ENE			6		5			0.146	3.7		
Wisby			30.21	767.3	33.1	0.6	82	ESE			6		10			0.409	10.4		
SUB-SERIES.																			
Upsala			30.41	772.3	27.0	— 2.8	87	NE	7.8	3.5			7	SSW	E	0.006	0.14		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.60	726.5	30.06	763.5	43.5	6.4	50	NW			3		9			0.071	1.8	Covered	The Observatory.
Zurich	28.33	719.5	30.02	762.4	38.7	3.7	83	W			1		10			0.142	3.6	Drizzling	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +0.3 mm; Thermometer, —2.0 cent.; Relative Humidity, —25 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.95	760.8	41.2	5.1	90	NNW	8	3.5			10		NNW	0.591	15.0		
Fao, (Persian Gulf)			30.00	762.0	80.6	27.0		SE			3		10						
Salonica			29.97	761.3	55.9	13.3		N			1		10			Blank	Blank		
Valona			29.80	756.9	50.4	10.2		NW			1		2						
Varna			29.84	758.0	32.2	0.1		N			4		10					Snowing	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.89	759.3	74.8	23.8	52	SW			3		1ks		S	0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.43	772.9	34.2	1.2		SW	8	3.6			9			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.89	759.2	42	5.6		SW	1	0.4			10s		SW	0.44	11.2	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.45	773.4	32	0.0	78	SE	5	2.2		2k	8ks	SE	SE	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.55	776.0	33	0.6	89	SE	10	4.5		5cs	0			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.81	757.2	43.7	6.5	88	SW			2		10s			0.247	6.28	Unsettled	James Smith, M. A.
Dalhousie, N. B.			30.43	772.9	32.3	0.2	80	E			3					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.37	771.4	46.3	7.9	92	N				3ck	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B.			30.38	771.6	32.0	0.0	93	NE	11	4.9			10n			3.83	97.3	Snowing	Prof. Harrison.
*Fort Garry, Manitoba			30.21	767.3	12	—11.1	90	S	9	4.0		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.70	754.4	39.8	4.3	94	SW			3		10n					Wet	H. J. Strang, M. A.
Granton, Ontario	28.61	726.7	29.74	755.4	34	1.1		SW			1		10n			0.97	24.6	Snowing	James Grant.
*Halifax, N. S.			30.47	773.9	39	3.9	74	SE	14	6.3			10n		SE	Inap.	Inap.	Light rain	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.85	758.2	44	6.7	76	SW	8†	3.6†			10ks		S	0.69	17.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			30.61	777.5	35.2	1.8	98	SE	7	3.1		9k	0	SE		0.20	5.1	Overcast	C. H. Rigby.
*Montreal, Quebec			29.90	759.4	41	5.0	89	SE	15	6.7			10n		S	0.48	12.2	Light rain	C. H. McLeod, C. E.
*Ottawa, Ontario			29.81	757.2	41	5.0	83	SE	2	0.9			10cs		S	0.40	10.2	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.68	753.9	34	1.1	95	SE	10	4.5			10n		SE	0.92	23.4	Sleeting	Rev. R. Mosley.
Port Dover, Ontario			29.76	755.9	41	5.0	82	SW	19	8.5		5k	5n	SW	SW	0.69	17.5	Threatening	H. Morgan.
Port Hastings, N. S.			30.49	774.4	33.8	1.0		SE	10	4.5						0.20	5.1	Fine	Peter Grant.
Port Stanley, Ontario			29.76	755.9	41	5.0	73	W	36	16.1			10n		SW	0.95	24.1	Cloudy	M. Payne.
*Quebec, Quebec			30.08	764.0	34	1.1	90	NE	7	3.1			10n		NE	0.02	0.5	Light snow	Capt. Ashe, R. N.
St. John, N. B.			30.46	773.7	37	2.8	90	SE	22	9.8			10n			0.96	24.4	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.64	752.8	35	1.7	93	S	5	2.2			10n		S	0.97	24.6	Heavy rain	K. Stewart.
Stayner, Ontario			29.70	754.4	37	2.8	91	SE	8	3.6			10ks		SW	0.84	21.3	Cloudy	R. J. Cole.
Stratford, Ontario	28.41	721.6	29.71	754.6	34.2	1.2	97	SW	14	6.3			10s			0.878	22.30	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.65	778.5	29	— 1.7	89	Calm	0	0		8c	2ks	NW	W	0	0	Hazy	T. C. Hill.
*Toronto, Ontario			29.76	755.9	41	5.0	82	SW	12	5.4			10ks		SW	0.72	18.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.77	756.1	36.8	2.7	95	W	18	8.0			10s			0.25	6.3	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.66	778.7	30.0	— 1.1	89	N	1	0.4		4k	4s			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. †Estimated.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrument and error. Inches.	Barometer. Corrected for instrument and error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.88	758.9	44	6.7	91	Calm	0	0			10s			0.14	3.6	Threatening	
Alpena, Mich.			29.62	752.3	36	2.2	90	W	9	4.0			10n		W	0.28	7.1	Light rain	
Atlantic City, N. J.			29.91	759.7	53	11.7	100	Calm	0	0			10n		SW	1.14	29.0	Light rain	
Augusta, Ga.			29.89	759.2	56	13.3	93	NW	6	2.7			10s		NW	0.74	18.8	Cloudy	
Baltimore, Md.			29.93	760.2	51	10.6	93	SW	3	1.3			10s		SW	0.38	9.7	Cloudy	
Barnegat, N. J.			29.91	759.7	54	12.2	97	SE	3	1.3			10n			1.28	32.5	Light rain	
Bismarck, Dakota	28.33	719.6	30.15	765.8	5	—15.0	75	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.99	761.7	44	6.7	100	NE	8	3.6			10n		E	1.30	33.0	Heavy rain	
Breckenridge, Minn.			30.30	769.6	0.0	—17.8	69	W	8	3.6		0	0			0	0	Clear	
Buffalo, N. Y.			29.74	755.4	43	6.1	66	W	15	6.7			10s		W	0.43	10.9	Cloudy	
Burlington, Vt.			29.91	759.7	44	6.7	100	S	3	1.3			10n			0.10	2.5	Light rain	
Cairo, Ill.			30.12	765.0	34	1.1	61	NW	13	5.8		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.84	757.9	64	17.8	89	SW	6	2.7			10n			1.37	34.8	Light rain	
Cape Henry, Va.			29.91	759.7	57	13.9	100	NW	3	1.3			10n		NW	1.03	26.2	Heavy rain	
Cape Lookout, N. C.			29.86	758.4	65	18.3	94	S	8	3.6			10s			0.62	15.7	Cloudy	
Cape May, N. J.			29.92	760.0	56	13.3	93	N	2	0.9			10n			1.37	34.8	Light rain	
Charleston, S. C.			29.85	758.2	61	16.1	94	N	2	0.9		5cs	5s	SW		0	0	Cloudy	
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	30	— 1.1	41	NW	8	3.6		0	0			0	0	Clear	
Chicago, Ill.			29.92	760.0	38	3.3	63	NW	8	3.6		2ck	5s	NW	NW	0.04	1.0	Clearing	
Cincinnati, Ohio			29.90	759.4	42	5.6	58	NW	6	2.7			10ks		NW	0.33	8.4	Cloudy	
Cleveland, Ohio			29.84	757.9	38	3.3	71	SW	17	7.6			10s		SW	0.35	8.9	Cloudy	
Corsicana, Tex.			30.28	769.1	41	5.0	61	NW	4	1.8		5cs	0			0	0	Fair	
Davenport, Iowa			30.05	763.3	31	— 0.6	79	NW	12	5.4			10s			0.01	0.3	Cloudy	
Denison, Tex.			30.31	769.9	41	5.0	56	N	3	1.3		0	0			0	0	Clear	
Denver, Col.	25.01	635.2	30.23	767.8	31	— 0.6	30	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			29.73	755.1	37	2.8	71	SW	17	7.6			10s			0.71	18.0	Cloudy	
Dodge City, Kan.	27.62	701.5	30.03	762.7	31	— 0.6	89	N	6	2.7		0	0			0	0	Clear	
Dubuque, Iowa			30.04	763.0	34	1.1	79	NW	8	3.6			10s			0.05	1.3	Cloudy	
Duluth, Minn.			30.11	764.8	30	— 1.1	78	N	8	3.6			10s		N	0.02	0.5	Cloudy	
Eastport, Me.			30.30	769.6	39	3.9	90	SE	23	10.3			10n		SE	0.23	5.8	Light rain	
Erie, Pa.			29.74	755.4	42	5.6	75	SW	14	6.3			10ks		SW	0.39	9.9	Cloudy	
Escanaba, Mich.			29.83	757.7	32	0.0	89	NW	17	7.6			10n		NW	0.88	22.4	Light snow	
Fort Gibson, Indian Ter.			30.27	768.8	30	— 1.1	78	E	2	0.9		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.05	737.9	30.22	767.6	36	2.2	61	Calm	0	0		2c	0			0	0	Fair	
Fort Sully, Dakota																			
Florence, Arizona	28.51	724.1	30.05	763.5	50	10.0		E				0	0			0	0	Clear	
Galveston, Tex.			30.25	768.3	53	11.7	42	N	18	8.0		0	0			0	0	Clear	
Grand Haven, Mich.			29.80	756.9	39	3.9	81	NW	27	12.1			10n		NW	0.64	16.3	Light rain	
Indianapolis, Ind.			29.96	761.0	36	2.2	80	W	8	3.6			10s		W	0.09	2.3	Threatening	
Indianola, Tex.			30.27	768.8	54	12.2	48	NE	22	9.8		0	0			0	0	Clear	
Jacksonville, Fla.			29.89	759.2	64	17.8	88	E	2	0.9			10s			0	0	Cloudy	
Keokuk, Iowa			30.10	764.5	29	— 1.7	78	NW	14	6.3			10s		NW	0	0	Cloudy	
Key West, Fla.			29.91	759.7	73	22.8	90	E	4	1.8		0	5ks			0.80	20.3	Fair	
Kittyhawk, N. C.			29.90	759.4	61	16.1	94	Calm	0	0			0n			0.05	1.3	Light rain	
Knoxville, Tenn.			30.01	762.2	37	2.8	71	Calm	0	0		0	Fog			0.01	0.3	Fair	
La Crosse, Wis.			30.05	763.3	32	0.0	79	NW	12	5.4			10s		NW	0.18	4.6	Cloudy	
Leavenworth, Kan.			30.27	767.8	26	— 3.3	88	NW	4	1.8		0	0			0	0	Clear	
Louisville, Ky.			30.00	762.0	36	2.2	70	W	8	3.6		0	0			0.20	5.1	Clear	
Lynchburg, Va.			29.90	759.4	45	7.2	92	Calm	0	0			10s			0.11	2.8	Cloudy	
Malone, N. Y.			29.78	756.4	44	6.7	75	S	16	7.2			10ks		SW	0.30	7.6	Cloudy	
Marquette, Mich.			29.88	758.9	30	— 1.1	78	NW	20	8.9			10n			0.64	16.3	Light snow	
Memphis, Tenn.			30.16	766.1	40	4.4	63	NW	9	4.0		0	Sm'k		NW	Inap.	Inap.	Clear	
Milwaukee, Wis.			29.92	760.0	34	1.1	69	NW	17	7.6		0	5ks		NW	0.09	2.3	Fair	
Mobile, Ala.			30.08	764.0	48	8.9	54	N	12	5.4		0	0			0.94	23.9	Clear	
Montgomery, Ala.			30.05	763.3	46.0	8.1	57	NW	6	2.7		0	0			Inap.	Inap.	Clear	
Morgantown, W. Va.	28.85	732.8	29.92	760.0	40	4.4	73	S	6	2.7		1c	Haz	W		0.16	4.1	Clear	
Mt. Washington, N. H.	23.65	600.7	30.01	762.2	24	— 4.4	100	SE	40	17.9			10n		SE	0.18	4.6	Light snow	
Nashville, Tenn.			30.05	763.3	39	3.9	72	W	6	2.7		0	Haz			0.56	14.2	Clear	
New Haven, Conn.			29.87	758.7	47	8.3	92	NE	12	5.4			10s		NE	0.80	20.3	Threatening	
New London, Conn.			29.94	760.5	47	8.3	92	NE	5	2.2			10s			0.96	24.4	Cloudy	
New Orleans, La.			30.12	765.0	54.0	12.5	41	N	14	6.3		0	0			0	0	Clear	
Newport, R. I.			29.98	761.5	47	8.3	100	N	8	3.6			10n		SE	0.99	25.1	Heavy rain	
New York, N. Y.			29.90	759.4	51	10.6	93	SE	8	3.6			10n		S	1.27	32.3	Light rain	
Norfolk, Va.			29.90	759.4	56	13.3	93	E	2	0.9		10s	Fog			0.52	13.2	Cloudy	
North Platte, Neb.	27.95	692.1	29.98	761.5	23	— 5.0	86	W	12	5.4		0	0			0	0	Clear	
Omaha, Neb.	29.15	739.9	30.20	766.4	22	— 5.6	85	NW	6	2.7		0	0			0	0	Clear	
Oswego, N. Y.			29.85	758.2	47	8.3	65	S	6	2.7			10s		S	0.69	17.5	Cloudy	
Pembina, Dakota			30.18	766.6	13	—10.0	90	S	8	3.6		0	0			0	0	Clear	
Philadelphia, Pa.			29.92	760.0	52	11.1	93	SW	9	4.0			10s		W	1.17	29.7	Threatening	
Pike's Peak, Col.	17.84	453.1	30.05	763.3	8	—13.3	77	N	24	10.7		0	0			Inap.	Inap.	Clear	
Pittsburgh, Pa.			29.86	758.4	41	5.0	69	S	11	4.9			10ks		W	0.35	8.9	Cloudy	
Port Huron, Mich.			29.69	754.1	36	2.2	90	SW	16	7.2			10n		SW	0.73	18.5	Light rain	
Portland, Me.			30.08	764.0	43	6.1	91	E	19	8.5			10n			0.38	9.7	Light rain	
Portland, Oregon			30.43	772.9	41	5.0	91	N	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			29.89	759.2	67.0	19.7	94	NE	4	1.8		0	2s		NE	0.77	19.6	Fair	
Rochester, N. Y.			29.70	756.7	43	6.1	66	S	5	2.2			10s		S	0.04	1.0	Cloudy	
Salt Lake City, Utah	26.00	660.4	30.33	770.4	33	0.6	69	S	1	0.4		0	0			0	0	Clear	
Sandy Hook, N. J.			29.87	758.7	53	11.7	100	SE	10	4.5			10n		SE	1.21	30.7	Light rain	
San Diego, Cal.			30.11	764.8	55	12.8	87	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.18	766.6	54	12.2	86	N	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.43	595.1	29.97	761.2	34	1.1	61	N	9	4.0		0	0			0	0	Clear	
Savannah, Ga.			29.86	758.4	63	17.2	94	SW	2	0.9			10n			Inap.	Inap.	Light rain	
Shreveport, La.			30.28	769.1	43	6.1	75	NW	3	1.3		0	0			0	0	Clear	
Smithville, N. C.			29.83	757.7	64	17.8	88	SE	14	6.3			10n		SE	0.41	10.4	Light rain	
Springfield, Mass.			29.92	760.0	45.0	7.5	92	N	4	1.8			10n		SE	0.55	14.0	Light rain	
St. Louis, Mo.			30.12	765.0	30	— 1.1	78	N	12	5.4			10s			0	0	Cloudy	
St. Marks, Fla.			29.92	760.0	63	17.2	83	N	10	4.5			10s		N	0.05	1.3	Cloudy	
St. Paul, Minn.			30.14	765.5	20	— 6.7	85	NW	8	3.6		0	0			Inap.	Inap.	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.99	761.7	47	8.3	100	NE	8	3.6			10n		SE	1.55	39.4	Light rain	
Toledo, Ohio			29.76	755.9	38	3.3	90	SW	10	4.5			10s		SW	0.35	8.9	Cloudy	
Tucson, Arizona	27.67	702.8	30.22	767.6	41	5.0		S				0	0			0	0	Clear	
Tybee Island, Ga.			29.82	757.4	65	18.3	100	W	4	1.8		5ck	Fog	SW		0	0	Foggy	
Vicksburg, Miss.			30.22	767.6	45.0	7.5	75	NW	1	0.4		0	0			0.02	0.5	Clear	
Virginia City, M. T.	24.55	623.6	30.03	762.7	30	— 1.1	64	Calm	0	0		5c	0	NW		0	0	Cloudy	
Washington, D. C.			29.92	760.0	50	10.0	86	NW	6	2.7		2ck	8ks	SW	SW	0.20	5.1	Clearing	
Wilmington, N. C.			29.84	757.9	64	17.8	94	SW	4	1.8			10n		S	0.39	9.9	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Wood's Holl, Mass.			30.00	762.0	51	10.6	100	N	4	1.8			10n			0.46	11.7	Light rain	
Yankton, Dakota	28.97	735.8	30.38	771.6	14	—10.0	72	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona			30.12	765.0	67	19.4		NW				2c	0	NW		0	0	Fair	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.07	763.8	77	25.0	76	Calm	0	0		2c	0			0	0		James Gall.
Navassa, W. I.					81	27.2		E			1					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.12	668.8	29.90	759.4	64	17.8	83	NE	0.5	0.2		2c	0	NE		0	0	Fine, Clear	C. Partridge.
Paramaribo, D. Guiana, S. A.			29.94	760.5	82	27.8	75	E			2	4k	4k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	29.99	761.8			82.4	28.0		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			65.2	18.4	85	W			2	5cs	1ks			0.16	4.1	Fair	Thomas Herran.
York Factory, B. A.			29.87	758.7	18.0	— 7.8	92	S	14	6.3		4c	4s	S		0.01	0.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.98	761.5	76.5	24.7		S			3					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
MARINE SERIES.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Greenwich Pier.			29.86	758.4	55	12.8	100	SW	4	1.8			10n					Raining	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 8, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Endeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.90	759.5	70.3	21.3	50	Calm			0		0			0	0	Clear	Charnot.
Algiers			29.90	759.4	66.9	19.4	87	Calm			0		3			0	0	Fair	Peter.
La Calle			29.85	758.1	64.0	17.8	67	NW			3		4			0.157	4.0	Fair	Fleury.
Tunis			29.90	759.4	62.6	17.0	74	NW			3		10			0	0	Hidden	Jacques.
Sfax			30.00	762.0															
Saida			30.00	762.1	64.9	18.3	30	SSE			2		1			0	0	Clear	Millot.
Tebessa			29.91	759.6	54.5	12.5		W			2		2			0	0	Clear	Bourgeois.
Geriville					57.2	14.0	48	NW			1		2			0	0	Clear	Lemaillot.
Laghouat			29.99	761.8	66.4	19.1	29	S			1		0			0	0	Clear	Guyot.
Biskra			29.97	761.3	69.8	21.0	49	Calm			0		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.91	759.6	33.4	0.8	69	NE			2		10			0.028	0.7	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.98	761.5	31.6	— 0.2	98	NE			2		7			0	0		Dr. Wierzbiski.
Eperies			29.97	761.2	31.6	— 0.2	74	S			2		10			0	0		Julius Mikolik.
Gratz	28.67	727.7	29.96	761.0	32.7	0.4	85	S			2		10			0.079	2.0		Andreas Rospini.
Hermannstadt	28.49	723.6	29.98	761.6	29.7	— 1.3	88	NW			1		3			0	0		Prof. Reissenberger.
Kremsmünster	28.47	723.1	29.85	758.2	30.1	2.3	70	W			3		7			0.031	0.8		Prof. C. Wagner.
Lemberg			29.98	761.5	38.1	3.4	95	NE			1		8			0	0		Dr. T. Stanecki.
Nylregyhaz																			Habzsuda Daniel.
Pola			29.78	756.3	42.3	5.7	54	NE			3		28			0.202	5.12		I.R.Hydrographic Of'ce
Szegedin			29.93	760.2	36.5	2.5	86	Calm			0		10			0	0		Karl Stancel.
Trieste			29.82	757.3	39.2	4.0	56	ENE			3		0			0	0		Prof. V. Farolfi.
Vienna			29.90	759.4	34.5	1.4	62	S			2		10			Blank	Blank		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.93	760.3	38.8	3.8	70	N			1	0	7k		N	0.008	0.2		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 4 hours. Inches.	Rain-fall or melted snow in the past 4 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.30	769.6	36.9	2.7		E	20	8.9			4			0.270	6.86	Blue sky	William Boswell.
Ardrossan			30.23	767.8	39	3.9		NE			1		2					Hazy	William McNeil.
Armagh, Observatory			30.20	767.1	42.8	6.0		E	9	4.0			5					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.13	765.3	41.0	5.0		ESE			1		10					Overcast	J. Dreyer.
Bradford			30.13	765.3	39.3	4.1		N			1		3			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	84.0	28.9		NE			1		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.04	763.0	44.0	6.7		N			2		3			Blank	Blank	*D. clouds	H. Todd. [H.C.
Cardington			30.07	763.8	40.0	4.4		N			1		3					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.02	762.5	40.2	4.6		NE			2		5					Gloomy	Capt. Fellowes, R. E.
Dartmoor	28.62	726.9	30.18	766.6	37.6	3.1		NE			4		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.49	622.0			19.8	— 6.8	76	Calm			0		10			0.047	1.19	Snowing	Francis Redford, M. A.
Donaghadee			30.19	766.8	41	5.0		E			4		2					Blue sky	J. Mac Gowan.
Dover			29.98	761.5	42	5.6		N			4		7					Threatening	J. Costello.
Eccles, (near Manchester)			30.14	765.5	44.0	6.7		NE	1.0	0.7			5					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.08	764.0	44.6	7.0		E			2		10					Overcast	The Staff.
Fort Napier, (Natal)	27.76	705.1	29.99	761.7	70.5	21.4		NE			2		1					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.94	760.5	81.0	27.2		Calm?			1?		5					*D. clouds	
Galway, Queen's College			30.08	764.0	44	6.7		SE			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.89	759.2	65.0	18.3		W			6		10			Blank	Blank	Gloomy	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.22	767.6	36.0	2.2		E			1		8					*D. clouds	Lewis Stuart.
Great Yarmouth			29.99	761.7	39	3.9		NNE			0		5					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.04	763.0	41.5	5.3		N			3		3					*D. clouds	The Staff, for G. B. Airy.
Guernsey			30.04	763.0	45.5	7.5		NNE			2		7					*D. clouds	Dr. S. F. Hoskins.
Helston			30.07	763.8	60	15.6		E			4		8k			0	0		M. P. Moyle.
Holyhead			30.13	765.3	43	6.1		ESE			2		3					*D. clouds	John Tilston.
Kew, Observatory			30.06	763.5	42.1	5.6		N	16	7.2			8			Blank	Blank	Threatening	The Staff.
Kingstown			30.17	766.3	45	7.2		E			4		10					Drizzling	George Mitchell.
Leicester Museum			30.12	765.0	41.1	5.1		NE			2		2					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.81	757.2	66.4	19.1		SW			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.31	769.9	36	2.2		NE			1		0					Clear	W. D. Penny.
Nassau, (Bahamas)			29.84	757.9	70.5	21.4		SW			3		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.11	764.8	40.7	4.8		NW			4		2c,ck	NW	N	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.10	764.5	41.0	5.0		NNE			3-4		7					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.06	763.5	41	5.0		N			2		0					Blue sky	J. Lucas.
Plymouth			30.08	764.0	43.8	6.6		ENE			2		5					*D. clouds	John Merrifield.
Roche's Point			30.07	763.8	44	6.7		SE			5		10					Raining	W. Kennedy.
Saint Ann's Head			30.11	764.8	43	6.1		E			2		2					Blue sky	John C. Walker.
Saint Heller, (Jersey)			30.02	762.5	49.0	9.4		NE			3		5					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.36	771.1	37.5	3.1		E	12	5.4			4			Blank	Blank	*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.87	758.7	50.2	10.1		NNE			3		4			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.14	765.5	40.4	4.7		ENE			2		7			0.023	0.58	Overcast	W. F. Cooper.
Silloth Rectory			30.18	766.6	38.4	3.6	89	E			2		2			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			30.16	766.1	40.0	4.4		NE			0		4					Hazy	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.29	769.4	40	4.4		ESE			3		0					Blue sky	John Smith.
Stratfield Turgiss			30.10	764.5	42.2	5.7		NE			1		0					Blue sky	Rev. Charles H. Griffith
Thurso			30.32	770.1	42	5.6		E			2		4					*D. clouds	John Trotter.
Truro, Royal Institution			30.07	763.8	45	7.2		E			4		10					Gloomy	W. Newcombe.
Valencia, Observatory			30.00	762.0	47.3	8.5		ESE	19	8.5			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					42	5.6		NE			3		0			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			29.98	761.5	80.0	26.7	47	SSE	15	6.7		1	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.44	747.8	61.5	16.4	88	N			5		10kn			0.45	11.4	Squally	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.25	768.3	40.0	4.4		E			2		5k			0.04	1.0	Cloudy	Andrew Gibb.
Mauritius, Observatory			29.99	761.7				NE	12.8	5.7						0	0		C. Meldrum.
Melbourne, Observatory			29.79	756.7	56.2	13.4	74	NE	7	3.1			10			0	0	Fine, dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.30	769.6	46	7.8		ESE			4	5	0	SE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.42	772.7	39	3.9		E			3	0	4						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Heller, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the Minister of Foreign Affairs.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.13	765.3	31.6	— 0.2	90	ESE			7		10					Snowing	
Fanöe			30.10	764.5	32.9	0.5	92	ENE			6		8						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.08	763.9	47.3	8.5	76	SE			4		8						
Thorshavn, (Faröe)			30.43	773.0	39.6	4.2	71	E			3		7						
Vestervig			30.19	766.7	31.3	— 0.4	78	ENE			7		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—6.	Cloud. Amount. Upper 1—10.	Cloud. Amount. Low'r 1—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.01	762.2	49.1	9.5	66	NE			2		8ck		NE	0	0	Very cloudy	Normal School.
Amiens			29.93	760.1	42.8	6.0	79	W			3		2		W	0	0	Slightly cl'dy	Normal School.
Avignon			29.87	758.6	45.9	7.7	46	N			6		10			0	0	Covered	Normal School.
Bar-sur-Seine			30.00	762.0	37.0	2.8	87	W			1		10			0.067	1.7	Covered	C. Saillard.
Beaumette, (near Angers)			29.97	761.2	45.7	7.6	80	N	2.7	1.2					N	0	0		Beaumette Observ'tory
Beauvais			29.98	761.6	42.6	5.9	58	N			2		8		N	0	0	Very cloudy	Normal School.
Besançon			30.06	763.5	38.3	3.5	71	SSW			2		5		W	0.051	1.3	Cloudy	Normal School.
Bourg en Bresse			30.05	763.2	38.7	3.7	76	N			2		8kn		S	0	0	Very cloudy	Normal School.
Bourges			30.04	763.0	36.3	2.4	91	NE			1		10		NE	0	0	Covered	Normal School.
Brest			29.97	761.1	47.3	8.5	70	ESE			2		9ks			0	0		Naval Observatory.
Carcassonne			29.83	757.7	55.8	13.2	35	E			2		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.04	762.9	42.1	5.6	81	N			1		6		N	0	0		Normal School.
Châlons-sur-Marne			30.00	762.0	38.3	3.5	83	N			2		10n		S	0	0	Covered	Normal School.
Clermont			30.00	762.1	36.7	2.6	93	NE			2		10			0	0		Puy de Dome Obs'y.
Commercy			29.98	761.4	36.0	2.2	79	WNW			4		5kn		WNW	0.091	2.3	Cloudy	Normal School.
Commune de Gréasque*			29.84	758.0	47.3	8.5	42	NW			2		8		NW	0	0		M. Kina.
Grenoble			29.91	759.8	41.5	5.3	78	NW			4		2ks		NW	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					45.9	7.7	64	NE			2		8		E	0	0	Very cloudy	Normal School.
Le Mans			30.00	762.1	43.3	6.3	85	NE			1		2		NE	0	0	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.98	761.4	40.3	4.6	74	NNE			1		5		N	0	0	Cloudy	Normal School.
Lorient			30.03	762.7	48.2	9.0	36	NE			2		5		NE	0	0	Cloudy	Naval Observatory.
Mâcon			30.04	763.1	39.7	4.3	74	Calm			0		10			0	0	Covered	Normal School.
Metz			29.99	761.7	37.2	2.9	83	WNW			3		8		WNW	0	0		M. Schuster.
Mirecourt			29.97	761.2	36.7	2.6	64	NW					10		SE	0	0	Covered	Normal School.
Nismes			29.87	758.8	49.3	9.6	50	W			2		2		W	0	0	Slightly cl'dy	Normal School.
Orleans			29.97	761.2	40.3	4.6	80	NNW			2		10			0	0	Covered	Normal School.
Paris, Observatory			30.00	762.0	37.4	3.0	86	NE			2		10			0	0	Misty	National Observatory.
Parthenay																			Normal School.
Privas			29.95	760.8	42.4	5.8		N			2		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.98	761.6	45.9	7.7	63	ENE			3		10		ESE	0	0	Covered	Naval Observatory.
Rouen			30.00	761.9	44.2	6.8	62	NW			2		5		N	0.047	1.2	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.90	734.0	30.10	764.5	54.5	12.5		NW			2		0			0	0	Clear	Normal School.
Villefranche			30.04	763.0	41.2	5.1	88	NNW			1		10		E	0	0	Covered	Normal School
SUB-SERIES.																			
Fort de France, Martinique			29.80	756.8	81.3	27.4													L'Abbé Marchési.
Marseilles			29.80	757.0	49.3	9.6	39	NW			3		8			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.66	626.3	30.03	762.7	39.6	4.2	81	SSW	18.6	8.33			7		SW	0	0		—. Falguère.
Montsouris, Paris			29.98	761.4	37.9	3.3	91	SSW			1		10			0	0		Montsouris Observ'tory.
Perpignan			29.88	758.9	51.8	11.0	54	E	3.7	1.67			5		WNW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.06	535.0			20.3	— 1.5		N			2		9					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.30	566.3			31.1	— 0.5		N			2		8			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.98	761.5	37.2	2.9	88	Calm			0		10			0	0	Cloudy	E. Renou.
Toulouse			30.05	763.3	46.0	7.8	46	NNW			1		5			0	0		Toulouse Observatory.
Tours			29.99	761.8	36.3	2.4	70	N			1		7		N	0	0		C. Marquet.
Versailles, (near Paris)			29.98	761.4	40.6	4.8	81	N			1		8			0.010	0.26	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.14	765.5	48.2	9.0	59	W	6.5	2.90			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—6.	Cloud. Amount. Upper 1—10.	Cloud. Amount. Low'r 1—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.80	756.8	34.0	1.1	89	W			3		9	W		0.197	5.0	Snowing	Prof. T. Hoh.
Berlin			29.91	759.8	31.3	— 0.4	86	SE			1		10			0.445	11.3	Snowing	Prof. Arndt.
Breslau			29.92	760.0	32.7	0.4	90	SE			3		9			0.122	3.1		Royal University Obs'y.
Carlsruhe			29.89	759.3	34.2	1.2	84	SW			3		10			0.031	0.8		A. Senz.
Cassel			29.85	758.3	30.9	— 0.6	87	N			7		8			0.055	1.4	Snowing	Dr. H. Möhl.
Emden			30.06	763.4	35.4	1.9	96	NE			3		1			0	0		Prof. Prestel.
Frankfort on the Main			29.88	759.0	37.2	2.9	60	NNW			2		7			0.055	1.4		Physical Society.
Friedrichshafen			29.94	760.5	35.6	2.0	69	WNW			3		3			0	0		M. Wilhelm.
Hamburg			29.98	761.5	30.7	— 0.7	90	NE			4		10			0.024	0.6	Light snow	Captain F. Hegemann.
Kiel			30.00	761.9	35.8	2.1	67	E			4		8			0.142	3.6		Prof. G. Karsten.
Königsberg, (Prussia.)			30.20	767.1	25.9	— 3.4	73	E			2		7			0	0		Prof. E. Luther.
Köslin			30.18	766.2	29.1	— 1.6		E			6		3			0	0		H. Müller.
Leipsic			29.86	758.4	32.5	0.3	94	NE			1		9			Inap.	Inap.	Snowing	Prof. Bruhns.
Memel			30.28	769.1	25.5	— 3.6	65	ENE			4		7ck.es			Inap.	Inap.		Reinbrecht & Skalweit.
Münster			29.83	757.6	36.1	2.3	89	NE			2		10			0.059	1.5	Snowing	Prof. E. Heis.
Neufahrwasser			30.16	766.0	29.7	— 1.3	71	SE			3		10			0	0		A. Lothe.
Posen			30.02	762.6	31.1	— 0.5	75	SE			9		9						Dr. Magener.
Strassburg, (in Alsace)			29.94	760.4	38.3	3.5	65	W			1		10					Snowing	Dr. Schur.
Stuttgart			29.90	759.4	32.5	0.3	90	W			2		10			0.075	1.9	Snowing	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.86	758.4	36.5	2.5	33	WNW			5		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.30	718.7	29.86	758.4	32.5	0.3	81	WSW	4	2			9	WSW		0.098	2.5		Dr. von Bebber.
Wustrow, Naval School			30.09	764.3	33.1	0.6	88	E			4		7			0.028	0.7		E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," N. 31°, 40′, W. 17°, 36′.			30.13	765.4	72.7	22.6	72	WNW			2		4		WNW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.95	760.8	56.3	13.5		S										Clear	

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

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.79	756.6	42.4	5.8	43	NE	4.2	1.9			1			0	0		Prof. Giovanni Clodi.
Padua			29.79	756.7	45.0	7.2	48	E	6.3	2.8			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.80	756.9	46.4	8.0	49	S	1.2	0.6			1	W		0	0		Alm. Da Schio.
Verona			29.78	756.4	45.7	7.6	59	W			4		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.44	722.4	29.79	756.7	41.7	5.4	55	SSW			2		1			0	0		Prof. Trionfini Carlo.
Domodossola			29.76	756.0	43.7	6.5	33	N			6		2			0	0		Prof. Giuseppe Caiza.
Milan																			Ab. Gio. Capelli.
Pavia			29.84	757.8	40.5	4.7	74	SW			1		8	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			29.84	757.9	38.8	3.8	88	SSE	6.9	3.1			5	E		0	0		Prof. P. F. Denza.
Mondovi	27.84	707.2	29.81	757.1	41.9	5.5	43	NE			4		2	W		0	0		Prof. C. Bruno.
Porto Maurizio			29.84	757.9	52.0	11.1	27	NNE			2		10	W		0	0		Prof. L. Vassallo.
Genoa			29.78	756.4	49.3	9.6	41	N	3.8	1.7			2	N		0	0		Prof. Garibaldi.
Placenza			29.84	757.9	38.3	3.5	85	WNW	3.8	1.7			10	N		0	0		Dott. G. Manzi.
Parma			29.84	757.9	42.3	5.7	65	NW			4		4			0	0		Prof. P. Pigorini.
Bologna			29.83	757.7	44.8	7.1	47	W			1		4	S		0	0		Prof. A. Palagi.
Florence			29.76	755.9	48.1	9.0	54	NE			4		4			0	0		Cav. F. Meucci.
Leghorn			29.76	756.0	49.6	9.8	50	E	8.7	3.9			2	S		0.079	2.0		Prof. P. Monte.
Siena	28.54	724.8	29.77	756.2	46.4	8.0	53	E	0	0			4	N		0	0		Prof. L. Toscani.
Urbino	28.23	717.1	29.84	757.9	39.0	3.9	82	NNW			2		5			0	0		Prof. P. Serpieri.
Pesaro			29.80	757.0	42.3	5.7	88	NE	19.2	8.6			10	NW		0.173	4.4	Raining	Prof. Luigi Guidi.
Ancona			29.78	756.5	45.3	7.4	75	NW			6		9			0.138	3.5	Raining	Prof. F. De—Basis.
Grosseto			29.77	756.1	53.4	11.9	41	N			2		3	SE		0	0		Avv. P. Ponticelli.
Rome			29.71	754.7	52.5	11.4	60	NNE	9.8	4.4			3			0.236	6.0	Raining	Prof's. P. Secchi & L. Respigni
Naples, O. U.			29.71	754.7	57.2	14.0	78	SSW			2		8	NE		0.354	9.0	Raining	Prof. L. Palmieri.
Lecce			29.76	755.9	51.4	10.8	83	SSE	18.0	8.3			6			0.276	7.0	Raining	Prof. C. De—Giorgi.
Cosenza			29.76	756.0	56.8	13.8	69	SE	3.8	1.7			10			0.106	2.7	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.74	755.4	61.3	16.3	65	E			2		4	SE		0	0		Prof. F. Caffero.
Palermo			29.75	755.6	63.7	17.6	56	WSW	12.7	5.6			10	WSW		0.024	0.6	Light rain	Prof. G. Caccantore.
Caltanissetta	27.89	708.4	29.85	758.1	50.4	10.2	63	SW			6		10	E		0.228	5.8	Raining	Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			29.72	754.9	54.3	12.4	75	SW	1.3	0.6			4	W		0.07[illegible]	1.8		Prof. F. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.98	761.5	43.2	6.2		E			1								
Groningen			29.93	760.1	35.8	2.1		NE			4								
Helder			29.97	761.3	38.7	3.7		ENE			1								
Utrecht			29.93	760.1	37.2	2.9	68	NE			2		8			0.008	0.2	Very cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.47	773.8	32.7	0.4	54	NE	13	6			0			0	0		
Bróno			30.74	780.8	24.8	— 4.0	50	E	9	4			0			0	0		
Christiania			30.53	775.4	27.5	— 2.5	81	NNE	8.9	4.0			10			0	0		
Tromsö			30.61	777.5	21.7	— 5.7	80	SW	13	6			6			0.14	3.6		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.82	757.4	64.8	18.2	88	SW	2.5	1.1			6			0	0		Dr. J. A. Sampaio.
Campo Major			29.85	758.1	53.4	11.9	93	ENE	6.9	3.1			10	SW		0.240	6.1		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.99	761.7	72.9	22.7	64	WSW	2.0	0.89			1			0	0		Capt. D. A. de Cunha.
Lisbon			29.79	756.7	64.4	18.0	79	SW	18.6	8.3			3			0.307	7.8		The Observatory.
Ponta Delgada, (Azores)			29.89	759.1	68.0	20.0	74	S	2.5	1.11			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.08	764.0	28.4	— 2.0	88	ENE	9	4			10						Astronomical Obs.
Wilna			30.25	768.3	25.2	— 3.8	57	NE	13	6			9						Astronomical Obs.
Dorpat			30.51	775.0	24.6	— 4.1	84	NE	11	5			9						Physical Cabinet.
St. Petersburg			30.58	776.6	23.2	— 4.9	100	ENE	9	4			9						Central Physical Obs.
Kuopio			30.71	779.9	18.9	— 7.3	100	NE	7	3			3						Ch. Forsten.
Kieff			29.96	760.9	25.5	— 3.6	74	NNW	9	4			10					Smoke-haze.	Physical Cabinet.
Nikolaiev			30.02	762.6	31.5	— 0.3	79	N	9	4			10						Kurdakof
Kertch			30.00	761.9	40.8	4.9	92	NNW	7	3			10						Lagorio.
Moscow			30.18	766.6	22.8	— 5.1	96	ENE	13	6			10					Snowing	Meteorological Obs.
Lugan			29.87	758.7	42.3	5.7	77	SW	16	7			10						Meteorological Obs.
Archangel			30.67	779.1	19.0	— 7.2	90	Calm	0	0			10						Ogorodnikof.
Tiflis	28.49	723.7	29.88	759.0	64.6	18.1	59	Calm	0	0			10						Physical Observatory.
Astrakhan			30.00	762.1	48.4	9.1	89	ENE	2	1			10						Sebastianof.
Kasan			30.24	768.1	27.5	— 2.5	94	NE	11	5			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.47	748.5	30.47	774.0	26.8	— 2.9	94	NE	2	1			10						Meteorogical Obs.
Nukuss			30.23	767.7	43.7	6.5	44	ENE	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.40	772.1	21.6	— 5.8	87	SW	0	0			2						Meteorological Obs.
Yeniseisk			30.08	764.0	20.7	— 6.3	80	WSW	4	2			10			Blank	Blank		Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.14	765.6	40.6	4.8	38	NW	9	4			2						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.79	756.6	28.6	— 1.9	62	NW	7	3			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 396.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 352 m., or 1,286 ft.; Nerichinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.94	760.5	42.3	5.7	96	N	2.2	1.0			10			0.035	0.9	Rainy	Royal Observatory.
San Fernando			29.92	759.9	62.8	17.1	90	S	15.2	6.8		0	10		S	0.307	7.8		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.82	782.8	14.7	— 9.6	87	N			4		10			0	0		
Umea			30.82	782.7	20.8	— 6.2	95	NNW			2		10			0.083	2.1	Snowing	
Hernosand			30.75	781.1	23.4	— 4.8	90	N			4		10			0.024	0.6		
Stockholm			30.50	774.6	30.9	— 0.6	92	ENE			4		6			0.012	0.3		
Wisby			30.47	773.8	30.6	— 0.8	96	ESE			6		10			0	0		
SUB-SERIES.																			
Upsala			30.54	775.7	29.8	— 1.2	80	ENE	9.2	4.1			10		ESE	0.044	1.11		Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.48	723.3	29.95	760.7	39.2	4.0	50	NE			3		1			0	0	Clear	The Observatory.
Zurich	28.27	718.1	29.98	761.4	35.1	1.7	68	WSW			2		6			Inap.	Inap.	Light snow	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —2.9 mm; Thermometer, —4.3 cent.; Relative Humidity, —25 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.91	759.7	48.6	9.2	33	NNE	17	7.5			9		NNE	0	0		
Fao, (Persian Gulf)			30.16	766.0	80.6	27.0		SE			1		10						
Salonica			29.90	759.4	58.6	14.8		NW			1		0						
Valona			29.63	752.6	56.8	13.8		S			2		10						
Varna			29.88	759.0	32.9	0.5		N			3		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.80	756.8	67.1	19.5	67	SW			6		10n		SW	0	0	Threatening	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.86	758.4	38.8	3.8		Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.99	761.7	35	1.7		Calm	0	0			8s		SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.85	758.2	43	6.1	98	NE	3	1.3			Fog			2.04	51.8	Heavy rain	G. A. Blair.
Charlottetown, P. E. Island			30.00	762.0	51	10.6	94	SE	25	11.2			10s			0.31	7.8	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario			29.90	759.4	33.7	0.9	92	N			1		Fog			0	0	Foggy	James Smith, M. A.
Dalhousie, N. B.			29.92	760.0	33.8	1.0	100	NW			1					0.39	9.9	Raining	H. A. Johnson.
Esquimault, B. C.			30.23	767.8	36.6	2.6	100	NE				0	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B.			29.84	757.9	43.6	6.4	96	NW	7	3.1			10n			1.20	30.48	Rain & fog	Prof. Harrison.
*Fort Garry, Manitoba			29.94	760.5	28	— 2.2	92	NW	4	1.8		2ck	2s	W		0	0	Fair	James Stewart.
Goderich, Ontario			29.97	761.2	35.7	2.1	97	NW			2		10n			0.904	22.96	Wet	H. J. Strang, M. A.
Granton, Ontario	28.79	731.3	29.92	760.0	35	1.7		N			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S.			30.01	762.2	51	10.6	92	SE	14	6.3			10n			0.205	5.21	Light rain	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.96	761.0	38	3.3	86	N	3†	1.3†			10ks			Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			30.20	767.1	48.0	8.9	94	S	14	6.3			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.93	760.2	34	1.1	100	N	12	5.4			Fog			0.04	1.0	Foggy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.94	760.5	36	2.2	80	E	4	1.8			Fog		E	Inap.	Inap.	Foggy	J. B. Haney.
*Parry Sound, Ontario			29.97	761.2	34	1.1	87	N	9	4.0		5k	5n	NE	NE	0.26	6.6	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.90	759.4	37	2.8	90	NW	5	2.2		10k	0	NW		0.04	1.0	Cloudy	H. Morgan.
Port Hastings, N. S.			30.19	766.8	36.4	2.4		SE	40	17.9						0.95	24.1	Rainin'	Peter Grant.
Port Stanley, Ontario			29.90	759.4	39	3.9	84	NW	8	3.6			10n		N	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.96	761.0	35	1.7	95	NE	8	3.6			10n		NE	0.06	1.5	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.85	758.2	54	12.2	93	S	13	5.8			10n			2.27	57.79	Heavy rain	G. Murdoch, C. E.
*Saugeen, Ontario			29.94	760.5	34	1.1	89	N	6	2.7			10s			0.06	1.5	Heavy snow	K. Stewart.
Stayner, Ontario			29.93	760.2	35	1.7	91	Calm	0	0			10ks		NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.58	725.9	29.89	759.2	35.2	1.8	97	NW	11	4.9			10s			0.121	3.08	Drizzling	C. J. MacGregor, M. A.
*Sydney, C. B.			30.26	768.6	48	8.9	82	SE	17	7.6		8ck	2s	SW	S	0.13	3.3	Cloudy	T. C. Hill.
*Toronto, Ontario			29.93	760.2	38	3.3	89	NE	2	0.9			10ks		SW	Inap.	Inap.	Light rain	Magnetic Observatory.
Woodstock, Ontario			29.90	759.4	36.1	2.3	95	N	9	4.0			10s			0.27	6.9	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.66	778.7	38.0	3.3	72	SE	2	0.9		3k	3s			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. †Estimated.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.80	756.9	42	5.6	83	NW	6	2.7			10ks		W	Inap.	Inap.	Cloudy	
Alpena, Mich.			30.04	763.0	30	— 1.1	89	N	7	3.1			10n		N	0.10	2.5	Light snow	
Atlantic City, N. J.			29.76	755.9	44	6.7	84	NW	8	3.6		5c	5s	SW	NE	0.58	14.7	Clearing	
Augusta, Ga.			29.84	757.9	50	10.0	65	N	4	1.8			10ks		NE	0	0	Cloudy	
Baltimore, Md.			29.86	758.4	42	5.6	65	NW	6	2.7		0	2s		W	0.02	0.5	Fair	
Barnegat, N. J.			29.75	755.6	47	8.3	85	N	14	6.3			10s		NW	0.79	20.1	Cloudy	
Bismarck, Dakota	28.25	717.5	29.96	761.0	30	— 1.1	78	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.70	754.4	45	7.2	100	NW	12	5.4		10n	Fog			1.52	38.6	Light rain	
Breckenridge, Minn.			29.94	760.5	25	— 3.9	88	W	12	5.4		0	2s			0	0	Clear	
Buffalo, N. Y.			29.86	758.4	40	4.4	91	Calm	0	0			10n			0.11	2.8	Light rain	
Burlington, Vt.			29.88	758.9	36	2.2	80	N	6	2.7			Fog			0.08	2.0	Foggy	
Cairo, Ill.			30.14	765.5	31	— 0.6	79	N	2	0.9		5ck	0	N		0	0	Fair	
Cape Hatteras, N. C.			29.71	754.6	55	12.8	73	NE	17	7.6			10s		NE	0.48	12.2	Cloudy	
Cape Henry, Va.			29.80	756.9	50	10.0	75	N	17	7.6		2c	5s	NW	N	0.99	25.1	Fair	
Cape Lookout, N. C.			29.78	756.4	53	11.7	79	N	22	9.8			10s		N	0.20	5.1	Cloudy	
Cape May, N. J.			29.78	756.4	45	7.2	76	N	24	10.7			10s			0.43	10.9	Cloudy	
Charleston, S. C.			29.80	756.9	54	12.8	86	N	7	3.1			10s		NE	0	0	Cloudy	
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	44	6.7	30	NW	20	8.9		1c	0			0	0	Clear	
Chicago, Ill.			30.04	763.0	37	2.8	62	NW	5	2.2		2c	5s	N		0	0	Fair	
Cincinnati, Ohio			29.94	760.5	40	4.4	73	N	7	3.1			10s		N	0.01	0.3	Cloudy	
Cleveland, Ohio			29.93	760.2	40.[illegible]	4.7	83	N	8	3.6			10s		N	0.19	4.8	Cloudy	
Corsicana, Tex.			30.17	766.3	42	5.6	83	Calm	0	0		8cs	Haze			0	0	Cloudy	
Davenport, Iowa			30.11	764.8	33	0.6	79	NW	1	0.4			10s		NW	0	0	Cloudy	
Denison, Tex.			30.17	766.3	45	7.2	76	S	6	2.7			10s		S	0	0	Cloudy	
Denver, Col.	25.01	635.2	30.23	767.8	39	3.9	31	S	6	2.7		0	0			0	0	Clear	
Detroit, Mich.			29.96	761.0	36	2.2	80	NW	5	2.2			10s			0.01	0.3	Cloudy	
Dodge City, Kan.	27.49	698.2	29.85	758.2	37	2.8	80	N	22	9.8		2c	0	N		0	0	Fair	
Dubuque, Iowa			30.10	764.5	34	1.1	79	NW	1	0.4			10s			0	0	Cloudy	
Duluth, Minn.			30.00	762.0	33	0.6	79	W	4	1.8		5k	0	W		0	0	Fair	
Eastport, Me.			29.99	754.1	54	12.2	93	S	20	8.9			10n			3.70	94.0	Light rain	
Erie, Pa.			29.86	758.4	42	5.6	91	S	3	1.3			10ks			0	0	Cloudy	
Escanaba, Mich.			30.07	763.8	32	0.0	69	N	4	1.8			10s		N	0.02	0.5	Cloudy	
Fort Gibson, Indian Ter.			30.09	764.3	35	1.7	70	E	2	0.9		5ck	2s	NW		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.85	732.8	30.00	762.0	39	3.9	63	Calm	0	0		5cs	0	SE		0	0	Fair	
Fort Sully, Dakota	28.34	719.8	30.02	762.5	42	5.6	65	NW	2	0.9		0	0			0	0	Clear	
Florence, Arizona	28.52	724.4	30.06	763.5	50	10.0		NE				0	0			0	0	Clear	
Galveston, Tex.			30.21	767.3	56	13.3	80	NW	6	2.7		2cs	0			0	0	Fair	
Grand Haven, Mich.			30.04	763.0	34	1.1	79	NE	8	3.6		0	5s		N	0.03	0.8	Fair	
Indianapolis, Ind.			30.04	763.0	37	2.8	80	NW	4	1.8		0	8s		N	0	0	Clearing	
Indianola, Tex.			30.21	767.3	50	10.0	59	NW	4	1.8		0	0			0	0	Clear	
Jacksonville, Fla.			29.88	758.9	46	7.8	48	W	4	1.8		5ck	0	S		0	0	Fair	
Keokuk, Iowa			30.07	763.8	33	0.6	69	SW	4	1.8			10s		SW	0	0	Cloudy	
Key West, Fla.			29.90	759.4	70	21.1	90	NW	20	8.9		0	2ks			0.10	2.5	Clear	
Kittyhawk, N. C.			29.81	757.2	53	11.7	63	N	28	12.5			10s		N	0.50	12.7	Cloudy	
Knoxville, Tenn.			30.01	762.2	36	2.2	90	NW	12	5.4			10ks		NW	0	0	Cloudy	
La Crosse, Wis.			30.06	763.5	36	2.2	62	SW	6	2.7			10s		SW	0	0	Cloudy	
Leavenworth, Kan.			30.07	763.8	37	2.8	71	S	2	0.9		0	5s			0	0	Fair	
Louisville, Ky.			30.03	762.7	38	3.3	63	NW	8	3.6			10s		NW	0	0	Cloudy	
Lynchburg, Va.			29.88	758.9	42	5.6	78	Calm	0	0		2k	0	W		0	0	Clear	
Malone, N. Y.			29.59	759.2	36	2.2	90	SW	2	0.9			10ks		SW	0.12	3.0	Cloudy	
Marquette, Mich.			30.04	763.0	32	0.0	79	SW	10	4.5			10s			0.03	0.8	Cloudy	
Memphis, Tenn.			30.13	765.3	33	0.6	90	N	4	1.8		0	5ks,fog			0	0	Fair	
Milwaukee, Wis.			30.10	764.5	34	1.1	69	NW	5	2.2		10s	Fog			0	0	Cloudy	
Mobile, Ala.			30.08	764.0	39	3.9	56	N	4	1.8		0	Fog			0	0	Clear	
Montgomery, Ala.			30.04	763.0	37	2.8	70	NW	6	2.7		Sm'l	0			0	0	Clear	
Morgantown, W. Va.	28.85	732.8	29.92	760.0	40	4.4	73	NW	4	1.8			10s		NW	0	0	Cloudy	
Mt. Washington, N. H.	23.60	599.4	29.96	761.0	35	1.7	100	E	5	2.2			Fog			0.39	9.9	Foggy	
Nashville, Tenn.			30.07	763.8	37	2.8	80	N	4	1.8			10s		N	0	0	Cloudy	
New Haven, Conn.			29.71	754.6	47	8.3	85	N	15	6.7		2c	5s	SW		0.70	17.8	Fair	
New London, Conn.			29.67	753.6	48	8.9	92	NW	6	2.7		8s	Fog	NW		1.22	31.0	Clearing	
New Orleans, La.			30.11	764.8	50	10.0	51	Calm	0	0		1cs	Fog	N		0	0	Clear	
Newport, R. I.			29.90	753.4	48	8.9	100	N	14	6.3			10n		N	2.41	61.2	Light rain	
New York, N. Y.			29.74	755.4	48	8.9	70	NW	11	4.9			10s			0.58	14.7	Cloudy	
Norfolk, Va.			29.83	757.7	46	7.8	69	N	11	4.9		10ck	0	SW		0.74	18.8	Cloudy	
North Platte, Neb.	27.16	689.8	29.80	756.9	36	2.2	70	W	16	7.2		5cs	0	W		0	0	Fair	
Omaha, Neb.	28.90	734.0	30.01	762.2	35	1.7	70	Calm	0	0		5cs	0	NW		0	0	Fair	
Oswego, N. Y.			29.90	759.4	45.[illegible]	7.5	84	E	3	1.3			10ks		E	0.01	0.3	Cloudy	
Pembina, Dakota			29.89	759.2	25	— 3.9	88	Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa.			29.79	756.7	42	5.6	65	N	16	7.[illegible]		5c	2ks	S	N	0.22	5.6	Cloudy	
Pike's Peak, Col.	17.98	456.7	30.19	766.8	21	— 6.1	71	N	26	11.6		1cs	0			0	0	Clear	
Pittsburgh, Pa.			29.88	758.9	40	4.4	82	W	4	1.8			10s		W	0	0	Cloudy	
Port Huron, Mich.			29.94	760.5	34	1.1	90	NW	10	4.5			10s		NW	0.04	1.0	Cloudy	
Portland, Me.			29.71	754.6	46	7.8	92	N	16	7.2			10n,fp			0.91	23.1	Light rain	
Portland, Oregon			30.29	769.4	37	2.8	90	Calm	0	0			Fog			0	0	Foggy	
Punta Rassa, Fla.			29.93	760.2	59.5	15.3	55	N	16	7.2		2k	Haze	N		0	0	Fair	
Rochester, N. Y.			29.88	758.9	40	4.4	82	W	3	1.3			10s			0	0	Cloudy	
Salt Lake City, Utah	26.97	659.6	30.30	769.6	36	2.2	69	SE	6	2.7		0	0			0	0	Clear	
Sandy Hook, N. J.			29.72	754.9	49	9.4	71	N	20	8.9			10ks		N	0.84	21.3	Cloudy	
San Diego, Cal.			30.07	763.8	60	15.6	19	NE	4	1.8		0	5s		NE	0	0	Fair	
San Francisco, Cal.			30.13	765.3	55	12.8	80	N	6	2.7		0	0			0	0	Clear	
Santa Fé, N. M.	23.45	595.6	29.99	761.7	37	2.8	62	NE	11	4.9		0	0			0	0	Clear	
Savannah, Ga.			29.83	757.7	42	5.6	56	NW	5	2.2		5ck	5s	SW		Inap.	Inap.	Cloudy	
Shreveport, La.			30.23	767.8	43	6.1	67	Calm	0	0			10s			0	0	Cloudy	
Smithville, N. C.			29.78	756.4	51	10.6	86	N	12	5.4			10ks		N	0.09	2.3	Cloudy	
Springfield, Mass.			29.72	754.9	46.5	8.1	76	N	12	5.4			10s		N	0.42	10.7	Cloudy	
St. Louis, Mo.			30.13	765.3	32	0.0	79	N	4	1.8		0	0			0	0	Clear	
St. Marks, Fla.			29.97	761.2	37	2.8	80	NW	4	1.8		0	0			0	0	Clear	
St. Paul, Minn.																0	0		
St. Paul's Island, Alask.																			
Thatcher's Island, Mass.			29.68	753.9	47	8.3	92	N	24	10.7			10s		NW	1.96	49.8	Cloudy	
Toledo, Ohio			29.95	760.7	38	3.3	71	W	7	3.1			10s		W	Inap.	Inap.	Cloudy	
Tucson, Arizona	27.68	703.1	30.23	767.8	40	4.4		S				0	0			0	0	Clear	
Tybee Island, Ga.			29.80	756.9	43	6.1	60	NW	12	5.4		5ck	5s	SW		0	0	Cloudy	
Vicksburg, Miss.			30.18	766.6	39	3.9	71	N	4	1.8		8cs	0	N		0	0	Fair	
Virginia City, M. T.	24.62	625.3	30.10	764.5	32.5	0.3	55	SE	4	1.8		0	0			0	0	Clear	
Washington, D. C.			29.88	758.9	38	3.3	75	NW	8	3.6		2cs	Sm'l	SW		Inap.	Inap.	Fair	
Wilmington, N. C.			29.79	756.7	48	8.9	85	NE	12	5.4		0	8s		NE	0.09	2.3	Cloudy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.64	752.8	50	10.0	93	N	12	5.4			10s			3.41	86.6	Cloudy	
Yankton, Dakota	28.72	729.5	30.06	763.5	29	— 1.7	83	W	4	1.8		0	0			0	0	Clear	
Yuma, Arizona			30.09	764.3	61	16.1		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.09	764.3	79	26.1	82	Calm	0	0		8c	8n			0	0		James Gall.
Navassa, W. I.					77	25.0		E			1					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.14	689.3	29.92	760.0	66	18.9	84	Calm	0	0		8c	0			0.18	4.6	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A			29.94	760.5	83	28.3	79	E			2	6ks?	6ks	E		1.960	49.78	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	29.99	761.8			83.3	28.5		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			65.6	18.7	76	NW			2	1cs	7n			0.07	1.8	Cloudy	Thomas Herran.
York Factory, B. A.			29.74	755.4	25.5	— 3.6	100	S	9	4.0			10s			0.07	1.8		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.95	760.7	76	24.4		S			4					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Greenwich Pier.					*D. clouds.	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. *Detached clouds.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 9, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

2:44 P. M. ST. PETERSBURG mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.92	759.9	68.2	20.1	55	SSE			1		5			0	0	Fair	Charnot.
Algiers			29.90	759.4	69.8	21.0	44	WSW			2		10			0	0	Hidden	Peter.
La Calle			29.87	758.6	69.4	20.8	40	WSW			2		6			0	0	Fair	Fleury.
Tunis			29.91	759.0	68.2	20.1	47	W			2		5			0	0	Fair	Jacques.
Sfax			29.98	761.4															
Saïda			30.01	762.3	62.6	17.0	44	SSE			3		3			0	0	Fair	Millot.
Tebessa			29.93	760.3	62.6	17.0		W			2		2			0	0	Clear	Bourgeois.
Gerlville					61.5	16.4	47	WNW			1		3			0	0	Fair	Lemaillot.
Laghouat			29.99	761.8	64.4	18.0	36	S			2		1			0	0	Clear	Guyot.
Biskra			29.95	760.7	69.8	21.0	37	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the co operation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram			29.97	761.3	33.4	0.8	80	NE			1		10			0.220	5.6		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.99	761.7	29.5	— 1.4	94	NE			2		8			0	0		Dr. Wierzbiski.
Eperies			29.95	760.8	30.7	— 0.7	79	Calm			0		10s		S	0	0		Julius Mikolik.
Gratz			29.95	761.4	30.9	— 0.6	77	S			2		2			0	0		Andreas Rospini.
Hermannstadt	28.66	728.0	29.98	761.4	30.9	— 0.6	77	NW			2		3			0	0		Prof. Reissenberger.
Kremsmünster	28.50	724.0	29.99	761.8	32.7	0.4	92	NW			2		0			0	0		Prof. C. Wagner.
Lemberg	28.43	722.0	29.82	757.3	32.7	0.4	78	NE			2		10			Blank	Blank		Dr. T. Stanecki.
Nyiregyhaza			29.92	760.0	26.6	— 3.0	94	NE			1								Habzsuda Daniel.
Pola													10s			0	0		I.R.Hydrographic Of'ce
Szegedin			29.85	758.1	41.9	5.5	64	E			3		10			0.118	3.00		Karl Stancel.
Trieste			30.00	762.1	31.6	— 0.2	86	Calm			0		10			Inap.	Inap.	Snowing	Prof. V. Farolfi.
Vienna			29.89	759.3	41.2	5.1	45	E			2		8			0.079	2.0		I. R. Central Met. Obs'y.
			29.90	759.5	31.3	— 0.4	85	NE			1								

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

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

Brussels			29.92	759.9	31.3	— 0.4	91	E			0		10		NE	Inap.	Inap.	Light snow	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.23	767.8	40.0	4.4		E	19	8.5			5			0.15	3.81	Blue sky	William Boswell.
Ardrossan			30.17	766.3	38	3.3		NE			3		3					*D. clouds	William McNeil.
Armagh, Observatory			30.14	765.5	37.9	3.3		NE	10	4.5			3			[illegible]	[illegible]	*D. clouds	S. Cail, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.11	764.8	40.7	4.8		NE			1		0					Blue sky	J. Dreyer.
Bradford			30.05	763.3	37.5	3.1		E			2		6			0.01	0.3	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.97	761.2	85.0	29.4		NE			3		7					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.00	762.0	35.0	1.7		N			1		5					*D. clouds	H. Todd. [H.C.
Cardington			30.01	762.2	38.0	3.3		NE			1		7					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.96	761.0	38.2	3.4		NE			1		3					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.51	724.1	30.08	764.0	32.0	0.0		NE			4		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.40	619.8			26.0	— 3.3	58	N			1		3			0.05	1.3	*D. clouds	Francis Redford, M. A.
Donaghadee			30.12	765.0	41	5.0		E			5		3					*D. clouds	J. Mac Gowan.
Dover			29.92	760.0	39	3.9		NE			3		5					¼ clouded	J. Costello.
Eccles, (near Manchester)			30.04	763.0	38.6	3.7		ENE	0.2	0.1			3					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.02	762.5	38.5	3.6		NE			2		2					*D. clouds	The Staff.
Fort Napier, (Natal)	7.54	699.5	29.77	756.1	85.2	29.6		NE			2		1					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.94	760.5	86.0	30.0		N			0		4					*D. clouds	
Galway, Queen's College			30.05	763.3	47	8.3		SE			3		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.80	756.9	66.0	18.9		SW			5		7					Gloomy	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.17	766.3	44.6	7.0		NE			1		10					Snowing	Lewis Stuart.
Great Yarmouth			29.98	761.5	39	3.9		E			4		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.98	761.5	41.5	5.3		NE			1		3					*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.95	760.7	40	4.4		ENE			3		5					*D. clouds	Dr. S. P. Loskins.
Helston			30.02	762.5	37	2.8		E			4		2c			0	0		M. P. Moyle.
Holyhead			30.06	763.5	40	4.4		ENE			4		1					Blue sky	John Tilston.
Kew, Observatory			29.99	761.7	39.3	4.1		N	9	4.0			8					*D. clouds	The Staff.
Kingstown			30.08	764.0	41	5.0		N			3		9					Showery	George Mitchell.
Leicester Museum			30.04	763.0	39.4	4.1		NE			2		4					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	69.2	20.7		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.27	768.8	35	1.7		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.05	763.3	70.0	21.1		NW			2		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.05	763.3	37.3	2.9		NW			1		5c		NW	0.60	0.1	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.02	762.5	36.3	2.4		NE			1		6					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliff Obs'y			30.00	762.0	37	2.8		NE			1		10			Shad	Shad	Gloomy	I. Lucas.
Plymouth			30.00	762.0	38	3.3		ENE			2		10					Overcast	John Merrifield.
Roche's Point			30.05	763.3	42	5.6		ENE			3		2					Fine	W. Kennedy.
Saint Ann's Head			30.02	762.5	41	5.0		ENE			1		2						John C. Walker.
Saint Helier, (Jersey)			29.91	759.7	43.5	6.4		NE			4		5					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.38	770.4	35	1.7		E	11	4.9			0			[illegible]	[illegible]	Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.99	761.7	59.5	15.3		SE			1		8			Shad	Shad	*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.06	763.5	37.3	2.9		N			2		8			Imap.	Imap.	Overcast	W. F. Cooper.
Silloth Rectory			30.12	765.0	39.1	3.9	85	E			3		2			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.07	763.8	36.7	2.6		NE			1		2			Shad	Shad	Blue sky	Rev. S. J. Perry.
Stornoway, Lewis, (Hebr.)			30.25	768.3	37	2.8		ESE			1		0					Blue sky	John Smith.
Stratfield Turgiss			30.01	762.2	36.0	2.2		N			2		0					Blue sky	Rev. Charles H. Griffith
Thurso			30.29	769.4	40	4.4		ESE			2		6					*D. clouds	John Trotter.
Truro, Royal Institution			30.04	763.0	44	6.7		E			2		4					*D. clouds	W. Newcombe.
Valencia, Observatory			30.02	762.5	44.9	7.2		ESE	26	11.6			5					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					42	5.6		E			4		3			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			29.90	759.4	77.0	25.0	46	SSE	23	10.3		3	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.02	737.1	61.5	16.4	88	NW			6		0			0.10	2.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.20	767.1	36.6	2.6		E			2					0.31	7.9	Fine	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				WSW	12.0	5.4						0	0		C. Meldrum.
Melbourne, Observatory					55.0	12.8	58	W	19	8.5			7			0.06	1.5	Squally	R. L. J. Ellery.
Monach L't-house, (Hebrides			30.24	768.1	40	4.4		SE			4	3	3	SE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.42	772.7	38	3.3		E			4	0	4						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.07	763.7	31.5	— 0.3	90	ENE			7		10						
Faröe			30.08	764.0	29.7	— 1.3	96	NE			6		7						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.87	758.7	44.8	7.1	74	SE			8		8						
Thorshavn, (Faröe)			30.34	770.7	36.9	2.7	87	ESE			2		1						
Vestervig			30.17	766.3	30.6	— 0.8	73	NE			7		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.89	759.2	46.4	8.0	76	NE			2		10ck		NE	0	0	Covered	Normal School.
Amiens			29.91	759.7	38.8	3.8	60	E			3		0			0	0	Clear	Normal School.
Avignon			29.79	756.6	45.3	7.4	40	N			3		2		W	0	0	Slightly cl'dy	Normal School.
Bar-sur-Seine			29.89	759.3	37.0	2.8	91	W			1		8		NE	0.028	0.7	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.89	759.3	41.4	5.2	66	NE	2.0	0.9					NE	0	0		Beaumette Observ'tory
Beauvais			29.96	760.9	37.6	3.1	50	N			2		5		N	0	0	Cloudy	Normal School.
Besançon			29.90	759.4	37.0	2.8	64	E			2		2		W	0	0	Slightly cl'dy	Normal School.
Bourg en Bresse			29.96	760.9	35.4	1.9	96	N			4		0			0	0	Clear	Normal School.
Bourges			29.87	758.8	36.1	2.3	94	N			2		5		N	0	0	Cloudy	Normal School.
Brest			29.87	758.7	44.8	7.1	57	NE			2		4k		NE	0	0		Naval Observatory.
Carcassonne			30 197	766.77	50.0	10	44	E			4		1		W	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			29.97	761.2	35.6	2	71	NNE			2		10			0	0	Covered	Normal School.
Châlons-sur-Marne			29.91	759.6	34.7	1.5	82	NW			2		8k		SE	0	0	Very cloudy	Normal School.
Clermont			29.91	759.6	34.9	1.6	81	NE			2		8			0	0		Puy de Dome Obs'y.
Commercy			29.92	760.0	34.3	1.3	73	WSW			4		5ku		WSW	0	0	Cloudy	Normal School.
Commune de Gréasque*			29.75	755.7	49.5	9.7	31	NW			4		8		NW	0	0		M. Kina.
Grenoble			29.84	757.9	40.6	4.8	70	WNW			2		2ks		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					42.4	5.8	85	NNE			2		8		W	0	0	Very cloudy	Normal School.
Le Mans			29.97	761.2	37.8	3.2	83	E			2		8		E	0.001	0.03	Very cloudy	Normal School.
Lons-Le-Saulnier			29.86	758.5	36.9	2.7	71	NNE			1		5		N	0	0	Cloudy	Normal School.
Lorient			29.95	760.8	46.4	8.0	46	N			1		5		NW	0	0	Cloudy	Naval Observatory.
Mâcon			29.99	761.8	36.7	2.6	72	NW			8		5		W	0	0	Cloudy	Normal School.
Metz			29.94	760.5	33.1	0.6	89	NNW			2		10					Snowing	M. Schuster.
Mirecourt			29.92	759.9	39.6	4.2	86	N					10		SE	0	0	Covered	Normal School.
Nismes			29.78	756.4	46.9	8.3	59	N			2		2		W	0	0	Slightly cl'dy	Normal School
Orleans			29.94	760.4	37.8	3.2	80	NW			2					0	0	Foggy	Normal School.
Paris, Observatory			29.93	760.1	36.9	2.7	72	E			1		10k		E	0.084	2.14	Misty	National Observatory.
Parthenay																			Normal School.
Privas			29.88	759.0	40.6	4.8		NNW			2		5		NNW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.92	760.0	44.2	6.8	65	ENE			2		10		ESE	0	0	Covered	Naval Observatory.
Rouen			29.94	760.5	39.2	4.0	44	N			2		0			0.138	3.5	Clear	Normal School.
Saint Lo																			Normal School.
Tarbes	28.71	729.1	29.77	756.2	57.2	14		N			2		0			0	0	Clear	Normal School.
Villefranche			29.89	759.2	39.0	3.9	90	NE			3		5			0	0	Cloudy	Normal School.
SUB-SERIES.																			
Fort de France, Martinique			29.84	757.8	81.3	27.4													L'Abbé Marchésl.
Marseilles			29.74	755.3	52.3	11.3	75	WNW			1		5			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.56	623.7	29.91	759.6	38.3	3.5	99	SE	3.7	1.67			8		SE	0	0		—. Falguère.
Montsouris, Paris			29.90	759.5	36.5	2.5	89	NW			1		10		N	0.036	1.0	Snowing	Montsouris Observ'tory.
Perpignan			29.80	757.0	50.4	10.2	58	NW	11.1	5.00			8		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.02	534.0			22.6	— 5.2		W			2		10					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.19	563.5			24.8	— 4.0		NW			3		10			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.91	759.8	37.8	3.2	81	NE			1		10			0.142	3.6	Very cloudy	E. Renou.
Toulouse			29.83	757.7	45.3	7.4	45	NNW			2		1			0	0		Toulouse Observatory.
Tours			29.93	760.1	37.8	3.2	86	ESE			1		10		SE	0	0		C. Marquet.
Versailles, (near Paris)			29.92	759.9	38.1	3.4	83	SE			1		10			0.038	0.96	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.14	765.6	41.9	5.5	64	Calm	0	0			0			0	0	Fine	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 185. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.82	757.3	32.0	0.0	90	W			2		6	W		0	0		Prof. T. Hohl
Berlin			29.93	760.3	30.0	— 1.1	82	E			1		10			0.037	0.9	Snowing	Prof. Arndt.
Breslau			29.94	760.4	31.5	— 0.3	79	SE			3		2			0	0		Royal University Obs'y.
Carlsruhe			29.86	758.5	33.8	1.0	83	NE			1		9			0.008	0.2		A. Senz.
Cassel			29.91	759.7	30.6	— 0.8	79	N			2		8			0.012	0.3	Snowing	Dr. H. Möhl.
Emden			30.08	763.9	30.9	— 0.6	68	NE			3		1			0	0		Prof. Prestel.
Frankfort on the Main			29.91	759.6	32.5	0.3	55	NE			2		5			0	0		Physical Society.
Friedrichshafen			29.89	759.3	32.0	0.0	78	SW			2		4			0	0		M. Wilhelm.
Hamburg			29.99	761.7	27.7	— 2.4	96	ENE			2		5s			0.035	0.9	Light fog	Captain F. Hegemann.
Kiel			29.98	761.6	32.9	0.5	65	ENE			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.08	764.1	22.3	— 5.4	85	E			2		8			0.118	3.0	Snowing	Prof. E. Luther.
Köslin			30.05	763.3	26.1	— 3.3		E			2		0			0	0		H. Müller.
Leipsic			29.91	759.7	30.9	— 0.6	88	E			1		10			0	0		Prof. Bruhns.
Memel			30.11	764.7	20.8	— 6.2	82	NE			2		10ks					Light snow	Reinbrecht & Skalweit.
Münster			29.88	759.0	31.3	— 0.4	96	NE			1		10			0.130	3.3	Snowing	Prof. E. Hels.
Neufahrwasser			30.07	763.7	26.8	— 2.9	81	SSW			2		8			0.012	0.3		A Lothe.
Posen			30.00	762.0	30.2	— 1.0	74	SE			8		10						Dr. Magener.
Strassburg, (in Alsace)			29.89	759.1	34.5	1.4	76	Calm			0		8	W		0.035	0.9		Dr. Schur.
Stuttgart			29.87	758.7	33.8	1.0	73	W			2		8			0.043	1.1	Snowing	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.82	757.4	34.5	1.4	75	NE			2		5			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.31	719.0	29.88	758.9	30.2	— 1.0	84	SW	2	1			8	SW				Snowy	Dr. von Bebber.
Wustrow, Naval School			30.07	763.8	31.6	— 0.2	60	ESE			3		8			0	0		E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," N. 31°, 2′, W. 18°, 55′.			29.74	755.3	72.1	22.3	74	SSW			7		10		SSW			Squally	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.99	761.7	67.8	19.9		S										Covered	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.86	758.4	38.5	3.6	43	NE	4.9	2.2			10			0	0		Prof. Giovanni Clodig.
Padua			29.84	758.0	35.6	2.0	69	NE	12.5	5.6			10			0.079	2.0	Snowing	Prof. Dott. Lorenzoni.
Vicenza			29.86	758.4	37.2	2.9	65	E	3.1	1.4			10			0.228	5.8	Snowing	Alm. Da Schio.
Verona			29.84	757.8	41.0	5.0	72	E			4		10			0.228	5.8	Snowing	Dott. B. Bertoncelli.
Bergamo	28.46	722.9	29.81	757.2	34.2	1.2	85	SE			2		10			Inap.	Inap?	Snowing	Prof Trionfini Carlo.
Domodossola			29.83	757.6	35.1	1.7	91	Calm			0		10			0.11	3.6	Snowing	Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			29.83	757.6	36.1	2.3	77	E			4		10			Inap?	Inap?	Snowing	Prof. Gio. Cantoni.
Moncalieri			29.84	757.9	37.0	2.8	74	NE	2.5	1.1			10	NE		0	0		Prof. P. F. Denza.
Mondovi	27.85	707.4	29.82	757.3	32.9	0.5	90	NW			4		10			0	0		Prof. C. Bruno.
Porto Maurizio			29.78	756.4	51.1	10.6	37	ENE			4		5	E		0	0		Prof. L. Vassallo.
Genoa			29.76	755.9	43.9	6.6	51	N	6.3	2.8			10	SW		0.13	3.4		Prof. Garibaldi.
Piacenza			29.84	758.0	35.6	2.0	82	E	9.4	4.2			10	E		0.09	2.4	Snowing	Dott. G. Manzi.
Parma			29.83	757.7	35.2	1.8	89	NE			2		10			0.02	0.7	Light rain	Prof. P. Pigorini.
Bologna			29.85	758.1	41.4	5.2	34	W			1		10			0	0		Prof. A. Palagi.
Florence			29.81	757.2	40.1	4.5	92	NE			2		10			0.06	1.6	Raining	Cav. F. Meucci.
Leghorn			29.74	755.3	39.6	4.2	82	ENE	16.1	7.2			10			0.05	1.4	Raining	Prof. P. Monte.
Siena	28.52	724.4	29.76	755.8	36.5	2.5	90	E	1.3	0.6			10	E		0.09	2.5	Raining	Prof. L. Toscani.
Urbino	28.26	717.7	29.86	758.5	36.5	2.5	88	S			2		10					Snowing	Prof. P. Serpieri.
Pesaro			29.82	757.4	42.4	5.8	94	S	6.3	2.8			10	S		0.30	7.7	Raining	Prof. Luigi Guidi.
Ancona			29.80	756.8	44.1	6.7	79	SE			4		10			0.29	7.6	Raining	Prof. F. De— Bosis.
Grosseto			29.76	755.8	44.4	6.9	96	NE			2		9	SE		0.11	3.0	Raining	Avv. P. Pontecelli.
Rome			29.76	755.8	52.9	11.6	75	N	2.5	1.1			10			0.38	9.8	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.84	757.8	57.6	14.2	69	SSW			2		10	NE		0.49	12.6	Raining	Prof. L. Palmieri.
Lecce			29.96	760.9	54.7	12.6	70	SSE	6.5	2.8			9			0	0		Prof. C. De—Giorgi.
Cosenza			29.92	759.9	55.9	13.3	78	SE	1.3	0.6			8			0.20	5.3	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.80	757.0	58.8	14.9	60	NW			6		7	SE		0	0		Prof. F. Cafiero.
Palermo			29.74	755.4	68.2	20.1	43	WSW	22.4	10.0			6	WSW		0	0		Prof. G. Cacciatore.
Caltanissetta	27.92	709.2	29.88	758.9	57.2	14.0	84	SSE			6		6	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.84	757.8	53.1	11.7	79	NNE	1.3	0.6			10			0.93	23.7	Thunder-storm.	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.98	761.4	36.0	2.2		ENE			2								
Groningen			29.92	759.9	32.5	0.3		NE			4								
Helder			29.97	761.1	33.6	0.9		ENE			2								
Utrecht			29.91	759.8	31.8	— 0.1	78	NE			2		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.39	771.8	30.6	— 0.8	48	NE	13	6			0			0	0		
Bróno			30.48	774.1	23.0	— 5.0	57	Calm	0	0			8			0	0		
Christiania			30.43	772.8	25.9	— 3.4	70	NNE	3.8	1.7			10			0	0		
Tromsö			30.30	769.5	30.2	— 1.0	88	SW	7	3			10			0.48	12.4	Snowing	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.79	756.7	61.2	16.2	87	NE	16.1	7.2			10			1.626	41.3	Raining	Dr. J. A. Sampaio.
Campo Major			29.77	756.1	59.5	15.3	83	SW	9.8	4.4			9	SW		0.335	8.5	Raining	Dr. A. M. R dos Santos.
Funchal, (Madeira,)			29.69	754.0	70.7	21.5	73	SSW	2.6	1.17			10			0	0		Capt. D. A. de Cunha.
Lisbon			29.77	756.2	63.5	17.5	71	WSW	11.2	5.0			5			0.244	6.2		The Observatory.
Ponta Delgada, (Azores)			29.52	749.9	60.4	15.8	93	NE	1.2	0.56			10			1.77	45.0	Raining	

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 6 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.00	762.1	29.5	— 1.4	86	ESE	2	1			7					Solar corona	Astronomical Obs.
Wilna			30.07	763.8	24.1	— 4.4	70	NE	4	2			10						Astronomical Obs.
Dorpat			30.15	765.8	18.0	— 7.8	94	ENE	9	4			10			Blank	Blank		Physical Cabinet.
St. Petersburg			30.20	767.1	17.6	— 8.0	88	E	18	8			10					Light snow	Central Physical Obs.
Kutopio			30.41	772.4	18.3	— 7.6	100	NE	18	8			0						Ch. Forsten.
Kieff			30.05	763.3	28.4	— 2.0	66	S	7	3			10					Smoke-haze	Physical Cabinet.
Nikolaiev			30.15	765.8	31.3	— 0.4	74	SE	7	3			7						Kurdakof.
Kertch			30.15	765.9	38.5	3.6	95	WNW	11	5			6						Lagorio.
Moscow			30.10	764.5	32.2	0.1	96	S	4	2			10					Snowing	Meteorological Obs.
Lugan			29.87	758.6	37.9	3.3	92	WNW	16	7			10			Blank	Blank		Meteorological Obs.
Archangel			30.55	776.0	7.9	—13.4	100	NE	7	3			2						Ogorodnikof.
Tiflis	28.54	724.9	29.95	760.8	56.1	13.4	70	NW	45	20			9					Light rain	Physical Observatory.
Astrakhan			29.95	760.7	45.0	7.2	64	E	13	6			7						Sebastianof.
Kasan			30.27	768.9	31.3	— 0.4	94	SE	4	2			7						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.65	753.1	30.67	778.9	24.4	— 4.2	93	E	9	4			10						Meteorogical Obs.
Nukuss			30.19	766.8	45.7	7.6	38	E	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Micheison.
Barnaul			30.50	774.7	16.3	— 8.7	66	N	9	4			2						Meteorological Obs.
Yeniseisk			30.38	771.7	7.7	—13.5	77	NW	7	3			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			29.83	757.6	46.4	8.0	48	SW	9	4			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.69	754.2	29.7	— 1.3	63	Calm	0	0			3						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.77	756.1	52.9	11.6	84	N	2.7	1.09			10			0.232	5.9	Covered	Royal Observatory.
San Fernando			29.85	758.2	67.8	19.9	74	SE	9.	4.1		0	9		SE	0.167	4.2		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.54	775.8	14.7	— 9.6	87	N			2		10			0	0		
Umea			30.52	775.1	11.1	—11.6	100	Calm			0		9			0	0		
Hernosand			30.50	774.7	19.2	— 7.1	93	N			2		3			0.059	1.5		
Stockholm			30.30	769.7	24.8	— 4.0	87	NNE			6		8			0.004	0.1		
Wisby			30.21	767.4	30.9	— 0.6	96	E			4		5					Snowing	
Sub-Series.																			
Upsala			30.35	770.8	25.2	— 3.8	66	NE	9.6	4.3			10			0.012	0.03	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.39	721.0	29.87	758.7	36.0	2.2	61	SE			1		8			0.008	0.2	Clouds	The Observatory.
Zurich	28.20	716.2	29.91	759.8	31.6	— 0.2	89	NE			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —5.2 mm; Thermometer, —5.9 cent.; Relative Humidity, —15 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.04	762.9	57.9	14.4	47	ESE	6	2.5			8		SW	0.157	4.0		
Fao, (Persian Gulf)																			
Salonica			29.97	761.3	57.6	14.2		SW			1		0						
Valona			29.85	758.2	63.5	17.5		W			1		10						
Varna			29.96	761.0	46.4	8.0		N			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.77	756.2	70.3	21.3	54	W			2		4ks		W	0.79	20.1	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.89	759.2	39.5	4.2		Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.98	761.5	35	1.7		Calm	0	0			10s		N	0.02	0.5	Light rain	W. R. Bigg.
*Chatham, N. B.			29.85	758.2	39	3.9	98	NE	4	1.8			10s		NE	1.35	34.3	Light rain	G. A. Blair.
Charlottetown, P. E. Island			29.79	756.7	57	13.9	100	SW	10	4.5			10n			1.32	33.5	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario			29.86	758.4	37.7	3.2	94	E			1		10n			0.11	2.87	Raining	James Smith, M. A.
Dalhousie, N. B.			29.88	758.9	37.7	3.2	97	NW			1					0.79	20.1	Raining	H. A. Johnson.
Esquimault, B. C.			30.15	765.8	41.1	5.1	100	S					10			0.20	5.1	Dense fog	W. H. Bevis.
Fredericton, N. B.			29.86	758.4	41.3	5.2	94	NE	5	2.2			10n			0.01	0.3	Misty	Prof. Harrison.
*Fort Garry, Manitoba			30.00	762.0	26	— 3.3	88	Calm	0	0		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.05	763.3	34.6	1.4	96	Calm			0	4k	4n	N		0.089	2.26	Clearing	H. J. Strang, M. A.
Granton, Ontario	28.87	733.3	30.01	762.2	33	0.6		NW			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S.			29.84	757.9	57	13.9	96	SW	16	7.2			10n		SW	2.410	61.21	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.96	761.0	36	2.2	95	Calm	0	0		2c	8ks			0.11	2.8	Clearing	S. Woods, M. A.
Little Glace Bay, N. S.			29.86	758.9	55.0	12.8	100	S	14	6.3			10n			0.96	24.4	Overcast	C. H. Rigby.
*Montreal, Quebec			29.84	757.9	37	2.8	97	NE	16	7.2			10n			0.03	0.8	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.92	760.0	36	2.2	91	N	8	3.6			10n		N	Inap.	Inap.	Light rain	J. B. Haney.
*Parry Sound, Ontario			30.02	762.5	33	0.6	85	N	4	1.8		2k	5ks	N	N	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.00	762.0	37	2.8	90	NW	8	3.6		10k	0	N		0	0	Fair	H. Morgan.
Port Hastings, N. S.																0	0		Peter Grant.
Port Stanley, Ontario			30.02	762.5	33	0.6	93	NW	8	3.6		2k	0	N		0	0	Clear	M. Payne.
*Quebec, Quebec			29.80	756.9	39	3.9	73	NE	25	11.2			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.80	756.9	44	6.7	96	N	6	2.7			Fog			0.90	22.96	Heavy rain	G. Murdoch, C. E.
*Saugeen, Ontario			30.01	762.2	37	2.8	76	N	6	2.7			10n		N	0.06	1.5	Cloudy	K. Stewart.
Stayner, Ontario			30.00	762.0	35	1.7	96	Calm	0	0			8n			Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.68	728.5	30.00	762.0	33.8	0.4	96	NW	2	0.9			10s			Inap.	Inap.	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.93	760.2	57	13.9	97	SW	13	5.8			10n			1.06	26.9	Light rain	T. C. Hill.
*Toronto, Ontario			30.00	762.0	37	2.8	83	NW	6	2.7			10ks		W	Inap.	Inap.	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.03	762.7	34.4	1.3	90	NW	3	1.3			9ks			Inap.	Inap.	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.20	767.1	54.0	12.2	87	SE	2	0.9		4k	4s			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrument and error. Inches.	Barometer. Corrected for instrument and error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.87	758.7	40	4.4	91	Calm	0	0			10s			0.16	4.1	Cloudy	
Alpena, Mich.			30.08	764.0	30	— 1.1	89	NW	6	2.7			10s		NW	Inap.	Inap.	Cloudy	
Atlantic City, N. J.			29.89	759.2	46	7.8	85	NW	2	0.9		2ck	8s	S	N	0	0	Cloudy	
Augusta, Ga.			30.05	763.3	40	4.4	82	NW	5	2.2		0	5ks		NW	0	0	Fair	
Baltimore, Md.			29.95	760.7	42	5.6	74	NW	4	1.8		2cs	Sm'c			0	0	Fair	
Barnegat, N. J.			29.88	758.9	46	7.8	85	NW	8	3.6			10s		NW	0	0	Cloudy	
Bismarck, Dakota	28.24	717.3	29.96	761.0	28	— 2.2	78	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.82	757.4	47	8.3	100	NW	4	1.8			Fog			0.14	3.6	Foggy	
Breckenridge, Minn.			30.04	763.0	24	— 4.4	87	SE	4	1.8		0	0			0	0	Clear	
Buffalo, N. Y.			29.94	760.5	38	3.3	81	Calm	0	0			10n		W	0.05	1.3	Light rain	
Burlington, Vt.			29.87	758.7	39	3.9	91	W	3	1.3			10s			0.07	1.8	Cloudy	
Cairo, Ill.			30.15	765.8	38	3.3	81	Calm	0	0		8ck	0	N		0	0	Fair	
Cape Hatteras, N. C.			29.88	758.9	50	10.0	78	N	12	5.4		5cs	0			0.08	2.0	Fair	
Cape Henry, Va.			29.92	760.0	48	8.9	78	N	12	5.4		5c	0	NW		0	0	Fair	
Cape Lookout, N. C.			29.98	761.5	46	7.8	69	N	14	6.3		0	5s			Inap.	Inap.	Fair	
Cape May, N. J.			29.90	759.4	47	8.3	77	N	13	5.8		5c	0	S		0	0	Fair	
Charleston, S. C.			30.02	762.5	47	8.3	55	NE	8	3.6		2cs	5s		SW	0	0	Fair	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	32	0.0	41	NW	12	5.4		0	0			0	0	Clear	
Chicago, Ill.			30.10	764.5	40	4.4	56	SW	6	2.7			10s			0	0	Cloudy	
Cincinnati, Ohio			30.04	763.0	36	2.2	70	N	5	2.2		5ck	5ks	NE	NE	Inap.	Inap.	Cloudy	
Cleveland, Ohio			29.99	761.7	40	4.4	91	Calm	0	0			10n		NE	0.36	9.1	Light rain	
Corsicana, Tex.			30.10	764.5	45	7.2	76	N	1	0.4		2cs	Haz			0	0	Clear	
Davenport, Iowa			30.18	766.6	33	0.6	79	Calm	0	0			Fog			0	0	Foggy	
Denison, Tex.			30.12	765.0	44	6.7	75	Calm	0	0		0	0			0	0	Clear	
Denver, Col.	25.03	637.8	30.25	768.3	36	2.2	45	S	6	2.7		0	0			0	0	Clear	
Detroit, Mich.			30.03	762.7	34	1.1	69	NW	5	2.2			10s			0.01	0.3	Cloudy	
Dodge City, Kan.	27.55	699.8	29.92	760.0	36	2.2	80	N	14	6.3		0	0			0	0	Clear	
Dubuque, Iowa			30.17	766.3	29	— 1.7	89	SW	1	0.4			Fog			0	0	Foggy	
Duluth, Minn.			30.04	763.0	32	0.0	68	Calm	0	0		0	0			0	0	Clear	
Eastport, Me.			29.74	755.4	44	6.7	100	N	12	5.4			Fog			1.38	35.1	Light rain	
Erie, Pa.			29.93	760.2	41	5.0	91	N	14	6.3		7k	7ks		W	0.03	0.8	Clearing	
Escanaba, Mich.			30.09	764.3	26	— 3.3	77	W	2	0.9		5c	2s	N		0	0	Fair	
Fort Gibson, Indian Ter.			30.04	763.0	40	4.4	56	E	4	1.8		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.91	734.3	30.04	763.0	49	9.4	48	Calm	0	0		0	0			0	0	Clear	
Fort Sully, Dakota	28.36	720.3	30.10	764.5	28	— 2.2	56	SE	1	0.4		0	0			0	0	Clear	
Florence, Arizona	28.56	725.4	30.07	763.8	60	15.6		NE				2c	0	NE		0	0	Fair	
Galveston, Tex.			30.03	762.7	62	16.7	77	E	12	5.4		0	0			0	0	Clear	
Grand Haven, Mich.			30.11	764.8	29	— 1.7	83	NE	4	1.8		0	0			0	0	Clear	
Indianapolis, Ind.			30.11	764.8	35	1.7	70	N	1	0.4		0	0			0	0	Clear	
Indianola, Tex.			30.08	764.0	51	10.6	86	W	7	3.1		0	0			0	0	Clear	
Jacksonville, Fla.			30.04	763.0	43	6.1	83	NW	4	1.8		4ck	0	SE		0	0	Fair	
Keokuk, Iowa			30.12	765.0	35	1.7	80	Calm	0	0		0	Haz			0	0	Clear	
Key West, Fla.			30.00	762.0	64	17.8	88	NE	8	3.6		0	2ks			0	0	Clear	
Kittyhawk, N. C.			29.97	761.2	44	6.7	84	NW	10	4.5		5c	0	W		0	0	Fair	
Knoxville, Tenn.			30.10	764.5	33	0.6	89	Calm	0	0		8ck	Fog	W		Inap.	Inap.	Cloudy	
La Crosse, Wis.			30.19	765.0	32	0.0	69	S	6	2.7		Haz	Haz			0	0	Hazy	
Leavenworth, Kan.			30.10	764.5	34	1.1	79	S	1	0.4		0	0			0	0	Clear	
Louisville, Ky.			30.08	764.0	38	3.3	71	N	8	3.6		10k	0	NW		0	0	Cloudy	
Lynchburg, Va.			29.98	761.5	40	4.4	60	W	4	1.8		0	0			0	0	Clear	
Malone, N. Y.			29.83	757.7	47	8.3	100	Calm	0	0			10n			0.16	4.1	Light rain	
Marquette, Mich.			30.02	762.5	32	0.0	79	W	8	3.6		0	0			0	0	Clear	
Memphis, Tenn.			30.17	766.3	37	2.8	80	Calm	0	0		0	5s, fp			0	0	Fair	
Milwaukee, Wis.			30.16	766.1	30	— 1.1	78	NW	3	1.3		2s	Fog			0	0	Fair	
Mobile, Ala.			30.14	765.5	39	3.9	81	N	4	1.8		0	Sm'c		N	0	0	Clear	
Montgomery, Ala.			30.13	765.3	36.5	2.5	70	N	2	0.9		Sm'c	10ck			0	0	Cloudy	
Morgantown, W. Va.	28.92	734.6	30.00	762.0	37	2.8	90	W	3	1.3			10n		W	0.12	3.0	Light rain	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	38	3.3	100	SW	10	4.5			Fog			0.18	4.6	Foggy	
Nashville, Tenn.			30.10	764.5	40	4.4	82	NW	3	1.3		8k	2s	NW	NW	0	0	Cloudy	
New Haven, Conn.			29.83	757.7	47	8.3	85	N	10	4.5		Haz	10s			0	0	Cloudy	
New London, Conn.			29.84	757.9	49	9.4	85	Calm	0	0		0	8s		SW	0.03	0.8	Clearing	
New Orleans, La.			30.13	765.3	47.5	8.6	52	NE	8	3.6		1ck	0			0	0	Clear	
Newport, R. I.			29.83	757.7	49	9.4	93	N	4	1.8			10s		N	0.07	1.8	Threatening	
New York, N. Y.			29.88	758.9	45	7.2	84	NW	4	1.8		5ck	2ks	S		0	0	Fair	
Norfolk, Va.			29.96	761.0	43.5	6.4	71	N	8	3.6		2c	0			0	0	Fair	
North Platte, Neb.	27.23	691.6	29.93	760.2	28	— 2.2	67	W	10	4.5		0	0			0	0	Clear	
Omaha, Neb.	28.99	736.3	30.10	764.5	36	2.2	90	NW	4	1.8		0	Haz			0	0	Clear	
Oswego, N. Y.			29.93	760.2	40	4.4	88	N	5	2.2			10n		NE	Inap.	Inap.	Light rain	
Pembina, Dakota			29.96	761.0	26	— 3.3	88	W	1	0.4		0	0			0	0	Clear	
Philadelphia, Pa.			29.90	759.4	43	6.1	66	N	13	5.8		Haz	Sm'c			0	0	Smoky	
Pike's Peak, Col.	18.04	458.2	30.26	768.6	29	— 1.7	24	NW	9	4.0		0	0			0	0	Clear	
Pittsburgh, Pa.			29.95	760.7	39	3.9	90	W	5	2.			10s		W	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.03	762.7	34	1.1	90	NW	9	4.0			10s		N	0.14	3.6	Cloudy	
Portland, Me.			29.83	757.7	47	8.3	85	NE	8	3.6			10s			0.10	2.5	Threatening	
Portland, Oregon			30.30	769.6	36	2.2	90	Calm	0	0			Fog			0	0	Foggy	
Punta Rassa, Fla.			30.03	762.7	54.5	12.5	61	NE	11	4.9		2ck	0			0	0	Fair	
Rochester, N. Y.			29.92	760.0	40	4.4	83	NW	6	2.7		Haz	8s	N	N	0.09	2.3	Cloudy	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	36	2.2	70	SW	2	0.9		0	0			0	0	Clear	
Sandy Hook, N. J.			29.85	758.2	46	7.8	85	NW	6	2.7		8k	0	SW		0	0	Cloudy	
San Diego, Cal.			30.05	763.3	58	14.4	57	Calm	0	0		0	8s			0	0	Cloudy	
San Francisco, Cal.			30.10	764.5	55	12.8	87	N	8	3.6		0	0			0	0	Clear	
Santa Fé, N. M.	23.50	596.9	30.04	763.0	39	3.9	47	SE	3	1.3		0	0			0	0	Clear	
Savannah, Ga.			30.02	762.5	44	6.7	75	N	3	1.3		5ck	5s			0	0	Cloudy	
Shreveport, La.			30.18	766.6	46	7.8	74	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.99	761.7	41	5.0	75	N	8	3.6		8ck	0	SW		0	0	Cloudy	
Springfield, Mass.			29.81	757.2	46.5	8.1	85	Calm	0	0			10s			0	0	Cloudy	
St. Louis, Mo.			30.16	766.1	40	4.4	72	SE	2	0.9			Fog			0	0	Foggy	
St. Marks, Fla.			30.09	764.3	36	2.2	90	N	2	0.9		0	0			0	0	Clear	
St. Paul, Minn.			30.04	763.0	31	— 0.6	79	Calm	0	0		2c	0			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.84	757.9	46	7.8	92	N	8	3.6			10s			0.22	5.6	Cloudy	
Toledo, Ohio			30.03	762.7	34	1.1	79	W	6	2.7			10s			0.03	0.8	Cloudy	
Tucson, Arizona	27.67	702.8	30.22	767.6	47	8.3		S				0	0			0	0	Clear	
Tybee Island, Ga.			29.99	761.7	43	6.1	75	N	3	1.3		2ck	5s			0	0	Fair	
Vicksburg, Miss.			30.19	766.8	39	3.9	71	SE	11	4.9		8ck	0	N		0	0	Cloudy	
Virginia City, M. T.	24.48	621.8	29.96	761.0	35	1.7	52	SE	1	0.4		0	0			0	0	Clear	
Washington, D. C.			29.96	761.0	39.5	4.2	71	NW	12	5.4		5c	Haze	SW		0	0	Fair	
Wilmington, N. C.			30.00	762.0	40	4.4	72	N	4	1.8		8cs	0	SW		0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.85	758.2	50	10.0	83	N	6	2.7			10s			0.42	10.7	Cloudy	
Yankton, Dakota	28.82	732.0	30.17	766.3	29	— 1.7	83	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona			30.06	763.5	61	16.1		N				0	5s		W	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.10	764.5	77	25.0	82	Calm	0	0		8c	8n		SE	0.03	0.8		James Gall.
Navassa, W. I.					77	25.0		SE			1					0.100	25.4	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	65	18.3	89	SE	0.5	0.2		8c	2k	SE		0.10	2.5	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	82	27.8	82	E			2	4k	4k	E		0.040	1.02	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.05	763.2			83.3	28.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.25	641.3			63.5	17.5	90	E			2		10n			0.10	2.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.14	765.5	5.0	—15.0	88	N	10	4.5			9s			0.09	2.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.98	761.5	76	24.4		S			4					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Greenwich Pier.			29.84	757.9	44	6.7	84	NW	7	3.1		0	0					Clear	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 10, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.99	761.7	71.2	21.8	61	Calm			0		4			0	0	Fair	Charnot.
Algiers			30.03	762.7	67.6	19.8	49	W			1		4			0	0	Fair	Peter.
La Calle			30.04	763.0	65.1	18.4	71	NW			2		6			0	0	Fair	Fleury.
Tunis			30.07	763.6	66.4	19.1	73	NW			3		9			0	0	Hidden	Jacques.
Sfax			30.05	763.3															
Saida			30.11	764.9	66.2	19.0	38	SSE			1		2			0	0	Clear	Millot.
Tebessa			30.06	763.5	59.0	15.0		W			1		2			0	0	Clear	Bourgeois.
Geriville					59.5	15.3	58	NW			1		1			0	0	Clear	Lemaillot.
Laghouat			30.11	764.7	68.4	20.2	33	NW			2		1			0	0	Clear	Guyot.
Biskra			30.03	762.8	72.1	22.3	30	NW			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.85	758.1	33.3	0.7	89	S			1		10			0.154	3.9	Snowy	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.89	759.2	27.0	— 2.8	98	NE			2		10			0.154	3.9	Snowing	Dr. Wierzbiski.
Eperies			29.80	756.8	30.4	— 0.9	86	Calm			0		10			0.007	0.18		Julius Mikolik.
Gratz	28.57	725.6	29.87	758.6	31.5	— 0.3	85	SSW			2		6			0.374	9.5		Andreas Rospini.
Hermannstadt	28.26	717.8	29.72	754.9	37.0	2.8	82	W			3		5			0	0		Prof. Reissenberger.
Kremsmünster	28.56	725.4	29.98	761.4	26.6	— 3.0	87	NW			3		8			0.118	3.0		Prof. C. Wagner.
Lemberg			29.84	758.0	26.6	— 3.0	94	E			1		10			0.453	11.5		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.77	756.2	40.8	4.9	78	ESE			2		10ks			0.258	6.54		I.R.Hydrographic Of'ce
Szegedin			29.73	755.1	31.1	— 0.5	74	NW			2		10			0.322	8.20		Karl Stancel.
Trieste			29.86	758.4	36.7	2.6	63	E			1		10			Inap.	Inap.	Snowing	Prof. V. Farolfi.
Vienna			29.87	758.6	29.5	— 1.4	88	NW			2		10			0.012	0.3		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.17	766.2	32.2	0.1	73	NNE			0	0	4		N	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.21	767.3	31.7	— 0.2		NW	7	3.1			2			0.095	2.41	Blue sky	William Boswell.
Ardrossan			30.18	766.6	36	2.2		NE			2		2					Hazy	William McNeil.
Armagh, Observatory			30.10	764.5	40.0	4.4		SE	12	5.4			8					Overcast	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.02	762.5	41.2	5.1		SE			2		10					Overcast	J. Dreyer.
Bradford			30.17	766.3	36.7	2.6		N			0		1			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.97	761.2	84.5	29.2		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.18	766.6	38.0	3.3		NNW			1		7					*D. clouds	H. Todd. [H.C.
Cardington			30.08	764.0	39.0	3.9		N			1		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.18	766.6	35.7	2.1							3					Hazy	Capt. Fellowes, R. E.
Dartmoor	5.05?	128.5?	29.25?	742.9?	34.6	1.4		E			3		0					Blue sky	R. E. Power.
Davos Platz, (Switzerland)	24.53	623.0			15.2	— 9.3	76	SE			1		10			0.03	0.9	Snowing	Francis Redford, M. A.
Donaghadee			30.13	765.3	41	5.0		SE			5		8					*D. clouds	J. Mac Gowan.
Dover			30.16	766.1	38	3.3		NNW			2		5					Hailing	J. Costello.
Eccles, (near Manchester)			30.12	765.0	37.9	3.3		NE					9					Gloomy	Thomas Mackerell.
Falmouth, Observatory			30.13	765.3	45.3	7.4		SE			4		7					Overcast	The Staff.
Fort Napier, (Natal)	27.2[illegible]	692.4	29.49	749.0	65.3	18.5		E			1		10					Raining	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.94	760.5	85.0	29.4		N			1		6					*D. clouds	
Galway, Queen's College			30.05	763.3	49	9.4		S			5		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.95	760.7	66.3	19.1		E			3		9					Gloomy	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.18	766.6	28.5	— 1.9							6					Hazy	Lewis Stuart.
Great Yarmouth			30.14	765.5	38	3.3		WNW			1		5					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.18	766.6	35.7	2.1		NNW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			30.16	766.1	43	6.1		NE			2		3					*D. clouds	Dr. S. E. Hoskins.
Helston			30.12	765.0	45	7.2		SE			6		4c			0	0		M. P. Moyle.
Holyhead			30.13	765.3	41	5.0		SSE			3		3					*D. clouds	John Tilston.
Kew, Observatory			30.19	766.8	36.1	2.3		NNW	3	1.3			10					Misty	The Staff.
Kingstown			30.13	765.3	44	6.7		SSE			5		6					*D. clouds	George Mitchell.
Leicester Museum			30.20	767.1	40.0	4.4		Calm			0		1					Hazy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	69.6	20.9		NW			2		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.20	767.1	30	— 1.1		Calm			0		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.11	764.8	70.5	21.4		NW			2		8					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.18	766.6	39.0	3.9		NE			1		4c,k		NE	0	0	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.17	766.3	39.2	4.0		NE			1		5s					Misty	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.17	766.3	35	1.7		N			1		10					Gloomy	J. Lucas.
Plymouth			30.16	766.1	39.3	4.1		E			3		0					Blue sky	John Merrifield.
Roche's Point			29.99	761.7	46	7.8		SSE			6		10					Raining	W. Kennedy.
Saint Ann's Head			30.11	764.8	43	6.1		SE			4		3					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			30.16	766.1	47.0	8.3		E			2		5					½ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.21	767.3	30.4	— 0.9		Calm	0	0			3			Blank	Blank	*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.91	758.7	64.4	18.0		SSE			1		8					*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.19	766.8	37.3	2.9		N			1		4			0	0	Foggy	W. F. Cooper.
Silloth Rectory			30.16	766.1	39.6	4.2	78	E			2		1			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.18	766.6	37.4	3.0		NE			0		0					Blue sky	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.14	765.5	39	3.9		SW			3		8					*D. clouds	John Smith.
Stratfield Turriss			30.20	767.1	34.0	1.1		N			1		10					Overcast	Rev. Charles H. Griffith
Thurso			30.19	766.8	27	— 2.8		S			1		3					Blue sky	John Trotter.
Truro, Royal Institution			30.13	765.3	43	6.1		SE			4		8					Gloomy	W. Newcombe.
Valencia, Observatory			29.89	759.2	42.8	6.0		SSE	47	21.0			10					Raining	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					44	6.7		ESE			4		3			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.12	765.0	67.5	19.7	43	SSW	16	7.2		1	2						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.54	750.3	61.0	16.1	87	N			3		3k			0.10	2.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.22	767.6	35.9	2.2		SW			1	2ck				0.47	11.9	Fine	Andrew Gibb.
Mauritius, Observatory			29.98	761.5				NE	3.6	1.6						0	0		C. Meldrum.
Melbourne, Observatory			29.84	757.9	50.8	10.4	75	SSE	4	1.8			4			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.06	763.5	42	5.6		SE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.20	767.1	39	3.9		NE			3		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off, and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José

DANISH SERIES.

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

Copenhagen			30.12	765.1	25.7	— 3.5	65	NNE			6		2						
Fanöe			30.19	766.8	25.2	— 3.8	91	NNE			4		7						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.98	761.4	42.6	5.9	83	E			4		5						
Thorshavn, (Faröe)			30.29	767.0	37.9	3.3	80	Calm			0		2						
Vestervig			30.21	767.4	28.4	— 2.0	92	Calm			0		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, we [illegible] by [illegible] and sym[illegible]ols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.18	766.6	44.6	7.0	73	E			3		2ck		E	0	0	Slightly cl'dy	Normal School.
Amiens			30.19	766.8	39.2	4.0	70	E			3		0			0	0	Clear	Normal School.
Avignon			30.08	764.0	42.8	6	32	N			6		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.20	767.0	34.3	1.3	99	N			1		8		N	0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			30.19	766.7	37.8	3.2	75	S	0	0						0	0		Beaumette Observ'tory.
Beauvais			30.21	767.4	36.1	2.3	72	N			1		8		WNW	0	0	Very cloudy	Normal School.
Besançon			30.22	767.5	29.5	— 1.4		NNW			2		10			0	0	Covered	Normal School.
Bourg en Bresse			30.30	769.6	32.4	0.2	78	N			2		8kn		S	0	0	Very cloudy	Normal School.
Bourges			30.24	768.2	34.2	1.2	78	E			2		2		NE	0	0	Slightly cl'dy	Normal School.
Brest			30.07	763.8	48.4	9.1	50	SE			3	1c				0	0		Naval Observatory.
Carcassonne			30.12	765.1	49.1	9.5	69	W			2		5		E	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			30.28	769.2	37.8	3.2	60	N			2		10		E	0	0	Covered	Normal School.
Châlons-sur-Marne			29.97	761.2	33.8	1.0	93	NNW			2		5k		SE	0	0	Cloudy	Normal School.
Clermont			30.19	766.9	36.3	2.4	79	NE			3		2			0	0		Puy de Dome Obs'y.
Commercy			30.21	767.3	30.9	— 0.6	96	NW			2		10			0.030	0.75	Covered	Normal School.
Commune de Gréasque*			30.02	762.5	42.8	6.0	11	NW			6		0			0	0		M. Kina.
Grenoble			30.15	765.9	34.7	1.5	87	NW			1		5ns		S	0	0	Cloudy	Normal School.
La Roche-sur-Yon					41.0	5	84	NE			6		0			0	0	Clear	Normal School.
Le Mans			30.28	769.1	36.3	2.4	75	SW			2		0			0	0	Clear	Normal School.
Lons-Le-Saulnier			30.19	766.8	32.7	0.4	92	N			1		10			0.098	2.5	Snowing	Normal School.
Lorient			30.19	766.7	42.4	5.8	44	ESE			4		0			0	0	Clear	Naval Observatory.
Mâcon			30.19	766.7	32.9	0.5	92	NW			8		0			0.008	0.2	Clear	Normal School.
Metz			30.20	767.0	30.2	— 1.0	88	NNE			2		10			0.024	0.6	Snowing	M. Schuster.
Mirecourt			29.97	761.1	34.0	1.1	74	N					5		SE	0	0	Cloudy	Normal School.
Nismes			29.93	760.2	46.2	7.9	72	N			2		0			0	0	Clear	Normal School.
Orleans			30.16	766.1	37.4	3	78	WNW			2		0			0	0	Clear	Normal School.
Paris, Observatory			30.20	767.1	37.0	2.8	69	WNW			1		5k		NW	0	0	Misty	National Observatory.
Parthenay																			Normal School.
Privas			30.13	765.3	38.8	3.8		N			2		5		N	0	0	Cloudy	Normal School.
Rochefort, Observatory			30.18	766.6	44.6	7.0	49	E			4		0			0	0	Blue sky	Naval Observatory.
Rouen			30.20	767.1	36.3	2.4	83	N			2		10			0.024	0.6	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.86	733.1	29.93	760.3	56.5	13.6		NW			2		2		E	0	0	Slightly cl'dy	Normal School.
Villefranche			30.22	767.6	35.8	2.1	80	NW			3		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.85	758.2	82.8	28.2													L'Abbé Marchési.
Marseilles			30.01	762.2	45.9	7.7	46	NW			3		0			0	0	Clear	Marseilles Observatory.
Mont-Louis	24.78	629.3	30.21	767.3	33.1	0.6	68	ESE	1.9	0.83			5		SW	0	0		—. Falguère.
Montsouris, Paris			30.18	766.5	37.0	2.8	74	NW			2		3		N	0	0		Montsouris Observatory
Perpignan			29.72	754.8	48.4	9.1	31	N	9.3	4.17			8		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.10	535.9			23.0	— 5.0		WNW			3		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.36	568.3			27.1	— 2.7		WNW			2		3			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.19	766.8	33.3	0.7	88	NNE			1		1			0	0	Clear	E. Renou.
Toulouse			30.17	766.3	40.6	4.8	48	N			1		3			0	0		Toulouse Observatory.
Tours			30.24	768.1	37.6	3.1	67	E			1		0			0	0	Clear	C. Marquet.
Versailles, (near Paris)			30.18	766.5	37.0	2.8	80	N			1		5			0.008	0.21	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.02	762.4	47.3	8.5	66	SSE	4.1	1.83			0			0	0		Marc Decheyrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.97	761.2	25.7	— 3.5	89	W			2		4	W		0	0		Prof. T. Hoh.
Berlin			30.09	764.2	26.6	— 3.0	88	SE			1		10			0	0		Prof. Arndt.
Breslau			29.97	761.3	29.3	— 1.5	78	NE			3		10			0	0		Royal University Obs'y.
Carlsruhe			30.13	765.2	30.6	— 0.8	88	NE			1		10			0.118	3.0		A. Senz.
Cassel			30.14	765.6	26.6	— 3.0	86	N			2		10	SE		Inap.	Inap.	Rain & snow	Dr. H. Möhl.
Emden			30.28	769.1	32.0	0.0	88	WNW			1		5			0	0		Prof. Preste'.
Frankfort on the Main			30.19	766.9	29.1	— 1.6	70	NE			1		10			Inap.	Inap.	Snowing	Physical Society.
Friedrichshafen			30.12	765.0	28.4	— 2.0	94	W			3		10			0.075	1.9	Snowing	M. Wilhelm.
Hamburg			30.13	765.2	31.3	— 0.4	74	NW			1		6k	NE		0.008	0.2		Captain F. Hegemann.
Kiel			30.11	764.8	33.4	0.8	67	NE			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.07	763.7	26.8	— 2.9	71	S			2		2			0	0		Prof. E. Luther.
Köslin			30.09	764.2	27.5	— 2.5		Calm			0		0			0	0		H. Müller.
Leipsic			30.08	764.1	27.0	— 2.8	96	N			1		10			Inap.	Inap.	Snowing	Prof. Bruhns.
Memel			30.03	762.7	27.1	— 2.7	81	S			3		8ks			0.039	1.0	Light snow	Reimbrecht & Skalweit.
Münster			30.12	765.1	30.0	— 1.1	90	NW			1		10			0.016	0.4	Snowing	Prof. E. Hefs.
Neufahrwasser			30.07	763.6	27.5	— 2.5	77	S			2		4			0	0	Smoke-haze	A Lothe.
Posen			29.97	761.1	29.1	— 1.6	68	SE			2		9						Dr. Magener.
Strassburg, (in Alsatce)			30.17	766.3	30.2	— 1.0	90	NNW			2		10			0.051	1.3	Snowing	Dr. Schur.
Stuttgart			30.09	764.2	28.8	— 1.8	66	W			4		5			0.043	1.1	Snowing	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.08	764.0	30.4	— 0.9	80	E			2		8			0.020	0.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.48	723.3	30.07	763.6	26.1	— 3.3	76	W	7	3			10	W		0.102	2.6	Snowing	Dr. von Rebber.
Wustrow, Naval School			30.11	764.9	31.3	— 0.4	92	NNE			2		10			0.047	1.2		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 30°, 40′, W. 18°, 52′.			29.71	754.5	71.1	21.7	80	S			7		10		S			Light rain	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.93	760.3	65.6	18.8		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.81	757.2	38.5	3.6	70	Calm	0	0			10			0	0		Prof. Giovanni Clodi.
Padua			29.84	758.0	37.0	2.8	83	S	6.1	2.8			5	N		0.114	2.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.87	758.6	39.2	4.0	74	S	4.1	1.9			7	E		0	0		Alm. Da Schio.
Verona			29.85	758.1	39.9	4.4	81	E			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.48	723.4	29.83	757.7	38.8	3.8	29	NW			4		0			0	0		Prof. Trionfini Carlo.
Domodossola			29.92	759.9	37.9	3.3	47	N			6		9			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			29.88	759.0	42.8	6.0	21	N			0		0			0	0		Prof. Gio. Cantoni.
Moncalieri			29.91	759.8	40.5	4.7	43	ESE	1.8	0.8			1			0	0		Prof. P. F. Denza.
Mondovi	27.93	709.4	29.89	759.3	36.5	2.5	30	NW			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.91	759.7	48.2	9.0	32	E			4		6	WSW		0.118	3.0	Raining	Prof. L. Vassallo.
Genoa			29.87	758.6	48.4	9.1	15	N	4.4	2.2			0			0	0		Prof. Garibaldi.
Piacenza			29.87	758.8	43.0	6.1	30	NW	23.7	10.6			0			0	0		Dott. G. Manzi.
Parma			29.88	759.0	43.5	6.4	55	NW			6		0			0	0		Prof. P. Rigorini.
Bologna			29.84	757.8	40.5	4.7	46	S			6		4	N		0	0		Prof. A. Palagi.
Florence			29.87	758.6	46.4	8.0	41	SW			2		5			0.079	2.0	Raining	Cav. F. Meucci.
Leghorn			29.83	757.6	50.5	10.3	6	NE	5.0	2.5			8	W		0	0		Prof. P. Monte.
Siena	28.59	726.2	29.83	757.6	45.5	7.5	42	E	0	0			6	W		0.098	2.5		Prof. L. Toscani.
Urbino	28.26	717.7	29.86	758.5	38.1	3.4	60	N			2		1			0.102	2.6	Raining	Prof. P. Serpieri.
Pesaro			29.85	758.2	41.5	5.3	62	NW	39.1	17.5			2	NW		0.091	2.3	Rain & snow	Prof. Luigi Guidi.
Ancona			29.85	758.3	43.7	6.5	54	NW			6		3			0.102	2.6	Raining	Prof. F. De—Bosis.
Grosseto			29.85	758.2	52.0	11.1	33	NNW			4		5	NW		0.075	1.9		Avv. P. Ponticelli.
Rome			29.83	757.6	56.5	13.6	51	N	7.5	3.3			2			0	0		Prof.s P. Secchi & L. Respighi
Naples, O. U.			29.86	758.4	62.4	16.9	47	W			6		4	SW		0.512	13.0	Raining	Prof. L. Palmieri.
Lecce			29.80	756.8	59.4	15.2	77	WSW	12.6	5.6			5			0.055	1.4	Raining	Prof. C. De—Giorgi.
Cosenza			29.87	758.7	61.7	16.5	74	SW	3.1	1.4			10			0.795	20.2	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.83	757.6	58.6	14.8	62	NW			2		3	SE		0	0		Prof. F. Cafiero.
Palermo			29.86	758.4	63.7	17.6	59	WNW	10.6	4.7			8	WNW		0.087	2.2	Raining	Prof. G. Cacciatore.
Caltanissetta	27.93	709.5	29.89	759.2	59.2	15.1	76	W			6		5	SE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.87	758.6	56.8	13.8	71	SW	6.9	3.1			7	SW		0.106	2.7		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.21	767.2	36.7	2.6		SSE			2								
Groningen			30.09	764.2	32.9	0.5		NE			1								
Helder			30.14	765.6	35.8	2.1		E			1								
Utrecht			30.11	764.9	35.1	1.7	66	NE			1		5			0	0	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.23	767.9	29.3	— 1.5	49	Calm	0	0			0			0	0		
Brönö			29.88	759.0	26.6	— 3.0	72	SE	18	8			0			0	0		
Christiania			30.18	766.5	24.6	— 4.1	75	Calm	0	0			0			0	0		
Tromsö			30.11	764.7	17.2	— 8.2	65	SE	13	6			0			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.75	755.6	63.0	17.2	75	NE	18.6	8.3			5	E		1.311	33.3		Dr. J. A. Sampaio.
Campo Major			29.94	760.4	57.2	14.0	91	ESE	11.9	5.3			10	SSW		0.016	0.4		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.69	754.2	71.2	21.8	75	SW	6.2	2.78			10			0.906	23.0	Raining	Capt. D. A. de Cunha.
Lisbon			29.86	758.5	60.8	15.7	97	SE	11.2	5.0			10	SE		0.071	1.8	Raining	The Observatory.
Ponta Delgada, (Azores)			29.65	753.2	64.0	17.8	78	NE	17.4	7.78			3			0.976	24.8		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.01	762.3	28.2	— 2.1	85	SE	9	4			9						Astronomical Obs.
Wilna			30.11	764.9	24.4	— 4.2	71	SW	2	1			10					Snowing	Astronomical Obs.
Dorpat			30.07	763.6	15.6	— 9.1	91	SSW	2	1			4			Blan.	Blan.		Physical Cabinet.
St. Petersburg			30.01	762.3	17.1	— 8.3	90	SW	11	5			10					Light snow.	Central Physical Obs.
Kuopio			30.00	762.1	16.7	— 8.5	100	NE	34	15			10					Snowing	Ch. Forstea.
Kieff			30.04	762.9	28.9	— 1.7	92	E	13	6			10					Snowing	Physical Cabinet.
Nikolaiev			30.05	763.3	48.2	9.0	78	SE	18	8			7						Kurdakof
Kertch			30.24	768.0	47.3	8.5	88	E	11	5			6						Lagorio.
Moscow			30.29	769.4	23.7	— 4.6	90	S	4	2			10						Meteorological Obs.
Lugan			30.28	769.0	30.9	— 0.6	88	ENE	9	4			10						Meteorological Obs.
Archangel			30.02	762.4	17.6	— 8.0	94	E	18	8			10					Snowing	Ogorodnikof.
Tiflis	28.75	730.3	30.18	766.5	54.7	12.6	45	NNE	9	4			9						Physical Observatory.
Astrakhan			30.19	766.8	41.7	5.4	97	NW	2	1			10			Blank	Blank		Sebastianof.
Kasan			30.37	771.3	25.9	— 3.4	82	S	2	1			4						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.64	752.9	30.66	778.8	23.9	— 4.6	95	SE	2	1			7						Meteorogical Obs.
Nukuss			30.29	769.4	48.6	9.2	30	ENE	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.63	778.0	10.9	—11.7	71	NNE	13	6			0						Meteorological Obs.
Yeniseisk			30.47	773.8	— 1.1	—18.4	81	W	4	2			10						Marks.
Irkutsk																			Usolsef.
Gorga																			Mossin.
Peking, (China)			29.93	760.3	48.4	9.1	27	NNW	20	9			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.67	753.5	41.4	5.2	54	NW	4	2			9						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.00	761.9	55.4	13.0	82	N	1.6	0.67			10			0.020	0.5	Covered	Royal Observatory.
San Fernando			29.95	760.8	68.6	20.3	62	SE	4.9	2.2			10		SW	0.008	0.2	Light rain	Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.20	767.1	12.0	—10.6	93	N			4		10			0	0		
Umea			30.15	765.7	19.0	— 7.2	84	N			2		10			0	0		
Hernosand			30.12	765.1	20.5	— 6.4	79	N			2		5			0.028	0.7		
Stockholm			30.04	763.1	22.6	— 5.2	86	NNW			2		10			0	0		
Wisby			30.03	762.8	28.0	— 2.2	100	NNW			7		10			0.024	0.6	Snowing	
SUB-SERIES.																			
Upsala			30.07	763.7	22.1	— 5.5	90	NW	9.4	4.3			10		NE	0.004	0.10		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.66	728.0	30.16	766.0	31.6	— 0.2	53	WNW			1		5			0	0	Clouds	The Observatory.
Zurich	28.41	721.7	30.14	765.6	28.2	— 2.1	86	W			2		10			0.020	0.5	Covered	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +1.8 mm; Thermometer, —8.1 cent.; Relative Humidity, —23 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.98	761.6	63.3	17.4	67	SSE	12	5.5			10		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.90	759.4	58.6	14.8		NW			1		0						
Valona			29.74	755.5	61.2	16.2		S			6		10					Raining	
Varna			29.88	759.0	57.2	14.0		NE			2		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.08	763.9	68.9	20.5	55	N			1		3c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.08	764.0	37.8	3.2		Calm	0	0			9			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.12	765.0	30	— 1.1		Calm	0	0		5c	2s	W	E	0.12	3.0	Fair	W. R. Bigg.
*Chatham, N. B.			30.03	762.7	35	1.7	100	W	1	0.4			10s		W	0.18	4.6	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.05	763.3	41	5.0	93	N	5	2.2			10s			0.040	1.0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.05	763.3	31.7	— 0.2	92	SE			1		Fog			0	0	Foggy	James Smith, M. A.
Dalhousie, N. B.			30.10	764.5	38	3.3	90	W			1					0.34	8.6	Overcast	H. A. Johnson.
Esquimault, B. C.			29.91	759.7	45.3	7.4	88	NW				9ck	0			0.04	1.0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.06	763.5	40.1	4.5	94	NW	3	1.3			10			0.09	2.3	Misty	Prof. Harrison.
*Fort Garry, Manitoba			29.51	749.5	30	— 1.1	83	S	12	5.4		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.11	764.8	32.0	0.0	90	NE			2	4k	3n	NE		0	0	Clearing	H. J. Strang, M. A.
Granton, Ontario	28.90	734.0	30.05	763.3	30.3	— 1.0		Calm			0	2cs	0			0	0	Clear	James Grant.
*Halifax, N. S.			29.95	760.7	50	10.0	97	N	8	3.6			10n		N	0.418	10.61	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.12	765.0	33	0.6	90	NE	2	0.9		5cs	0	S		0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.			29.97	761.2	44.5	6.9	100	E	5	2.2			10n			0	0	Foggy	C. H. Rigby.
*Montreal, Quebec			30.10	764.5	35	1.7	96	SE	4	1.8		0	8ks			0.06	1.5	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.09	764.3	32	0.0	83	NW	2	0.9		2ck	0	W		0.20	5.1	Clear	J. B. Haney.
*Parry Sound, Ontario			30.11	764.8	31	— 0.6	89	E	5	2.2		5k	2ks	E	E	Inap.	Inap.	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.09	764.3	32	0.0	90	NW	6	2.7		10k	0	NE		0	0	Fair	H. Morgan.
Port Hastings, N. S.			30.01	762.2	45.1	7.3		NW	2	0.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.09	764.3	33	0.6	86	NW	3	1.3			10n		N	0.10	2.5	Cloudy	M. Payne.
*Quebec, Quebec			30.11	764.8	36	2.2	95	Calm	0	0			10n			0.07	1.8	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			30.04	763.0	41	5.0	91	N	4	1.8			Fog			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			30.06	763.5	33	0.6	89	Calm	0	0		5k	5cs			Inap.	Inap.	Cloudy	K. Stewart.
Stayner, Ontario			30.09	764.3	31	— 0.6	96	Calm	0	0		5k	0	NE		0.41	10.4	Fair	R. J. Cole.
Stratford, Ontario	28.74	730.0	30.07	763.8	30.0	— 1.1	88	Calm	0	0		8cs	0	NE		0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			30.00	762.0	53	11.7	97	NE	5	2.2			10n			0.23	5.8	Cloudy	T. C. Hill.
*Toronto, Ontario			30.10	764.5	34	1.1	81	N	11	4.9			8ks		E	0.01	0.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.08	764.0	32.5	0.3	84	E	3	1.3			9ks			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			30.06	763.5	57.0	13.9	100	SW	3	1.3		5kr	5s			0.08	2.0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrument and errors. Inches.	Barometer. Corrected for instrument and errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.02	762.5	32	0.0	89	Calm	0	0			10ks		S	0	0	Cloudy	
Alpena, Mich.			30.07	763.8	28	— 2.2	88	NW	2	0.9		0	0			0	0	Clear	
Atlantic City, N. J.			29.93	760.2	43	6.1	75	N	12	5.4			10s		N	0.01	0.3	Cloudy	
Augusta, Ga.			30.05	763.3	43	6.1	75	NW	4	1.8			10s		NW	0	0	Cloudy	
Baltimore, Md.			30.00	762.0	42	5.6	74	N	8	3.6		5c,ck	2s	S	S	0	0	Fair	
Barnegat, N. J.			29.94	760.5	46	7.8	68	N	23	10.3			10s		N	0	0	Cloudy	
Bismarck, Dakota	7.85	707.4	29.52	749.8	29	— 1.7	89	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.98	761.5	43	6.1	100	N	8	3.6			Fog			0	0	Foggy	
Breckenridge, Minn.			29.66	753.4	32	0.0	79	SE	14	6.3		0	0			0	0	Clear	
Buffalo, N. Y.			30.03	762.7	36	2.2	90	Calm	0	0			10s		W	0.05	1.3	Cloudy	
Burlington, Vt.			30.08	764.0	35	1.7	70	N	2	0.9		2ck	2s	E		0.02	0.5	Fair	
Cairo, Ill.			30.10	766.8	31	— 0.6	89	Calm	0	0			Fog			0	0	Foggy	
Cape Hatteras, N. C.			29.81	757.2	53	11.7	73	NE	10	4.5			8ks			0	0	Cloudy	
Cape Henry, Va.			29.91	759.7	49	9.4	78	N	12	5.4		2c	5s	SW		0	0	Fair	
Cape Lookout, N. C.			29.92	760.0	49	9.4	71	N	16	7.2		2k	Haze			0	0	Fair	
Cape May, N. J.			29.92	760.0	43	6.1	83	NE	16	7.2			10n			0.14	3.6	Light rain	
Charleston, S. C.			30.02	762.5	43	6.1	66	N	6	2.7		0	Haz			0	0	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	47	8.3	10	W	16	7.2		0	0			0	0	Clear	
Chicago, Ill.			30.07	763.8	36	2.2	70	S	4	1.8		0	Sm'k			0	0	Clear	
Cincinnati, Ohio			30.07	763.8	34	1.1	79	Calm	0	0		2ck	Fog	NE		0	0	Foggy	
Cleveland, Ohio			30.08	764.0	33	0.6	84	SW	4	1.8			10s		NW	0.05	1.3	Cloudy	
Corsicana, Tex.			30.09	764.3	46	7.8	76	Calm	0	0		0	0			0	0	Clear	
Davenport, Iowa			30.09	764.3	37	2.8	70	SW	4	1.8		1c	0	NE		0	0	Clear	
Denison, Tex.			30.07	763.8	48	8.9	70	NW	1	0.4		0	0			0	0	Clear	
Denver, Col.	24.75	628.6	29.97	761.2	42	5.6	20	S	8	3.6		0	0			0	0	Clear	
Detroit, Mich.			30.06	763.5	29	— 1.7	78	NW	1	0.4		Haze	2s			0	0	Fair	
Dodge City, Kan.	27.36	694.9	29.72	754.9	33	0.6	79	N	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa			30.06	763.5	35	1.7	80	Calm	0	0		Haze	Haze			0	0	Clear	
Duluth, Minn.			29.81	757.2	36	2.2	70	Calm	0	0		0	5s			0	0	Fair	
Eastport, Me.			30.00	762.0	43	6.1	83	N	13	5.8			10s			0.03	0.8	Cloudy	
Erie, Pa.			30.02	762.5	38	3.3	63	NW	8	3.6		4ck	4ks	W	W	0.06	1.5	Fair	
Escanaba, Mich.			30.00	762.0	31	— 0.6	79	SW	4	1.8		0	8s			0	0	Fair	
Fort Gibson, Indian Ter.			30.06	763.5	35	1.7	80	Calm	0	0		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.70	729.0	29.80	756.9	52	11.1	64	SW	6	2.7		0	0			0	0	Clear	
Fort Sully, Dakota	27.99	710.9	29.69	754.1	26	— 3.3	76	NW	1	0.4		0	0			0	0	Clear	
Florence, Arizona	28.43	722.1	29.94	760.5	58	14.4		SE					10s		SE	0	0	Cloudy	
Galveston, Tex.			30.15	765.8	59	15.0	58	E	2	0.9		0	0			0	0	Clear	
Grand Haven, Mich.			30.05	763.3	30	— 1.1	89	E	3	1.3		0	Sm'k		E	0	0	Clear	
Indianapolis, Ind.			30.13	765.3	32	0.0	79	Calm	0	0		5ck	Fog	N		0	0	Fair	
Indianola, Tex.			30.14	765.5	61	16.1	88	E	3	1.3		0	0			0	0	Clear	
Jacksonville, Fla.			29.92	760.0	42	5.6	75	NW	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa			30.04	763.0	38	3.3	71	SW	6	2.7		0	0			0	0	Clear	
Key West, Fla.			30.02	762.5	62	16.7	88	N	4	1.8		0	2ks			0.28	7.1	Clear	
Kittyhawk, N. C.			29.90	759.4	49	9.4	77	NW	12	5.4			10ks		NW	0	0	Threatening	
Knoxville, Tenn.			30.16	766.1	30	— 1.1	89	NW	1	0.4		0	Fog			Inap.	Inap.	Fair	
La Crosse, Wis.			29.99	761.7	38	3.3	71	S	8	3.6		0	0			0	0	Clear	
Leavenworth, Kan.			30.00	762.0	39	3.9	63	Calm	0	0		0	0			0	0	Clear	
Louisville, Ky.			30.13	765.3	33	0.6	79	S	4	1.8			Fog			0	0	Foggy	
Lynchburg, Va.			30.02	762.5	41	5.0	67	NW	1	0.4		10k	0	W		0	0	Cloudy	
Malone, N. Y.			30.07	763.8	33	0.6	90	SW	4	1.8		8k	0	SW		0.05	1.3	Cloudy	
Marquette, Mich.			29.93	760.2	40	4.4	73	S	6	2.7		0	0			0	0	Clear	
Memphis, Tenn.			30.20	767.1	35	1.7	80	Calm	0	0			Fog		NE	0	0	Foggy	
Milwaukee, Wis.			30.06	763.5	34	1.1	79	W	5	2.2		0	Fog			0	0	Clear	
Mobile, Ala.			30.15	765.8	37	2.8	80	N	3	1.3		0	Fog			0	0	Clear	
Montgomery, Ala.			30.15	765.8	35	1.7	79	NW	1	0.4		Sm'k	0			0	0	Clear	
Morgantown, W. Va.	28.98	736.1	30.07	763.8	36	2.2	90	SW	1	0.4			10n		W	0.04	1.0	Light rain	
Mt. Washington, N. H.	23.72	602.5	30.08	764.0	30	— 1.1	59	W	10	4.5		0	5s			0	0	Fair	
Nashville, Tenn.			30.17	766.3	32	0.0	89	Calm	0	0		2k	Fog	NW		0	0	Fair	
New Haven, Conn.			29.96	761.0	40	4.4	72	NE	15	6.7			10s		NE	0	0	Cloudy	
New London, Conn.			29.95	760.7	40	4.4	82	N	7	3.1		0	10s		S	0	0	Cloudy	
New Orleans, La.			30.14	765.5	47.5	8.6	70	Calm	0	0		0	Haze		NE	0	0	Clear	
Newport, R. I.			29.93	760.2	42	5.6	83	N	8	3.6			10ks		N	0.01	0.3	Threatening	
New York, N. Y.			29.98	761.5	44	6.7	60	N	8	3.6			10s			0	0	Cloudy	
Norfolk, Va.			29.91	759.7	44	6.7	75	N	9	4.0		5k	0	SE		0	0	Fair	
North Platte, Neb.	27.05	687.1	29.70	754.4	28	— 2.2	67	NW	4	1.8		0	0			0	0	Clear	
Omaha, Neb.	28.80	731.5	29.89	759.2	39	3.9	91	S	3	1.3		0	Haz			0	0	Clear	
Oswego, N. Y.			30.07	763.8	37	2.8	95	SE	4	1.8		2ck	8s	SW		0.14	3.6	Cloudy	
Pembina, Dakota			29.58	750.0	30	— 1.1	78	S	9	4.0		0	0			0	0	Clear	
Philadelphia, Pa.			30.00	762.0	41	5.0	74	N	14	6.3			10s			0	0	Cloudy	
Pike's Peak, Col.	17.87	453.9	30.08	764.0	21.0	— 5.8	10	Calm	0	0		2ck	0	NW		0	0	Fair	
Pittsburgh, Pa.			30.06	763.5	35	1.7	90	W	2	0.9		10s	Fog	W		0.19	4.8	Cloudy	
Port Huron, Mich.			30.06	763.5	28	— 2.2	88	W	5	2.2			10s		NW	0	0	Cloudy	
Portland, Me.			30.01	762.2	45	7.2	75	N	8	3.6			10s			0.03	0.8	Cloudy	
Portland, Oregon			30.02	762.5	44	6.7	91	NW	5	2.2			10n			0.18	4.6	Light rain	
Punta Rassa, Fla.			29.95	760.7	56.5	13.6	68	N	7	3.1		0	0			Inap.	Inap.	Clear	
Rochester, N. Y.			30.02	762.5	38	3.3	90	W	3	1.3		8k	Fog	SW		Inap.	Inap.	Fair	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	36	2.2	70	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			29.94	760.5	44	6.7	59	NE	15	6.7			10s			0	0	Cloudy	
San Diego, Cal.			30.06	763.5	57	13.9	62	Calm	0	0		0	5s			0	0	Fair	
San Francisco, Cal.			29.97	761.2	54	12.2	86	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.34	592.8	29.88	758.9	35	1.7	52	NE	4	1.8		0	0			0	0	Clear	
Savannah, Ga.			30.03	762.7	43	6.1	75	N	4	1.8		2k	0			0	0	Clear	
Shreveport, La.			30.17	766.3	42	5.6	83	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.96	761.0	41	5.0	75	N	6	2.7		0	0			0	0	Clear	
Springfield, Mass.			29.99	761.7	41	5.0	82	N	8	3.6			10s			0	0	Cloudy	
St. Louis, Mo.			30.14	765.5	40	4.4	63	SW	2	0.9			Sm'k			0	0	Smoky	
St. Marks, Fla.			30.08	764.0	36	2.2	80	N	4	1.8		0	0			0	0	Clear	
St. Paul, Minn.			29.83	757.7	36	2.2	80	SE	5	2.2		2c	0			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.98	761.5	47	8.3	92	NE	16	7.2			10s		NE	0	0	Cloudy	
Toledo, Ohio			30.05	763.3	32	0.0	79	W	2	0.9		2cs	Sm'k			0	0	Smoky	
Tucson, Arizona	27.57	700.3	30.12	765.0	47	8.3		S				8c	0	SW		0	0	Fair	
Tybee Island, Ga.			30.00	762.0	42	5.6	75	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Miss.			30.19	766.8	39	3.9	84	SE	4	1.8		0	Sm'k		SE	0	0	Clear	
Virginia City, M. T.	24.15	613.4	29.63	752.6	34	1.1	61	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.01	762.2	37	2.8	80	NW	6	2.7		Haze	2s			0	0	Fair	
Wilmington, N. C.			29.96	761.0	41	5.0	83	N	6	2.7		2c	0	SW		Inap.	Inap.	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.93	760.2	50	10.0	86	N	4	1.8			10s			0	0	Cloudy	
Yankton, Dakota	28.50	723.9	29.80	756.9	35	1.7	70	S	4	1.8		0	0			0	0	Clear	
Yuma, Arizona			29.98	761.5	68	17.2		E				0	8s		E	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.09	764.3	76	24.4	86	Calm	0	0			10n			0	0		James Gall.
Navassa, W. I.					78	25.6		NE			1					0.30	7.6	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	66	18.9	84	S	0.5	0.2		5c	5k	S		0	0	Very dull	C. Partridge.
Paramaribo, D. Guiana, S.A			29.97	761.2	83	28.3	75	E			1	3c	3k	E		0.100	2.5	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.7			83.8	28.8		N								0.945	24.0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.25	641.3			62.5	16.9	90	Calm			0		10n			0.40	10.2	Cloudy	Thomas Herran.
York Factory, B. A.			29.47	748.5	33.0	0.6	100	N	13	5.8			10n			0.11*	2.8*		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	76	24.4		SSE			5					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Chester, Penn.			29.90	759.4	43	6.1	83	N	7	3.1			10s					Overcast	Capt. James Jorgensen

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.6 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. *Amount of precipitation from 5 p. m. of the 9th until 7:20 a. m. of the 10th.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 11, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.89	759.3	76.8	24.9	33	SSW			1		8			0	0	Cloudy	Charnot.
Algiers			29.98	761.4	69.4	20.8	75	E			1		9			0	0	Hidden	Peter.
La Galle			30.07	763.6	64.4	18.0	74	NE			4		6			0.039	1.0	Fair	Fleury.
Tunis			30.14	765.6			55	NW			3		5			0	0	Fair	Jacques.
Sfax			30.20	767.1															
Saida			30.08	764.1	71.6	22.0	22	SW			3		2			0	0	Clear	Millot.
Tebessa			30.11	764.8	59.4	15.2		NW			1		4			0	0	Fair	Bourgeois.
Geriville					65.1	18.4	76	NE			2		0			0	0	Clear	Lemaillot.
Laghouat			30.19	766.7	68.9	20.5	47	S			1		1			0	0	Clear	Guyot.
Biskra			30.13	765.3	70.2	21.2	35	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.18	766.5	31.8	— 0.1	85	SW			1		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.02	762.5	24.4	— 4.2	100	W			4		10			0.618	15.7	Snowing	Dr. Wierzbiski.
Eperies			29.90	759.4	25.5	— 3.6	91	NW			5		10			0.264	6.70		Julius Mikolik.
Gratz	28.88	733.5	30.20	767.0	31.5	— 0.3	48	WNW			5		8			0	0		Andreas Rospini.
Hermannstadt	28.37	720.6	29.87	758.7	26.4	— 3.1	80	NW			4		6			0.211	5.35		Prof. Reissenberger.
Kremsmünster	28.89	733.7	30.33	770.3	24.1	— 4.4	73	NW			2		3			0.051	1.3		Prof. C. Wagner.
Lemberg			29.76	755.8	23.7	— 4.6	95	NE			2		8			0.098	2.5		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.22	767.6	40.6	4.8	30	N			1		0			0	0		I.R.Hydrographic Office
Szegedin			29.97	761.2	26.6	— 3.0	83	N			4		10			0.079	2.00		Karl Stancel.
Trieste			30.24	768.0	39.9	4.4	33	Calm			0		0			0	0		Prof. V. Farolfi.
Vienna			30.19	766.9	28.2	— 2.1	61	WNW			5		3			0.106	2.7		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.13	765.2	39.7	0.4	69	ESE			4	3c,cs	0	WNW		0	0	Halo	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Upper 0—10.	Lower 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen			29.95	760.7	34.2	1.2		WSW	8	3.6			10			0.190	4.8[illegible]	Overcast	William Boswell.
Ardrossan			29.82	757.4	36	2.2		ENE			3		8					Overcast	William McNeil.
Armagh, Observatory			29.66	753.4	43.9	6.6		SSE	26	11.6			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.56	750.8	45.1	7.3		SE			3-5		10					Overcast	J. Dreyer.
Bradford			29.91	759.7	34.9	1.6		E			1		5			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.98	761.5	85.0	29.4		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A. H. C.
Cambridge, Observatory			30.00	762.0	40.0	4.4		SE			1		5					*D. clouds	H. Todd.
Cardington			29.98	761.5	39.0	3.9		SE			1		4					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.08	764.0	39.2	4.0		SSW			1		2					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.27	718.0	29.78	756.4	35.0	1.7		SE			6		10			[illegible]	[illegible]	Threatening	R. F. Power.
Davos Platz, (Switzerland)	24.70	628.9			20.8	−6.2	39	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.73	755.1	45	7.2		S			6		10					Overcast	J. Mac Gowan.
Dover			30.01	762.2	38	3.3		SE			4		4					½ clouded	J. Costello.
Eccles, (near Manchester)			29.87	758.7	40.9	4.9		SE	6.2	2.8			5					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.59	751.6	45.6	7.6		ESE			7		10					Overcast	The Staff.
Fort Napier, (Natal)	27.45	697.2	29.69	754.1	64.5	18.1		SE			3		9					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.94	760.5	82.0	27.8		N			1		5					*D. clouds	
Galway, Queen's College			30.02	762.6	50	10.0		SE			3		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.88	758.9	67.0	19.4		E			4		7					Overcast	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.84	757.9	32.4	0.2		NE			1		10					Snowing	Lewis Stuart.
Great Yarmouth			30.07	763.8	40	4.4		S			4		3					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y			29.97	761.2	40.0	4.4		SE			4		2					*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.69	754.1	42.5	5.8		ENE			6		8					*D. clouds	Dr. S. F. Hoskins.
Helston			29.58	751.3	47	8.3		SE			7		8n			0	0		M. P. Moyle.
Holyhead			29.72	754.9	42	5.6		SSE			4		3					*D. clouds	John Tilston.
Kew, Observatory			29.96	761.0	41.1	5.1		SE	22	9.8			3					Hazy	The Staff.
Kingstown			29.68	753.9	46	7.8		SSE			6		10					Overcast	George Mitchell.
Leicester Museum			29.95	760.7	40.1	4.5		SE			1		5					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.06	763.5	63.8	17.7		NW			1		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.88	758.9	35	1.7		Calm			0		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	71.0	21.7		NW			4		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.93	760.2	40.9	4.9		SSE			4		5c		S	0	0	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.90	759.4	39.0	3.9		SSE			4		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.88	758.9	40	4.4		SE			2		7					*D. clouds	J. Lucas.
Plymouth			29.66	753.4	42.2	5.7		SE			6		10					Overcast	John Merrifield.
Roche's Point			29.49	749.0	49	9.4		SSE			7		5					Gale	W. Kennedy.
Saint Ann's Head			29.62	752.3	45	7.2		ESE			6		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.70	754.4	42.0	5.6		SSE			6		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.94	760.5	34.5	1.4		SE	15	6.7			10			[illegible]	[illegible]	Overcast	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.68	753.9	53.2	11.8		NW			4		10			[illegible]	[illegible]	Wet	Sergt. W. H. Lyne.
Sheffield			29.92	760.0	39.3	4.1		SSW			4		5			0.14	3.6	*D. clouds	W. F. Cooper.
Silloth Rectory			29.84	757.9	42.1	5.6	67	W			3		3			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.88	758.9	38.5	3.6		SE			3		0					Hazy	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.76	755.9	38	3.3		SE			5		10					Showery	John Smith.
Stratfield Turgiss			29.92	760.0	40.0	4.4		NE			2		8					Squally	Rev. Charles H. Griffith
Thurso			29.89	759.2	37	2.8		SE			2		9					Gloomy	John Trotter.
Truro, Royal Institution			29.53	750.0	47	8.3		E			8		10					Gloomy	W. Newcombe.
Valencia, Observatory			29.35	745.5	49.2	9.6		SE	45	20.1			10					Overcast	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					43	6.1		SSE			7		10			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.24	768.1	67.4	19.7	43	S	19	8.5		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.24	742.7	62.0	16.7	88	NW			1		2k			0.02	0.5		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.93	760.2	35.0	1.7		SE			1		10s			0.07	1.8	Overcast	Andrew Gibb.
Mauritius, Observatory			29.95	760.7				NE	15.0	6.7						0	0		C. Meldrum.
Melbourne, Observatory			29.52	749.8	62.4	16.9	60	WSW	10	4.5			6			0	0	Squally	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.64	752.8	37	2.8		SE			6		10			0.5	12.7		J. Youngclause.
North Unst, (Shetland Is.)			30.06	763.5	39	3.9		SSE			4	0	3		SE				Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot to Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Station	Corr. Inches	Corr. Millimeters	Red. Inches	Red. Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Upper	Clouds Lower	Upper From—	Lower From—	Rain Inches	Rain Millimeters	Weather
Copenhagen			30.27	768.8	30.9	−0.6	66	Calm			0		2					
Fanöe			30.19	766.9	30.2	−1.0	94	SSE			4		7					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			30.02	762.4	35.8	2.1	69	E			4		5					
Thorshavn, (Faröe)			30.01	762.3	34.5	1.4	96	ENE			3		7					Snowing
Vestervig			30.12	765.1	30.2	−1.0	84	SSE			6		10					Snowing

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.88	759.0	44.6	7.0	52	SE			6		8sk		SE	0	0	Very cloudy	Normal School.
Amiens			30.00	762.0	35.6	2.0	61	ESE			3		0			0	0	Clear	Normal School.
Avignon			30.10	764.6	43.2	6.2	46	NNE			2		10			0	0	Covered	Normal School.
Bar-sur-Seine			30.07	763.7	35.1	1.7	54	NE			3	5c				Inap.	Inap.	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.72	754.8	38.3	3.5	87	E	15.7	7.0					SW	0.208	6.8		Beaumette Observ'tory.
Beauvais			30.02	762.6	35.2	1.8	67	SE			4		2			0	0	Slightly cl'dy	Normal School.
Besançon			30.20	767.0	33.1	0.6		E			2		0			0	0	Clear	Normal School.
Bourg en Bresse			30.15	765.9	32.2	0.1	89	SE			2		5ck		S	0	0	Cloudy	Normal School.
Bourges			29.91	759.6	35.4	1.9	67	E			6		2		W	0	0	Slightly cl'dy	Normal School.
Brest			29.45	748.0	42.3	5.7	51	SE			5		10		SE	0	0	Covered	Naval Observatory.
Carcassonne			29 95?	760.6?	46.4	8	85	E			4		8		W	0	0	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.89	759.3	38.5	3.6	57	S			2		1		E	0	0	Clear	Normal School.
Châlons-sur-Marne			29.90	759.5	34.2	1.2	62	SSE			4	2c				0	0	Slightly cl'dy	Normal School.
Clermont			29.89	759.1	44.1	6.7	65	SE			3		8		SW	0	0		Puy de Dome Obs'y.
Commercy			30.18	766.6	31.3	— 0.4	96	E			4		2s			0	0	Slightly cl'dy	Normal School.
Commune de Gréasque*			30.14	765.6	46.0	7.8	46	SE			4		10		SE	0	0		M. Kina.
Grenoble			30.17	766.4	35.8	2.1	78	NW			2		5kn		NW	0	0	Cloudy	Normal School.
La Roche-sur-Yon					38.1	3.4	80	SE			8		10			0	0	Covered	Normal School.
Le Mans			29.84	757.9	36.1	2.3	96	SE			4		8		SE	0	0	Very cloudy	Normal School.
Louis-Le-Saulnier			30.06	763.5	35.4	1.9	67	S			2		0			0	0	Clear	Normal School.
Lorient			29.61	752.2	39.2	4.0	34	ESE			6		10			1.047	26.6	Covered	Naval Observatory.
Mâcon			30.21	767.3	34.0	1.1	89	NW			8		0			0	0	Clear	Normal School.
Metz			30.22	767.5	28.6	— 1.9	84	NE			2	5c				0.012	0.3		M. Schuster.
Mirecourt			30.11	764.9	34.5	1.4	66	N					1		SE	0	0	Clear	Normal School.
Nismes			30.11	764.7	43.2	6.2	70	N			2		5		W	0.51	13.	Cloudy	Normal School.
Orleans			29.93	760.2	36.5	2.5	74	ENE			1		1		SE	0	0	Clear	Normal School.
Paris, Observatory			30.00	762.0	34.5	1.4	56	ESE			3		2ck		W	0	0	Slightly cl'dy	National Observatory.
Parthenay																			Normal School.
Privas			30.13	765.3	38.1	3.4		SSW			2		5		SSW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.70	754.4	39.6	4.2	80	SE			5		10			0.039	1.0	Raining	Naval Observatory.
Rouen			29.96	761.0	36.3	2.4	58	SE			2		2		S	0	0	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.57	725.7	29.65	753.2	48.2	9		NW			2		10			0	0	Covered	Normal School.
Villefranche			30.11	764.8	38.7	3.7	82	SE			1		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.84	757.8	82.8	28.2													L'Abbé Marchési.
Marseilles			30.08	764.0	51.8	11.0	47	SE			3		10			0.008	0.2	Raining	Marseilles Observatory.
Mont-Louis	24.74	628.4	30.17	766.2	34.3	1.3	100	SW	26.1	11.67			10		SW	0.079	2.0		—. Falguère.
Montsouris, Paris			29.98	761.4	36.1	2.3	60	ESE			3	7c		WSW		0	0		Montsouris Observatory
Perpignan			29.98	761.4	48.0	8.9	79	S	13.0	5.83			10		SE	0.016	0.4		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.02	534.0			29.3	— 1.5		WNW			6–8		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.31	566.7			34.2	1.2		WNW			6–8		10			0.047	1.2	Snowy	General de Nansouty.
Saint Maur, (near Paris)			30.00	761.9	35.6	2.0	54	ESE			3		0			0	0	Clear	E. Renou.
Toulouse			29.87	758.6	40.3	4.6	90	SSE			6		10			0.126	3.2		Toulouse Observatory.
Tours			29.77	756.1	63.7	17.6	41	E			4		10		SSE	0	0		C. Marquet.
Versailles, (near Paris)			29.96	761.0	34.9	1.6	74	SE			6		8			0.002	0.05		Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.11	764.7	51.8	11.0	60	Calm	0	0			4			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.23	767.9	26.4	— 3.1	85	NW			2		10			0.020	0.5	Snowing	Prof. T. Hoh.
Berlin			30.33	770.3	26.1	— 3.3	84	W			2		3			0	0		Prof. Arndt.
Breslau			30.19	766.9	26.8	— 2.9	84	NW			7		9			0	0		Royal University Obs'y.
Carlsruhe			30.23	767.8	29.8	— 1.2	71	NE			5		0			0	0		A. Senz.
Cassel			30.35	770.9	28.2	— 2.1	78	SE			2		8	SE		0	0		Dr. H. Möhl.
Emden			30.34	770.7	31.8	— 0.1	70	E			1		0			0	0		Prof. Prestel.
Frankfort on the Main			30.32	770.1	29.3	— 1.5	49	ESE			3		3			0.031	0.8		Physical Society.
Friedrichshafen			30.27	768.9	25.7	— 3.5	67	NE			7		1			0.378	9.6		M. Wilhelm.
Hamburg			30.30	769.5	28.9	— 1.7	90	SSE			1		5s	W		0	0		Captain F. Hegemann.
Kiel			30.26	768.7	32.2	0.1	73	SSE			2		3			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.08	763.9	26.1	— 3.3	84	SW			2		9			0	0		Prof. E. Luther.
Köslin			30.23	767.8	29.7	— 1.3		N			1		4			0.087	2.2		H. Müller.
Leipsic			30.35	771.0	28.0	— 2.2	85	WSW			2		10			0	0		Prof. Bruhns.
Memel			30.12	765.0	25.2	— 3.8	69	NE			1		10ks			0.051	1.3		Reinbrecht & Skalweit.
Münster			30.42	772.7	30.9	— 0.6	91	NE			1		0			0	0		Prof. E. Heis.
Neufahrwasser			30.14	765.5	31.6	— 0.2	96	N			4		10			Inap.	Inap.		A Lothe.
Posen			30.23	767.7	29.7	— 1.3	74	SE			7		3						Dr. Magener.
Strassburg, (in Alsace)			30.20	767.1	28.2	— 2.1	87	NE			1		5	NE		0	0		Dr. Schur.
Stuttgart			30.26	768.6	28.8	— 1.8	64	SE			2		0			0.024	0.6		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.13	765.4	31.8	— 0.1	66	ESE			4		0			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.72	729.4	30.34	770.6	22.5	— 5.3	66	ENE	7	3			1	WSW		0.012	0.3		Dr. von Bebber.
Wustrow, Naval School			30.35	770.8	31.5	— 0.3	80	SSE			2		4			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth." N. 31°, 30′, W. 19°, 37′.			29.21	741.8	71.2	21.8	77	SSW			10		10		SSW			Raining	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.81	757.2	63.5	17.5		NW										½ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.19	766.8	38.1	3.4	61						0			0	0		Prof. Giovanni Clodr.
Padua			30.20	767.1	39.9	4.4	33	SSW	3.1	1.4			0			0	0		Pro.. Dott. Lorenzoni.
Vicenza			30.20	767.0	42.4	5.8	27	SW	3.1	1.4			0			0	0		Alm. Da Schio.
Verona			30.19	766.7	41.9	5.5	67	E			4		0			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carl.
Domodossola			30.18	766.6	37.0	2.8	65	SW			4		1			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capel.
Pavia			30.24	768.1	39.9	4.4	28	W			2		0			0	0		Prof. Gio. Cantoni.
Moncalieri			30.23	767.9	39.0	3.9	36	ESE	3.1	1.4			4	W		0	0		Prof. P. F. Denza.
Mondovi	28.24	717.3	30.20	767.0	33.8	1.0	38	NW			2		1	NW		0	0		Prof. C. Bruno.
Porto Maurizio			30.25	768.4	46.0	7.8	26	E			2		0			0	0		Prof. L. Vassallo.
Genoa			30.21	767.3	47.8	8.8	15	N	3.1	1.4			0			0	0		Prof. Garibaldi.
Piacenza			30.24	768.1	39.2	4.0	34	E	1.5	0.6			0			0	0		Dott. G. Manzi.
Parma			30.23	767.7	39.9	4.4	62	SW			4		1			0	0		Prof. P. Pigorini.
Bologna			30.24	768.2	41 4	5.2	47	W			1		4	S		0	0		Prof. A. Pianigi.
Florence			30.25	768.4	41.9	5.5	25	NE			6		0			0	0		Cav. F. Meucci.
Leghorn			30.22	767.6	43.5	6.4	21	E	6.3	2.8			4			0	0		Prof. F. Monte.
Siena	28.96	735.5	30.19	766.7	39.2	4.0	26	NE	1.2	0.6			2	W		0	0		Prof. L. Toscani.
Urbino																0	0		Prof. P. Serpieri.
Pesaro			30.24	768.1	39.4	4 1	60	W	23.0	10.3			1			0.10	2.6		Prof. Luigi Gindi.
Ancona			30.22	767.6	42.8	6.0	54	W			6		4			0.16	4.2		Prof. F. De—Bosis.
Grosseto			30.23	767.9	45.1	7.3	20	NE			2		3	SE		0	0		Avv. P. Pontiecili.
Rome			30.16	766.1	46.0	7.8	28	N	9.4	4.2			0			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.17	766.2	47.8	8.8	65	N			4		1	NW		0	0		Prof. L. Palmieri.
Lecce			30.08	763.9	48.9	9.4	47	NNW	28.0	12.8			5			0	0		Prof. C. De—Giorgi.
Cosenza			30.08	763.9	54.0	12.2	73	NW	8.1	3.6			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			30.08	763.9	58.5	14.7	72	NW			2		8	SE		0	0		Prof. F. Cafiero.
Palermo			30.08	763.9	55.0	12.8	47	NW	9.8	4.4			8	NW		0.024	0.6	Raining	Prof. G. Caccatore.
Caltanissetta	28.11	713.9	30.06	763.5	53.1	11.7	83	WNW			6		2	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.12	765.1	45.0	7.2	45	NE	1.8	0.8			2	NE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.16	766.0	35.6	2.0		SE			4								
Groningen			30.18	766.5				S			4								
Helder			30.16	766.0	34.0	1.1		SSE			4								
Utrecht			30.16	766.1	32.5	0.3	73	SSE			4		0			0	0	Clear	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.16	766.0	29.1	— 1.6	80	Calm	0	0			0			0	0		
Bröno			29.11	759.6	35.2	1.8	85	S	16	7			9			0	0		
Christiania			30.19	766.9	26.4	— 3.1	76	Calm	0	0			6			0	0		
Tromsö			29.17	761.2	17.2	— 8.2	82	Calm	0	0			1			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.47	748.6	60.4	15.8	77	NW	7.4	3.3			6			0.205	5.2		Dr. J. A. Sampaio.
Campo Major			29.68	753.9	71.2	21.8	50	S	14.3	6.4			7	SW		0.720	18.3		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.48	748.9	71.6	22.0	72	SSW	9.2	4.11			8			0.071	1.8	Raining	Capt. D. A. de Cunha.
Lisbon			29.61	752.2	68.4	20.2	69	SSW	26.2	11.7			10	SSW		0.965	24.5	Light rain	The Observatory.
Ponta Delgada, (Azores)			29.47	748.6	63.7	17.6	78	N	2.5	1.11			10			0.055	1.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.97	761.2	26.1	— 3.3	87	N	25	11			10						Astronomical Obs.
Wilna			29.89	759.2	23.2	— 4.9	96	NNE	9	4			10					Snowing	Astronomical Obs.
Dorpat			30.20	767.1	20.3	— 6.5	92	ESE	4	2			9						Physical Cabinet.
St. Petersburg			30.26	768.6	20.8	— 6.2	85	SSE	4	2			10						Central Physical Obs.
Kuopio			30.24	768.1	16.3	— 8.7	100	WSW	7	3			10						Ch. Forsten.
Kieff			29.67	753.5	37.2	2.9	94	SE	13	6			10						Physical Cabinet.
Nikolaiev			29.75	755.7	51.1	10.6	80	SE	18	8			7						Kurdakof.
Kertch			29.95	760.8	45.0	7.2	86	E	13	6			7						Lagorio.
Moscow			30.35	770.9	21.6	— 5.8	98	S	7	3			10						Meteorological Obs.
Logan			30.04	763.0	34.5	1.4	89	E	20	9			10						Meteorological Obs.
Archangel			30.31	769.8	21.6	— 5.8	90	SSW	29	13			10						Ogorodnikof.
Tiflis	28.77	730.7	30.20	767.0	53.6	12.0	76	Calm	0	0			1						Physical Observatory.
Astrakhan			30.26	768.7	44.6	7.0	82	ESE	7	3			9						Sebastianof.
Kasan			30.52	775.3	15.8	— 9.0	94	Calm	0	0			2						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.67	753.6	30.69	779.5	23.9	— 4.5	86	Calm	0	0			0						Meteorogical Obs.
Nukuss			30.35	770.9	45.0	7.2	42	ENE	9	4			1						
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.82	782.7	8.4	—13.1	72	NW	4	2			0						Meteorological Obs.
Yeniseisk			30.41	772.3	6.4	—14.2	83	SW	2	1			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.38	771.6	28.9	— 1.7	60	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.91	759.7	26.6	— 3.0	55	NW	9	4			2			thinn	dark		
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.80	756.9	62.1	16.7	70	S	9.7	4.34		0	8			0.311	7.9	Cloudy	Royal Observatory.
San Fernando			29.83	757.7	75.0	23.9	63	ESE	19.7	8.8		5	5	S	SE	0.083	2.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.21	767.3	11.5	—11.4	85	W			2		5			0	0		
Umea			30.23	767.8	15.4	— 9.2	94	Calm			0		10			0	0		
Harnosand			30.12	765.1	15.1	— 9.4	94	Calm			0		10			0	0		
Stockholm			30.19	766.7	24.8	— 4.0	73	W			2		2			0	0		
Visby			30.29	769.4	30.9	— 0.6	96	N			4		3			0.098	2.5		
SUB-SERIES.																			
Upsala			30.17	766.4	22.5	— 5.3	82	WNW	0	0			1			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.71	729.1	30.21	767.2	30.6	— 0.8	61	ENE			2		4			0	0	Vapory	The Observatory.
Zurich	28.52	724.3	30.24	768.2	28.2	— 2.1	82	N			1		1			0.134	3.4	Clear	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +2.8 mm; Thermometer, —8.3 cent.; Relative Humidity, —16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.71	754.5	45.3	7.4	73	NW	34	15.0			10		SW	0	0		
Fao, (Persian Gulf)			30.20	767.0	69.8	21.0		NW			3		10						
Salonica			29.80	756.8	55.8	13.2		NW			6		5						
Valona			29.98	761.5	47.3	8.5		NW			4		5						
Varna			29.69	754.0	32.0	0.0		N			8		10					Snowing	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.88	759.0	71.2	21.8	54	NE			2		8c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.10	764.5	37.8	3.2		NE	10	4.5			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.05	763.3	34	1.1		NE	1	0.4			10s		NE	0.03	0.8	Light rain	W. R. Bigg.
*Chatham, N. B.			30.07	763.8	39	3.9	95	NE	7	3.1			10s		NE	In up.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.04	763.0	45	7.2	95	NE	3	1.3			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.93	760.2	34.7	1.5	93	W			1		10n			0.121	3.08	Rainy	James Smith, M. A.
Dalhousie, N. B.			30.12	765.0	36.7	2.6	86	E			2					0.15	3.8	Overcast	H. A. Johnson.
Esquimault, B. C.			30.09	764.3	37.6	3.1	76	NW				0	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B.			30.04	763.0	39.1	3.9	93	NE	6	2.7			10n			0.83	21.1	Raining	Prof. Harrison.
*Fort Garry, Manitoba			29.90	759.4	24	— 4.4	81	N	22	9.8			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.98	761.5	34.7	1.5	90	Calm			0	9k		N		0	0	Clearing	H. J. Strang, M. A.
Granton, Ontario	28.84	732.5	29.99	761.7	31	— 0.6		Calm			0	1cs	0			0	0	Clear	James Grant.
*Halifax, N. S.			29.94	760.5	49	9.4	97	SE	6	2.7			10n			0.179	4.55	Light rain	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.04	763.0	34	1.1	95	Calm	0	0			Fog			0.01	0.3	Foggy	S. Woods, M. A.
Little Glace Bay, N. S.			30.12	765.0	41.0	5.0	100	E	6	2.7			10n			0.06	1.5	Raining	C. H. Rigby.
*Montreal, Quebec			29.93	760.2	38	3.3	99	N	5	2.2			10n		W	0.15	3.8	Light rain	C. H. McLeod, C. E.
*Ottawa, Ontario			29.99	761.7	35	1.7	87	NW	2	0.9		5k	5s	N	N	0.15	3.8	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.99	761.7	34	1.1	89	S	6	2.7		2k	5ks	S	S	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.01	762.2	33	0.6	100	NW	3	1.3		5k	5n	NE	S	0.19	4.8	Cloudy	H. Morgan.
Port Hastings, N. S.			30.08	764.0	44.4	6.9		SE	8	3.6						0	0	Foggy	Peter Grant.
Port Stanley, Ontario			29.99	761.7	34	1.1	90	E	4	1.8			10ks			0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec			29.99	761.7	38	3.3	91	NE	25	11.2			10n		NE	0.01	0.3	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.89	759.2	41	5.0	95	N	6	2.7			10n			0.88	22.3	Light rain	G. Murdoch, C. E.
*Saugeen, Ontario			29.96	761.0	31	— 0.6	89	Calm	0	0			10ks		W	0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.98	761.5	34	1.1	90	SE	1	0.4		8c	0	N		0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.65	727.7	29.98	761.5	32.0	0.0	96	Calm	0	0			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			30.16	766.1	43	6.1	98	NE	6	2.7			10n			0.03	0.8	Cloudy	T. C. Hill.
*Toronto, Ontario			30.01	762.2	36	2.2	93	NE	2	0.9		8cs	2n	SW	NE	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.01	762.2	32.7	0.4	98	Calm	0	0			7s			0.01	0.3	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.30	769.6	34.0	1.1	84	NE	4	1.8		5k	5s			0.01	0.3	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.94	760.5	38	3.3	90	Calm	0	0			10s			0.25	6.3	Threatening	
Alpena, Mich.			29.90	759.4	36	2.2	80	S	12	5.4		0	0			0	0	Clear	
Atlantic City, N. J.			29.99	761.7	37	2.8	90	W	3	1.3		8c	0	S		0.08	2.0	Cloudy	
Augusta, Ga.			30.14	765.5	35	1.7	90	Calm	0	0			Fog			0	0	Foggy	
Baltimore, Md.			30.04	763.0	40	4.4	73	NW	2	0.9		5ck	Sm'k	W		0	0	Smoky	
Barnegat, N. J.			29.97	761.2	41	5.0	83	N	6	2.7			10s		NW	0.32	8.1	Cloudy	
Bismarck, Dakota	28.08	713.2	29.79	756.7	25	— 3.9	87	NE	7	3.1			10s		NE	0	0	Cloudy	
Boston, Mass.			29.90	759.4	42	5.6	83	W	5	2.2		10cs	Fog	W		0.68	17.3	Clearing	
Breckenridge, Minn.			29.65	753.1	31	— 0.6	89	N	32	14.3			10s		N	0	0	Cloudy	
Buffalo, N. Y.			29.98	761.5	35	1.7	80	S	1	0.4			Fog			0.06	1.5	Foggy	
Burlington, Vt.			29.93	760.2	38	3.3	100	N	2	0.9			10n			0.11	2.8	Light rain	
Cairo, Ill.			29.97	761.2	41	5.0	48	SE	9	4.0		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.93	760.2	48	8.9	71	N	14	6.3		0	2s			0.01	0.3	Fair	
Cape Henry, Va.			30.01	762.2	45	7.2	84	NW	3	1.3		2c	2k	S	NW	0.06	1.5	Fair	
Cape Lookout, N. C.			30.03	762.7	45	7.2	76	N	8	3.6		1ck	Haz			0	0	Fair	
Cape May, N. J.			30.00	762.0	42	5.6	83	N	13	5.8		2cs	2k	SW	NW	0.06	1.5	Fair	
Charleston, S. C.			30.13	765.3	41	5.0	73	NW	5	2.2		0	Sm'k			0	0	Clear	
Cheyenne, Wyoming	23.73	602.7	29.67	753.6	49	9.4	14	NW	16	7.2			10s			0	0	Cloudy	
Chicago, Ill.			29.82	757.4	40	4.4	56	S	10	4.5		0	0			0	0	Clear	
Cincinnati, Ohio			29.95	760.7	40	4.4	63	S	2	0.9		8c	0	N		0	0	Fair	
Cleveland, Ohio			29.99	761.7	34.7	1.4	80	SE	8	3.6			10s		SE	0.03	0.8	Cloudy	
Corsicana, Tex.			29.93	760.2	52	11.1	86	S	6	2.7		2cs	Haz			0	0	Fair	
Davenport, Iowa			29.74	755.4	43	6.1	58	SW	5	2.2		0	0			0	0	Clear	
Denison, Tex.			29.84	757.9	56	13.3	80	S	24	10.7		1cs	0	SW		0	0	Clear	
Denver, Col.	24.52	622.8	29.74	755.4	36	2.2	36	S	4	1.8		0	5s			0	0	Fair	
Detroit, Mich.			29.93	760.2	34	1.1	90	S	2	0.9		8k	0	N		0	0	Fair	
Dodge City, Kan.	26.99	685.5	29.26	743.2	37	2.8	90	S	7	3.1			10s			0	0	Cloudy	
Dubuque, Iowa			29.71	754.6	41	5.0	73	S	5	2.2		0	Haz			0	0	Clear	
Duluth, Minn.			29.60	751.8	38	3.3	81	Calm	0	0		0	Haz			0	0	Hazy	
Eastport, Me.			29.92	760.0	44	6.7	100	NE	25	11.2			10n,f			0.54	13.7	Light rain	
Erie, Pa.			29.96	761.0	37	2.8	80	S	1	0.4			Fog			Inap.	Inap.	Foggy	
Escanaba, Mich.			29.73	755.1	42	5.6	83	S	11	4.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter.			29.73	755.1	55	12.8	62	SE	14	6.3		5c	0	W		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.49	723.6	29.59	751.6	49	9.4	48	SW	10	4.5		0	0			0	0	Clear	
Fort Sully, Dakota	27.96	710.2	29.62	752.3	37	2.8	80	NW	16	7.2			10s		NW	0	0	Cloudy	
Florence, Arizona	28.33	719.6	29.83	757.7	55	12.8		Calm				8ck	0			0	0	Fair	
Galveston, Tex.			30.04	763.0	65	18.3	68	S	8	3.6		1k	0	S		0	0	Clear	
Grand Haven, Mich.			29.84	757.9	35	1.7	80	SE	7	3.1		0	1s			0	0	Clear	
Indianapolis, Ind.			29.95	760.7	38	3.3	71	SE	6	2.7		2cs	Sm'	N	SE	0	0	Clear	
Indianola, Tex.			30.00	762.0	64	17.8	78	SE	8	3.6		0	1s			0	0	Clear	
Jacksonville, Fla.			30.17	766.3	40	4.4	63	NW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			29.71	754.6	45	7.2	68	S	7	3.1		5k	0	S		0	0	Fair	
Key West, Fla.			30.10	764.5	63	17.2	88	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, N. C.			30.02	762.5	45	7.2	68	NW	12	5.4		0	2s		NW	0	0	Fair	
Knoxville, Tenn.			30.12	765.0	30	— 1.1	89	Calm	0	0		8ck	Fog	NW		0	0	Cloudy	
La Crosse, Wis.			29.64	752.8	44	6.7	67	S	10	4.5		Haz	Haz			0	0	Hazy	
Leavenworth, Kan.			29.63	752.6	48	8.9	70	S	10	4.5		1c	0			0	0	Clear	
Louisville, Ky.			30.00	762.0	40	4.4	64	S	4	1.8		2c	Fog			0	0	Fair	
Lynchburg, Va.			30.04	763.0	37	2.8	80	Calm	0	0		10k	0	N		0	0	Cloudy	
Malone, N. Y.			29.94	760.5	35	1.7	100	SW	4	1.8			10n			0.42	10.7	Light rain	
Marquette, Mich.			29.69	754.1	37	2.8	80	S	12	5.4		0	0			0	0	Clear	
Memphis, Tenn.			30.02	762.5	43	6.1	60	S	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			29.89	757.4	36	2.2	70	SE	9	4.0		0	Haz			0	0	Clear	
Mobile, Ala.			30.17	766.3	38	3.3	90	N	2	0.9		0	Fog			0	0	Clear	
Montgomery, Ala.			30.19	766.8	35	1.7	85	Calm	0	0		0	Sm'k			0	0	Foggy	
Morgantown, W. Va.	28.92	734.6	30.01	762.2	36	2.2	90	S	4	1.8			10n		SW	Inap.	Inap.	Light snow	
Mt. Washington, N. H.	23.63	600.2	29.99	761.7	34	1.1	100	SE	15	6.7		0	Fog			0.45	11.4	Foggy	
Nashville, Tenn.			30.06	763.5	34	1.1	79	SE	2	0.9		0	0			0	0	Clear	
New Haven, Conn.			29.95	760.7	42	5.6	83	NW	5	2.2			10s		NW	0.65	16.5	Cloudy	
New London, Conn.			29.95	760.7	44	6.7	84	N	1	0.4		0	10s		NW	0.45	11.4	Cloudy	
New Orleans, La.			30.11	764.5	51	10.6	69	S	6	2.7		0	Haz			0	0	Clear	
Newport, R. I.			29.94	760.5	41	5.0	91	W	8	3.6			10s		W	0.26	6.6	Threatening	
New York, N. Y.			29.98	761.5	41	5.0	73	NW	4	1.8		5ck	2ks	NW		0.05	1.3	Fair	
Norfolk, Va.			30.03	762.7	43	6.1	83	Calm	0	0		2c	Fog			Inap.	Inap.	Fair	
North Platte, Neb.	26.70	678.2	29.25	742.9	35	1.7	52	NW	6	2.7			10ks		NW	0	0	Cloudy	
Omaha, Neb.	28.47	723.1	29.52	749.8	45	7.2	84	Calm	0	0		5c	0	W		0	0	Fair	
Oswego, N. Y.			30.00	762.0	39	3.9	86	NW	5	2.2			10n		N	Inap.	Inap.	Light rain	
Pembina, Dakota			29.87	758.7	22	— 5.6	86	N	24	10.7			10ks		N	0	0	Cloudy	
Philadelphia, Pa.			30.01	762.2	38	3.3	81	W	4	1.8		5c	2s	S		0.10	2.5	Cloudy	
Pike's Peak, Col.	17.63	447.5	29.83	757.7	19	— 7.2	69	W	34	15.2		2cs	0			0	0	Fair	
Pittsburgh, Pa.			29.98	761.5	37	2.8	80	SW	5	2.2			10s		SW	Inap.	Inap.	Cloudy	
Port Huron, Mich.			29.95	760.7	31	— 0.6	89	SE	3	1.3		2cs	Haz	NE		0	0	Hazy	
Portland, Me.			29.86	758.4	44	6.7	100	N	12	5.4			10n			0.38	9.7	Light rain	
Portland, Oregon			30.22	767.6	44	6.7	84	S	1	0.4			10s			0.03	0.8	Cloudy	
Punta Rassa, Fla.			30.16	766.1	52.5	11.4	60	NE	5	2.2		0	0			0	0	Clear	
Rochester, N. Y.			29.99	761.7	36	2.2	95	W	3	1.3			Fog			0.08	2.0	Light rain	
Salt Lake City, Utah	25.40	645.2	29.71	754.6	45	7.2	68	Calm	0	0			10s			0	0	Cloudy	
Sandy Hook, N. J.			29.94	760.5	42	5.6	83	NW	7	3.1		8c,k	2ks	S,W	NW	0.06	1.5	Cloudy	
San Diego, Cal.			29.92	760.0	57	13.9	93	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			29.85	758.2	56	13.3	87	NW	1	0.4			10s			0	0	Cloudy	
Santa Fé, N. M.	23.13	587.5	29.67	753.6	38	3.3	54	NW	2	0.9		8k	0	W		0	0	Fair	
Savannah, Ga.			30.16	766.1	38	3.3	71	N	2	0.9		0	0			0	0	Clear	
Shreveport, La.			30.04	763.0	51	10.6	86	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			30.08	764.0	38	3.3	80	N	6	2.7		0	0			0	0	Clear	
Springfield, Mass.			29.93	760.2	45	7.2	76	W	4	1.8		9k	8ks		S	0.59	15.0	Cloudy	
St. Louis, Mo.			29.84	757.9	43	6.1	66	S	10	4.5		0	Sm'k			0	0	Clear	
St. Marks, Fla.			30.17	766.3	30	— 1.1	94	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minn.			29.54	750.3	39	3.9	91	SE	4	1.8		5c	0			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.90	759.4	44	6.7	92	W	8	3.6						1.22	31.0	Dense fog	
Toledo, Ohio			29.91	759.7	37	2.8	80	Calm	0	0		2cs	5s	W	W	0	0	Cloudy	
Tucson, Arizona	27.46	697.5	30.01	762.2	54	12.2		SE				5c	5s	SW	SW	0	0	Threatening	
Tybee Island, Ga.			30.00	762.0	45	7.2	67	N	12	5.4		2k	0			0	0	Clear	
Vicksburg, Miss.			30.10	764.5	46	7.8	76	S	8	3.6		0	0			0	0	Clear	
Virginia City, M. T.	23.99	609.3	29.47	748.5	32	0.0	79	Calm	0	0			10ks		SW	0	0	Cloudy	
Washington, D. C.			30.04	763.0	38	3.3	80	NW	6	2.7		10k	Haze	W		0	0	Cloudy	
Wilmington, N. C.			30.08	764.0	36	2.2	80	NW	6	2.7		2cs	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.94	760.5	44	6.7	84	N	6	2.7			10s		NW	0.57	14.5	Cloudy	
Yankton, Dakota	28.27	718.0	29.57	751.1	31	— 0.6	73	NW	1	0.4		5c	0	NW		0	0	Fair	
Yuma, Arizona			29.87	758.7	58	14.4		E				0	2s		E	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.12	765.0	76	24.4	86	N	5	2.2		8c	5n		N	0.08	2.0		James Gall.
Navassa, W. I.					76	24.4		NE			1					1.80	45.7	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.17	690.1	29.95	760.7	66	18.9	90	S	1.0	0.4			10k			0.89	22.6	Light rain	C. Partridge.
Paramaribo, D. Guiana, S.A			29.94	760.5	82	27.8	82	E			2	5k	5k	E		0	0	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	29.99	761.8			82.0	27.8		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.25	641.3			65.5	18.6	81	Calm			0	5ck	2ks			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			29.97	761.2	— 1.0	—18.3	84	N	24	10.7			Fog			0.03	0.8		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	75	23.9		S			1					1.26	32.0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Brandywine shoal.			29.95	760.7	41	5.0	91	NNW	8	3.6		8ck	0	SW				Cloudy	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,802.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 12, 1876.

7:35 A. M. WASHINGTON mean time.
0:0 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.86	758.4	77.5	25.3	42	Calm			0		9			0	0	Hidden	Charnot.
Algiers			29.91	759.7	84.2	29.0	81	SW			2		8			0	0	Cloudy	Peter.
La Calle			29.97	761.2	68.4	20.2	72	NE			3		3			0	0	Fair	Fleury.
Tunis			30.07	763.7	70.5	21.4	62	S			3		4			0	0	Fair	Jacques.
Stax			30.17	766.4															
Saida			30.02	762.5	71.8	22.1	16	SSW			5		3			0	0	Fair	Millot.
Tebessa			30.09	764.2	60.3	15.7		SSE			1		2			0	0	Clear	Bourgeois.
Geriville					57.6	14.2	86	SE			2		2			0	0	Clear	Lemaillot.
Laghouat			30.16	766.1	68.9	20.5	18	S			4		3			0	0	Fair	Guyot.
Biskra			30.13	765.2	68.4	20.2	29	NW			2		3			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.11	764.7	25.8	— 3.4	78	NE			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.10	764.4	24.8	— 4.0	98	W			2		7			0	0		Dr. Wierzbiski.
Eperies			30.03	762.8	30.2	— 1.0	84	Calm			0		10		N	0	0		Julius Mikolik.
Gratz	28.79	731.3	30.12	765.1	24.3	— 4.3	79	E			2		4			0	0		Andreas Rospini.
Hermannstadt	28.54	725.0	30.06	763.5	24.8	— 4.0	82	NW			4		5			0	0		Prof. Reissenberger.
Kremsmünster	28.55	725.1	29.98	761.5	21.6	— 5.8	80	ENE			5		10			0	0		Prof. C. Wagner.
Lemberg			29.97	761.2	25.1	— 3.8	95	NW			2		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.10	764.6	41.9	5.5	80	W			1		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			30.13	765.3	23.4	— 4.8	81	N			1		0			0	0		Karl Stancel.
Trieste			30.11	764.8	43.2	6.2	40	Calm			0		10			0	0		Prof. V. Faroli.
Vienna			30.08	764.1	25.0	— 3.9	73	E			1		2			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 342.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.44	747.7	36.7	2.6	95	ESE			4		10		SE	0.48	12.20	Sprinkling	Royal Observatory

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.71	754.6	43.9	6.6		ESE	32	14.3			3			0	0	Squally	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.26	743.2	42.3	5.7		ENE	24	10.7			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.15	740.4	42.8	6.0		E			1		10					Misty	J. Dreyer.
Bradford																0.32	8.1		J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.0	28.9		SE			3		9					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.33	745.0	41.0	5.0		E			2		10					Raining	H. Todd. [H.C.
Cardington			29.31	744.5	41.4	5.2		E			1		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.28	743.7	43.1	6.2		SW			1		10					Hazy	Capt. Fellowes, R. E.
Dartmoor	27.76	705.1	29.23	742.4	51.0	10.6		SE			1		10					Rain & fog	R. E. Power.
Davos Platz, (Switzerland)	24.56	623.8			32.2	0.1	79	Calm			0		8			0.024	0.61	*D. clouds	Francis Redford, M. A.
Donaghadee			29.33	745.0	43	6.1		ESE			7		10					Overcast	J. Mac Gowan.
Dover			29.30	744.2	45	7.2		SSW			4		10					Overcast	J. Costello.
Eccles, (near Manchester)			29.33	745.0	39.1	3.9		E	5.8	2.6			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.09	738.9	53.8	12.1		SE			1		10					Foggy	The Staff.
Fort Napier, (Natal)	7.76	705.1	30.00	762.0	62.0	16.7		E			2		1					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.85	758.2	82.0	27.8		N			1		4					*D. clouds	
Galway, Queen's College			29.77	756.1	50	10.0		SE			4		7					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.75	755.6	66.7	19.3		W			4		10					Raining	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.46	748.3	41.5	5.3		E			6		9					Squally	Lewis Stuart.
Great Yarmouth			29.43	747.5	40	4.4		ESE			7		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y			29.28	743.7	40.5	4.7		E			2		10					Drizzling	The Staff, for G. B. Airy.
Guernsey			29.14	740.1	55.5	13.1		SE			2		10					Misty	Dr. S. E. Hoskins.
Helston			29.12	739.6	53	11.7		SE			4		10n			0.73	18.5	Overcast	M. P. Moyle.
Holyhead			29.18	741.1	41	5.0		E			6		10					Overcast	John Tilston.
Kew, Observatory			29.26	743.2	40.2	4.6		E	21	9.4			10					Drizzling	The Staff.
Kingstown			29.20	741.7	44	6.7		E			4		10					Drizzling	George Mitchell.
Leicester Museum			29.34	745.2	36.0	2.2		E			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.13	765.3	67.2	19.6		SW			1		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.69	754.1	41	5.0		E			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	72.0	22.2		NE			7		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.36	745.7	35.7	2.1		E			5		10n		E	0.368	9.34	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.29	744.0	34.9	1.6		NE			5		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.24	742.7	40	4.4		E			1		10					Drizzling	J. Lucas.
Plymouth			29.10	739.1	54.7	12.6		SSE			2		10					Overcast	John Merrifield.
Roche's Point			29.03	737.3	46	7.8		ENE			5		10					Overcast	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.14	740.1	57.0	13.9		SE			2		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.82	757.4	40.0	4.4		E	25	11.2			4					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.04	763.0	36.4	2.4		W			2		1					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.40	746.7	37.4	3.0		SE			3		10			1.09	25.9	Overcast	W. F. Cooper.
Stiloth Rectory			29.40	746.7	43.1	6.2	72	E			6		6			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.38	746.2	37.2	2.9		E			3		10					Raining	Rev. S. J. Perry.
Stornoway, Lewis, (Hebr.)			29.66	753.4	43	6.1		SE			6		2					Threatening	John Smith.
Stratfield Turgiss			29.22	742.2	42.4	5.8		E			1		10					Raining	Rev. Charles H. Griffith.
Thurso			29.77	756.1	41	5.0		ESE			4		9					Gloomy	John Trotter.
Truro, Royal Institution			29.10	739.1	55	12.8		E			2		10					Raining	W. Newcombe.
Valencia, Observatory			29.07	738.4	50.0	10.0		NE	5	2.2			10					Overcast	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					42	5.6		E			8		10			0	0		Thomas Dawson.
Cape Good Hope, Obs'y			30.19	766.8	71.3	21.8	43	SSE	18	8.0		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.22	742.2	65.0	18.3	82	NW			2		0			0.08	2.0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.58	751.3	42.8	6.0		E			3		10s			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				NE	14.0	6.3						0	0		C. Meldrum.
Melbourne, Observatory			29.72	754.9	57.6	14.2	66	WSW	6	2.7			0			0	0	Fine, clear	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.58	751.3	45	7.2		E			6		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			30.01	762.2	39	3.9		E			7	2	6	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot to Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.10	764.4	30.4	— 0.9	86	NW			2		1						
Fanöe			30.07	763.6	27.3	— 2.6	94	E			4		8						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.02	762.6	34.3	1.3	82	E			2		10						
Thorshavn, (Faröe)			30.02	762.5	41.0	5.0	69	E			4		4						
Vestervig			30.10	764.6	26.2	— 3.2	91	Calm			0		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.26	743.1	43.7	6.5	76	SW			10		5n		SW	0.63	16.	Cloudy	Normal School.
Amiens			29.37	745.9	44.6	7.0	80	E			3		8		E	0.346	8.8	Very cloudy	Normal School.
Avignon			29.81	757.2	54.1	12.3	67	SE			2		8		SSE	0.02	0.5	Very cloudy	Normal School.
Bar-sur-Seine			29.46	748.2	53.8	12.1	75	S			3		10		WSW	0.31	8.0	Covered	C. Saillard.
Beaumette, (near Angers)			29.13	740.0	62.8	17.1	66	SSE	4.0	1.8					S	0.10	2.6		Beaumette Observ'tory.
Beauvais			29.36	745.8	47.3	8.5	86	ESE			2		2			0.51	13.	Slightly cl'dy	Normal School.
Besançon			29.70	754.3	38.1	3.4	95	E			2		10			0.42	10.8	Covered	Normal School.
Bourg en Bresse			29.64	752.8	47.7	8.7	89	N			6		10n		E	0.11	2.8	Covered	Normal School.
Bourges			29.42	747.2	54.9	12.7	77	W			6		8		W	0.29	7.5	Very cloudy	Normal School.
Brest			28.95	736.0	58.1	14.5	93	E			2		10		E	0.34	8.75	Misty	Naval Observatory.
Carcassonne			29.55?	750.6?	50.9	10.5	59	E			6		10		W	0.12	3.	Covered	Normal School.
Caen																			Normal School.
Chartres			29.31	744.5	58.8	14.9	76	S			2		4		S	0.47	12.		Normal School.
Châlons-sur-Marne			29.44	747.7	50.5	10.3	82	SSE			3		5ck		E	0.358	9.0	Cloudy	Normal School.
Clermont			29.46	748.3	58.5	14.7	58	S			4		5		SW	0.157	4.0		Puy de Dome Obs'y.
Commercy			29.58	751.2	39.7	4.3	97	E			6		10			0.59	15.	Covered	Normal School.
Commune de Gréasque*			29.87	758.7	50.0	10.0	70	SE			4		8		SE	0	0		M. Kina.
Grenoble			29.76	756.0	45.0	7.2	84	ENE			4		8n		W	0.20	5.	Very cloudy	Normal School.
La Roche-sur-Yon					62.6	17	68	SE			8		8		E	0.15	3.8	Very cloudy	Normal School.
Le Mans			29.27	743.4	58.6	14.8	98	SSW			2		8		SW	0.71	18.	Very cloudy	Normal School.
Lons-Le-Saulnier			29.61	752.2	55.0	12.8	72	S			4		8		W	0.228	5.8	Raining	Normal School.
Lorient			29.08	738.6	58.3	14.6	80	SE			4		10			0.532	13.5	Raining	Naval Observatory.
Mâcon			29.61	752.2	49.1	9.5	95	SSE			2		10			0.04	1.	Covered	Normal School.
Metz			29.67	753.7	32.0	0.0	97	ESE			2		10			0.24	6.1		M. Schuster.
Mirecourt			29.53	750.0	43.3	6.3	88	SW					10		NE	0	0	Covered	Normal School.
Nismes			30.09	764.2	48.6	9.2	86	N			2		5		W	0.28	7.	Cloudy	Normal School.
Orleans			30.11	764.9	58.6	14.8	72	S			2		0			0.47	12.	Clear	Normal School.
Paris, Observatory			29.34	745.3	53.1	11.7	81	ESE			2		8ck			0.437	11.11	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.83	757.7	47.1	8.4		SSW			2		10		SSW	0	0	Covered	Normal School.
Rochefort, Observatory			29.21	741.8	65.5	18.6	57	SE			5		10			0	0	Covered	Naval Observatory.
Rouen			29.30	744.2	56.1	13.4	69	SSE			2		2		S	0.58	14.8	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.26	717.8	29.31	744.5	57.2	14		SSW			2		5		E	0	0	Cloudy	Normal School.
Villefranche			30.03	762.7	57.2	14	86	SE			6		2		SW	0.21	5.4	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.80	756.8	81.3	27.4													L'Abbé Marchésl.
Marseilles			29.79	756.6	54.7	12.6	77	E			4		10					Raining	Marseilles Observatory.
Mont-Louis	24.63	625.6	29.95	760.6	46.2	7.9	93	WSW	18.0	8.33			10		SSW	0.16	4.3		—. Falguère.
Montsouris, Paris			29.34	745.3	56.3	13.5	75	SSE			2		9			0.49	12.6		Montsouris Observatory
Perpignan			29.62	752.3	59.2	15.1	79	SW	5.6	2.50			10		SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.69	525.4			35.4	1.9		SW			8–10		10					Raining	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.98	558.2			41.0	5.0		SW			8		10			0.07	1.8	Raining	General de Nansouty.
Saint Maur, (near Paris)			29.35	745.5	56.5	13.6	73	SSE			1		7			0.42	10.9	Very cloudy	E. Renou.
Toulouse			29.53	750.1	61.5	16.4	67	SSE			8		10			0	0		Toulouse Observatory.
Tours			29.30	744.3	65.8	18.8	58	SW			3		5		SW	0.366	9.3		C. Marquet.
Versailles, (near Paris)			29.35	745.4	56.1	13.4	75	S			1		6			0.493	12.53	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.4	49.5	9.7	74	ENE	6.5	2.92			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.88	759.0	30.2	— 1.0	68	SE			2		10			0	0		Prof. T. Hoh.
Berlin			30.10	764.5	29.3	— 1.5	61	S			1		6			0	0		Prof. Arndt.
Breslau			30.08	764.1	27.5	— 2.5	66	W			2		2			Imp.	Imp.		Royal University Obs'y
Carlsruhe			29.72	754.8	31.3	— 0.4	90	NE			3		10					Raining	A. Senz.
Cassel			29.88	758.9	27.5	— 2.5	64	ESE			4		9	SE		0	0		Dr. H. Möhl.
Linden			29.95	760.8	27.3	— 2.6	90	E			7		10			0.171	1.8		Prof. Prestel.
Frankfort on the Main			29.87	758.6	30.2	— 1.0	40	E			2		10			0	0		Physical Society.
Friedrichshafen			29.85	758.1	24.1	— 4.4	96	NNE			6		10			0.094	2.4		M. Wilhelm.
Hamburg			30.06	763.4	24.8	— 4.0	82	ESE			4		10s	WSW		0	0	Light fog	Captain F. Hegemann.
Kiel			30.06	763.5	31.5	— 0.3	65	ESE			2		0			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.95	760.8	31.6	— 0.2	85	NE			2		9			0.205	5.2	Snowing	Prof. E. Luther.
Köslin			30.07	763.8	34.5	1.4		NW			2		3			0	0		H. Müller.
Leipsic			30.06	763.5	24.4	— 4.2	77	E			3		8			0	0		Prof. Bruhns.
Memel			29.93	760.2	31.6	— 0.2	83	N			1		10ks			0.016	0.4		Reinbrecht & Skalweit.
Münster			29.74	755.5	32.0	0.0	93	NW			2		10			0	0		Prof. E. Hels.
Neufahrwasser			29.98	761.4	35.4	1.9	82	N			5		10			0.276	7.0	Snowy	A Lothe.
Posen			30.08	764.0	32.0	0.0	76	SE			2		2						Dr. Magener.
Strassburg, (in Alsace)			29.74	755.5	29.7	— 1.3	100	Calm			0		10			0.169	4.3		Dr. Schur.
Stuttgart			29.85	758.3	32.0	0.0	45	N			2		10			0.075	1.9	Rain & snow	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.59	751.5	33.4	0.8	88	N			3		10			0.094	2.4		Prof. Flesch.
Weissenburg, (Bavaria,)	28.33	719.6	29.92	759.9	27.5	— 2.5	74	Calm	0	0			10	NNE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.19	766.8	32.0	0.0	63	ESE			3		5			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 30°, 10′, W. 18°, 55′.			29.72	755.0	72.3	22.4	75	WSW			6		9		WSW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.12	765.0	50.5	10.3		NE										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.08	764.0	39.4	4.1	41						9			0	0		Prof. Giovanni Clodig.
Padua			30.10	764.6	36.5	2.5	50	NW	6.[illegible]	2.8			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.10	764.4	38.8	3.8	42	S	0.7	0.3			9			0	0		Alm. Da Schio.
Verona			30.11	764.7	43.7	6.5	54	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.07	763.7	38.3	3.5	61	W			4		1			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.12	765.0	36.3	2.4	63	S			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.11	764.7	38.8	3.8	54	ESE	1.[illegible]	0.6			8	N		0	0		Prof. P. F. Denza.
Mondovi	28.12	714.[illegible]	30.08	763.9	32.9	0.5	27	NW			2		7	WNW		0	0		Prof. C. Bruno.
Porto Maurizio			30.11	764.7	42.6	5.9	82	N			2		10			0.187	4.7	Raining	Prof. L. Vassallo.
Genoa			30.06	763.4	40.8	4.9	44	N	6.2	2.8			10	S		0	0		Prof. Garibaldi.
Piacenza			30.13	765.2	35.6	2.0	63	NW	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			30.11	764.8	37.0	2.8	59	E			4		10			0	0		Prof. P. Pigorini.
Bologna			30.11	764.8	36.5	2.7	60	SW			1		10			Inap?	Inap?	Sleeting	Prof. A. Palagi.
Florence			30.10	764.5	37.4	3.0	93	E			2		10			0.126	3.2	Rain & snow	Cav. F. Meucci.
Leghorn			30.02	762.4	36.5	2.5	84	ENE	15.4	6.9			10	S		0.669	17.0	Snowing	Prof. P. Monte.
Siena	28.09	713.4	30.02	762.5	36.0	2.2	87	E	0	0			10	S		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.13	765.3	35.1	1.7	93	W	0	0			10			0.039	1.0	Rain & snow	Prof. Luigi Guidi.
Ancona			30.13	765.3	38.8	3.8	87	SE			4		10			0.079	2.0	Raining	Prof. F. De— Bosis.
Grosseto			30.04	762.9	47.1	8.4	81	SE			2		10	S		0.043	1.1	Light rain	Avv. P. Ponticelli.
Rome			30.10	764.5	45.0	7.2	67	ENE	1.8	0.8			10			0.047	1.2	Raining	Profs. P. Secchi & L. Respighi
Naples, O. U.			30.17	766.2	47.7	8.7	25	N			2		10	NW		0.026	0.5	Light rain	Prof. L. Palmieri.
Lecce			30.22	767.6	46.4	8.0	44	NE	3.8	1.7			2			0	0		Prof. C. De—Giorgi.
Cosenza			30.16	766.1	50.4	10.2	61	NW	8.1	3.6			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			30.09	764.2	59.2	15.1	77	E			2		5			0	0		Cref. F. Cafiero.
Palermo			30.05	763.3	60.6	15.9	42	NE	3.1	1.4			8			0	0		Prof. G. Cacciatore.
Caltanissetta	28.20	716.3	30.16	766.0	52.0	11.1	61	SSE			2		10	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.16	766.0	43.3	6.3	55	NW	1.3	0.6			10	WNW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.46	748.3	36.7	2.6		SE			5								
Groningen			29.75	755.6				E			6								
Helder			29.65	753.1	31.6	— 0.2		E			5								
Utrecht			29.57	751.0	29.3	— 1.5	90	ESE			6		10			0.118	3.0	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.11	764.7	30.6	— 0.8	77	Calm	0	0			0			0	0		
Bröno			30.15	765.9	34.9	1.6	71	SE	9	4			3			0	0		
Christiania			30.18	766.5	27.1	— 2.7	70	ENE	2.5	1.1			0			0	0		
Tromsö			30.19	766.9	23.0	— 5.0	81	Calm	0	0			0			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 7h., 4 m

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.24	742.7	56.5	13.6	64	NW	12.5	5.6			4			0.244	6.2		Dr. J. A. Sampaio.
Campo Major			29.56	750.7	65.7	18.7	72	SSW	18.6	8.3			5	SSW		0.244	6.2	Solar corona	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.52	749.7	69.4	20.8	81	SW	14.1	6.30			10			0.189	4.8	Raining	Capt. D. A. de Cunha.
Lisbon			29.49	749.1	66.4	19.1	81	SSW	24.8	11.1			9	SSW		2.362	60.0		The Observatory.
Ponta Delgada, (Azores)			29.24	742.8	61.5	16.4	58	NW	8.7	3.89			4			0.213	5.4		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.97	761.1	29.7	— 1.3	96	NW	7	3			10						Astronomical Obs.
Wilna			29.86	758.5	32.5	0.3	94	S	2	1			10						Astronomical Obs.
Dorpat			30.08	763.9	28.6	— 1.9	92	ESE	11	5			10						Physical Cabinet.
St. Petersburg			30.17	766.4	26.2	— 3.2	93	SE	13	6			10						Central Physical Obs.
Kuopio			30.20	767.0	25.2	— 3.8	100	E	13	6			10						Ch. Forsten.
Kieff			29.80	756.9	32.4	0.2	100	ENE	2	1			10					Snowing	Physical Cabinet.
Nikolaiev			29.71	754.5	35.4	1.9	91	NW	22	10			10					Raining	Kurdakof.
Kertch			29.72	754.8	55.2	12.9	90	SSE	11	5			10						Lagorio.
Moscow			30.20	766.7	32.7	0.4	92	SSE	9	4			10						Meteorological Obs.
Lugan			29.85	758.1	46.2	7.9	83	E	20	9			10						Meteorological Obs.
Archangel			30.47	773.8	15.1	— 9.4	94	S	7	3			10						Ogorodnikof.
Tiflis	28.58	726.0	30.01	762.2	54.3	12.4	72	E	4	2			3						Physical Observatory.
Astrakhan			30.18	766.5	43.2	6.2	66	E	20	9			7						Sebastianof.
Kasan			30.54	775.7	28.4	— 2.0	86	SSE	11	5			9						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.67	753.6	30.67	778.9	35.2	1.8	63	WSW	4	2			0						Meteorological Obs.
Nukuss			30.33	770.4	36.7	2.6	49	ENE	13	6			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.81	782.6	10.4	—12.0	63	Calm	0	0			1						Meteorological Obs.
Yeniseisk			30.07	763.6	18.0	7.8	90	S	7	3			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.27	768.9	36.7	2.6	55	Calm	0	0			9						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.10	764.6	25.0	— 3.9	89	NW	16	7			0						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.60	751.7	58.8	14.9	83	S	23.1	10.34			10			0.280	7.1	Covered	Royal Observatory.
San Fernando			29.76	755.8	64.2	17.9	92	S	12.3	5.5		6	4	SE	SE	0.815	20.7		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.39	771.9	21.9	— 5.6	85	E			4		10			0	0		
Umea			30.28	769.0	27.0	— 2.8	96	NE			2		10			0	0		
Hernosand			30.15	765.9	26.6	— 3.0	96	NE			2		10			0	0		
Stockholm			30.02	762.4	27.0	— 2.8	94	N			2		10			0	0		
Wisby			30.00	762.1	33.4	0.8	96	NE			4		10			0.028	0.7		
Sub-Series.																			
Upsala			30.05	763.3	27.5	— 2.5	94	NNW	6.7	3.0			10	S		0.048	1.22	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.34	719.8	29.83	757.7	33.1	0.6	90	SSE			1		10			0	0	Covered	The Observatory.
Zurich	28.15	715.0	29.88	758.9	28.9	— 1.7	94	N			1		10			0.453	11.5	Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —3.5 mm; Thermometer, —6.7 cent.; Relative Humidity, +13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.04	763.9	36.3	2.4	100	NW	7	3.0			2		N	0.945	24.0	Snowing	
Fao, (Persian Gulf)			30.08	764.0	80.6	27.0		NW			1		10						
Salonica			30.11	764.7	40.3	4.6		NW			6		0						
Valona			30.13	765.3	45.5	7.5		NW			1		10						
Varna			29.92	760.0	33.8	1.0		NE			1		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.88	759.0	72.1	22.3	52	NW			1		1ck			0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario			30.13	765.3	33	0.6		Calm	0	0		0	28		NW	0.01	0.3	Fair	W. R. Bigg.
*Chatham, N. B			29.79	756.7	41	5.0	96	NE	5	2.2			10s		NE	1.57	39.9	Heavy rain	G. A. Blair.
Charlottetown, P. E. Island			29.77	756.1	44	6.7	93	E	16	7.2			10n			0.770	19.56	Light rain	H. J. Cundill, C. E.
Cornwall, Ontario			29.99	761.7	35.8	2.1	92	W			0		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B					37.1	2.8	99	NE			2					0.20	5.1	Raining	H. A. Johnson.
Esquimault, B. C			30.29	769.4	34.1	1.2	90	N				0	0			0	0	Hazy	W. H. Bevis.
Fredericton, N. B			29.74	755.4	42.2	5.7	91	NE	7	3.1			10n			0.33	8.4	Raining	Prof. Harrison.
*Fort Garry, Manitoba			30.20	767.1	16	— 8.9	94	NE	12	5.4			10n			0.23	5.89	Light snow	James Stewart.
Goderich, Ontario			30.07	763.8	37.3	2.9	86	SE			1	0	0			0	0	Bright	H. J. Strang, M. A.
Granton, Ontario	28.92	734.6	30.07	763.8	32.0	0.0		SE			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S			29.68	753.9	47	8.3	98	E	8	3.6			10n			1.941	49.31	Light rain	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.11	764.8	34	1.1	90	Calm	0	0		2c	0			Inap.	Inap.	Clear	S. Woods, M. A.
Little Glace Bay, N. S								S	7	3.1						0.94	24.4	Raining	C. H. Rigby.
*Montreal, Quebec			29.97	761.2	39	3.9	92	NW	11	4.9			10n			0.03	0.8	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.02	762.5	32	0.0	84	W	4	1.8		0	5cs		W	0	0	Clearing	J. B. Haney.
*Parry Sound, Ontario			30.09	764.3	34	1.1	95	N	4	1.8		2cs	0	N		0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.12	765.0	29	— 1.7	89	N	2	0.9		5k	0	SW		Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario			30.07	763.8	32	0.0	81	SE	12	5.4		0	0			0	0	Clear	M. Payne.
*Quebec, Quebec			29.91	759.7	36	2.2	100	Calm	0	0			Fog			0.05	1.3	Foggy	Capt. Ashe, R. N.
St. John, N. B			29.66	753.4	55	12.8	93	Calm	0	0			10n			0.980	24.89	Light rain	G. Murdoch, C. E.
*Saugeen, Ontario			30.03	762.7	33	0.6	85	Calm	0	0		0	0			0	0	Clear	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.74	730.0	30.07	763.8	31.4	— 0.3	95	Calm	0	0		0	0			0	0	Fine	C. J. MacGregor, M. A
*Sydney, C. B			29.98	761.5	41	5.0	99	NE	8	3.6			10n			0.97	24.6	Light rain	T. C. Hill.
*Toronto, Ontario			30.14	765.5	29	— 1.7	96	N	1	0.4		0	Fog			0	0	Clear	Magnetic Observatory.
Woodstock, Ontario			30.12	765.0	27.1	— 2.7	99	Calm	0	0		1c	0			0	0	Clear	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.37	771.4	38.0	3.3	90	E	1	0.4		0	0			0	0	Clear	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.95	760.7	40	4.4	82	NW	4	1.8			10s		W	0.02	0.5	Cloudy	
Alpena, Mich.			29.96	761.0	42	5.6	83	SE	8	3.6		0	0			0	0	Clear	
Atlantic City, N. J.			30.07	763.8	37	2.8	80	W	12	5.4		2c	0	N		0	0	Fair	
Augusta, Ga.			30.28	769.1	38	3.3	90	Calm	0	0		5cs	Haze	NW		0	0	Fair	
Baltimore, Md.			30.15	765.8	37	2.8	80	NW	4	1.8		Haze	Sm'e			0	0	Smoky	
Barnegat, N. J.			30.02	762.5	40	4.4	77	NW	17	7.6		5cs	0	NW		0	0	Fair	
Bismarck, Dakota	28.36	720.3	30.02	762.5	14	—10.0	81	NE	9	4.0			10n			0.03	0.8	Light snow	
Boston, Mass.			29.78	756.4	41	5.0	100	W	8	3.6			10n			0.83	21.1	Light rain	
Breckenridge, Minn.			30.02	762.5	19	— 7.2	84	NW	24	10.7			10s		NW	0	0	Cloudy	
Buffalo, N. Y.			30.10	764.5	35	1.7	70	Calm	0	0		5k	Fog	W		0	0	Fair	
Burlington, Vt.			29.96	761.0	39	3.9	91	N	5	2.2			Fog			0.03	0.8	Foggy	
Cairo, Ill.			29.98	761.5	54	12.2	67	S	6	2.7		8cs	Haze			0	0	Fair	
Cape Hatteras, N. C.			30.10	764.5	48	8.9	62	W	4	1.8		0	Haze			0	0	Clear	
Cape Henry, Va.			30.14	765.5	47	8.3	70	NW	12	5.4		0	0			0	0	Clear	
Cape Lookout, N. C.			30.20	767.1	54	12.2	61	NW	23	10.3		0	0			0	0	Clear	
Cape May, N. J.			30.10	764.5	42	5.6	83	NW	28	12.5		0	0			0	0	Clear	
Charleston, S. C.			30.27	768.8	48	8.9	58	W	8	3.6		0	Haze			0	0	Clear	
Cheyenne, Wyoming	23.84	605.5	29.78	756.4	26	— 3.3	88	N	24	10.7			10s			0	0	Threatening	
Chicago, Ill.			29.81	757.2	50	10.0	71	S	12	5.4		2cs	5s	W		0	0	Fair	
Cincinnati, Ohio			30.01	762.2	41	5.0	83	SE	3	1.3		2c	Fog	N		0	0	Fair	
Cleveland, Ohio			30.06	763.5	34.5	1.4	85	SE	12	5.4		2c	0	W		0	0	Fair	
Corsicana, Tex.			29.92	760.0	63	17.2	88	SE	8	3.6			10s			0	0	Cloudy	
Davenport, Iowa			29.78	756.4	53	11.7	73	SW	8	3.6		5cs	0			0	0	Fair	
Denison, Tex.			29.88	758.9	64	17.8	88	S	18	8.0			10s		S	0	0	Cloudy	
Denver, Col.	24.64	625.8	29.86	758.4	30	— 1.1	68	N	8	3.6		0	5s			0	0	Fair	
Detroit, Mich.			29.98	761.5	40	4.4	82	SE	3	1.3		Haze	Haze			0	0	Hazy	
Dodge City, Kan.	27.17	690.1	29.48	748.8	37	2.8	80	N	18	8.0			10s		N	0	0	Cloudy	
Dubuque, Iowa			29.75	755.6	48	8.9	85	S	2	0.9			10s			0	0	Cloudy	
Duluth, Minn.			29.85	758.2	41	5.0	83	E	14	6.3			10n		NE	0.05	1.3	Light rain	
Eastport, Me.			29.65	753.1	45	7.2	100	NE	16	7.2			10n,fg		NE	0.81	20.6	Light rain	
Erie, Pa.			30.07	763.8	37	2.8	71	SE	12	5.4		1c	0			0	0	Clear	
Escanaba, Mich.			29.82	757.4	42	5.6	91	E	6	2.7		5c	2s	S		0	0	Fair	
Fort Gibson, Indian Ter.			29.78	756.4	63	17.2	72	S	14	6.3		2c	5s		S	0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.63	727.2	29.72	754.9	56	13.3	62	SW	12	5.4		8cs	0			0	0	Cloudy	
Fort Sully, Dakota	28.38	720.8	30.16	766.1	19	— 7.2	86	NW	16	7.2			10n			Inap.	Inap.	Light snow	
Florence, Arizona	28.22	716.8	29.73	755.1	50	10.0		SW					10s		SW	0	0	Cloudy	
Galveston, Tex.			30.00	762.0	70	21.1	84	SE	6	2.7		2cs	5ks	W	S	0	0	Cloudy	
Grand Haven, Mich.			29.87	758.7	41	5.0	77	SE	6	2.7		5c	Haze	W		0	0	Fair	
Indianapolis, Ind.			29.96	761.0	47	8.3	69	SE	10	4.5		8cs	0			0	0	Fair	
Indianola, Tex.			29.96	761.0	68	20.0	90	S	5	2.2		0	5s			0	0	Fair	
Jacksonville, Fla.			30.29	769.4	42	5.6	75	Calm	0	0		4k	0			0	0	Fair	
Keokuk, Iowa			29.71	754.6	56	13.3	74	SE	3	1.3		8c	0	S		0	0	Fair	
Key West, Fla.			30.18	766.6	63	17.2	88	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, N. C.			30.19	766.8	43	6.1	75	NW	5	2.2		0	0			0	0	Clear	
Knoxville, Tenn.			30.25	768.3	36	2.2	71	NE	2	0.9		0	Fog			0	0	Fair	
La Crosse, Wis.			29.73	755.1	37	2.8	100	S	4	1.8			Fog			0	0	Foggy	
Leavenworth, Kan.			29.74	755.4	44	6.7	92	NW	8	3.6			10s			0	0	Cloudy	
Louisville, Ky.			30.02	762.5	49	9.4	64	S	7	3.1		5c	Haze			0	0	Fair	
Lynchburg, Va.			30.18	766.6	35	1.7	80	Calm	0	0		0	Haze			0	0	Hazy	
Malone, N. Y.			29.99	761.7	37	2.8	100	W	4	1.8			10n		W	0.20	5.1	Light rain	
Marquette, Mich.			29.86	758.4	35	1.7	70	SW	4	1.8		0	0			0	0	Clear	
Memphis, Tenn.			30.07	763.8	52	11.1	79	S	4	1.8		10cs	Sm'e	SW		0	0	Cloudy	
Milwaukee, Wis.			29.82	757.4	42	5.6	83	SE	7	3.1		5c	Haze	W		0	0	Fair	
Mobile, Ala.			30.20	767.1	48	8.9	85	S	2	0.9		2k	5ks,fog	S	S	0	0	Fair	
Montgomery, Ala.			30.26	768.6	39	3.9	86	Calm	0	0		2c	Fog			0	0	Foggy	
Morgantown, W. Va.	29.05	737.9	30.16	766.1	29	— 1.7	100	S	1	0.4			Fog			0.04	1.0	Foggy	
Mt. Washington, N. H.	23.46	595.9	29.82	757.4	26	— 3.3	100	NW	30	13.4			10n		NW	0.36	9.1	Heavy snow	
Nashville, Tenn.			30.10	764.5	44	6.7	67	SE	3	1.3		5cs	0			0	0	Fair	
New Haven, Conn.			29.90	759.4	42	5.6	83	NW	16	7.2			10s		NW	0.10	2.5	Cloudy	
New London, Conn.			29.87	758.7	41	5.0	82	NW	10	4.5		5k	2ks	N		0.14	3.6	Threatening	
New Orleans, La.			30.16	766.1	60	15.6	70	SE	3	1.3		4cs	0	W		0	0	Fair	
Newport, R. I.			29.83	757.7	42	5.6	83	W	13	5.8			10s		W	0.58	14.7	Threatening	
New York, N. Y.			30.00	762.0	41	5.0	73	NW	13	5.8			10s		W	Inap.	Inap.	Cloudy	
Norfolk, Va.			30.17	766.3	41	5.0	83	N	3	1.3		0	Haze			0	0	Clear	
North Platte, Neb.	26.98	685.3	29.64	752.8	27	— 2.8	77	N	24	10.7			10s		N	0	0	Cloudy	
Omaha, Neb.	28.72	729.5	29.82	757.4	33	0.6	89	N	14	6.3			10s		N	0	0	Cloudy	
Oswego, N. Y.			30.09	764.3	42.5	5.7	71	NW	9	4.0		5cs,hz	2ks	N	N	0.09	2.3	Fair	
Pembina, Dakota			30.17	766.3	15.0	— 9.2	92	N	20	8.9			10s		NW	0.03	0.8	Cloudy	
Philadelphia, Pa.			30.08	764.0	39	3.9	63	NW	20	8.		5k	2s	N		0	0	Fair	
Pike's Peak, Col.	17.56	446.0	29.77	756.1	13	—10.6	81	SW	15	6.7		2c	8s	SW		0	0	Cloudy	
Pittsburgh, Pa.			30.13	765.3	31	— 0.6	81	E	2	0.9			Fog			0.04	1.0	Foggy	
Port Huron, Mich.			30.00	762.0	38	3.3	90	SE	7	3.1		0	Sm'e			0	0	Smoky	
Portland, Me.			29.72	754.9	47	8.3	92	Calm	0	0			10n			0.34	8.6	Light rain	
Portland, Oregon			30.39	770.1	36	2.2	90	S	1	0.4		0	5s			0	0	Fair	
Punta Rassa, Fla.			30.23	767.8	55.0	12.8	58	N	12	5.4		0	0			0	0	Clear	
Rochester, N. Y.			30.09	764.3	33	0.0	89	W	7	3.1		2cs	Sm'e	N		0.01	0.3	Fair	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	30	— 1.1	68	NW	4	1.8		0	0			0.02	0.5	Clear	
Sandy Hook, N. J.			29.97	761.2	43	6.1	75	NW	30	13.4			10n		NW	0	0	Cloudy	
San Diego, Cal.			29.80	756.9	54	12.2	93	Calm	0	0		0	5s			0.04	1.0	Fair	
San Francisco, Cal.			29.97	761.2	54	12.2	37	N	4	1.8		0	0			0	0	Clear	
Santa Fe, N. M.	23.06	585.7	29.60	751.8	39	3.9	91	SE	5	2.2			10s			0.20	5.1	Cloudy	
Savannah, Ga.			30.29	769.4	45	7.2	60	Calm	0	0		0	5s			0	0	Fair	
Shreveport, La.			30.07	763.8	57	13.9	94	SE	5	2.2			10s		SE	0	0	Cloudy	
Smithville, N. C.			30.23	767.8	48	8.9	54	W	6	2.7		0	0			0	0	Clear	
Springfield, Mass.			29.87	758.7	42	5.6	96	NW	4	1.8			10n			0.41	10.4	Light rain	
St. Louis, Mo.			29.87	758.7	53	11.7	66	S	8	3.6		9ck	5s			0	0	Fair	
St. Marks, Fla.			30.28	769.1	35	1.7	95	W	3	1.3		2c	0			0	0	Clear	
St. Paul, Minn.			29.73	755.1	37	2.8	80	N	6	2.7		2c	Haze			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.75	755.9	43	6.1	100	NW	16	7.			10n		NW	0.99	25.1	Light rain	
Toledo, Ohio			29.96	761.0	40	4.4	72	S	3	1.3		2c	Haze			0	0	Hazy	
Tucson, Arizona	27.28	692.9	29.83	757.7	48	8.9		SE					10s			0.75	19.1	Threatening	
Tybee Island, Ga.			30.27	768.8	47	8.3	60	Calm	0	0		0	5s			0	0	Fair	
Walsenburg, Mass.			30.14	765.5	51.0	10.8	89	SE	7	3.1		8cs	Haze	W		0	0	Fair	
Virginia City, M. T.	24.24	615.7	29.79	756.9	15	— 9.4	82	Calm	0	0		10k	0	W		0.01	0.3	Cloudy	
Washington, D. C.			30.17	766.3	35	1.7	80	NW	8	3.6		0	Haze			Inap.	Inap.	Clear	
Wilmington, N. C.			30.23	767.8	45	7.2	54	W	7	3.		0	Haze			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			29.80	756.9	44	6.7	84	NW	14	6.3			10s		NW	1.46	37.1	Cloudy	
Yankton, Dakota	28.66	728.0	30.02	762.5	24	— 4.4	80	NW	20	8.9			10s			0	0	Cloudy	
Yuma, Arizona			29.74	755.4	60	15.6		N				0	2s		NE	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.10	764.5	75	23.9	86	Calm	0	0		10c	8n			0.54	13.7		James Gall.
Navassa, W. I.					76	24.4		NE			3					1.20	30.5	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	67	19.4	84	Calm	0	0			10k			2.33	59.2	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			29.92	760.0	82	27.8	82	SE			1	3c	4k	E		0.17	4.45	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.00	762.1			82.8	28.2		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			83.5	17.5	87	Calm			0	1cs	1s			0.33	8.4	Fair	Thomas Herran.
York Factory, B. A.			30.62	777.7	— 6.0	—21.1	81	N	8	3.6		2k	3s	N		Inap.	Inap.		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74.5	23.6		S			1					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, off Fire Island.	NE by E	7	29.94	760.5	45	7.2	92	NW	20	8.9			10ks		NW	Rough		Threatening	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,848 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 766.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 13, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.83	757.6	71.2	21.8	39	N			1		4			0	0	Fair	Charnot.
Algiers			29.90	759.5	68.0	20.0	67	WSW			2		10			Inap.	Inap.	Hidden	Peter.
La Calle			29.94	760.4	68.7	20.4	72	Calm			0		3			0	0	Fair	Fleury.
Tunis			30.00	761.9	75.2	24.0	46	SW			2		8			0	0	Cloudy	Jacques.
Sfax			30.10	764.4															
Saïda			30.00	762.1	72.1	22.3	33	SW			5		2			0	0	Clear	Millot.
Tébessa			30.04	763.1	66.2	19.0		W			1		4			0	0	Clear	Bourgeois.
Geriville					63.3	17.4	100	SE			2		2			Inap.	Inap.	Clear	Lemaillot.
Laghouat			30.10	764.6	68.5	20.3	16	E			1		2			Inap.	Inap.	Clear	Guyot.
Biskra			30.06	763.4	72.1	22.3	30	NE			1		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.08	764.1	34.2	1.2	89	SE			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.13	765.4	21.2	— 6.0	87	NE			2		6			0	0		Dr. Wierzbiski.
Eperies			30.14	765.6	23.4	— 4.8	88	Calm			0		3c		S	0	0		Julius Mikolik.
Gratz	28.76	730.4	30.07	763.7	32.5	0.3	83	S			1		6			0	0		Andreas Rospini.
Hermannstadt	28.64	727.4	30.15	765.7	27.3	— 2.6	83	NW			1		3			0	0		Prof. Reissenberger.
Kremsmünster	28.56	725.3	29.97	761.2	28.0	— 2.2	92	NE			2		10			0.157	4.0		Prof. C. Wagner.
Lemberg			30.12	765.1	28.0	— 2.2	94	N			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.05	763.2	47.1	8.4	97	NNW			1		10s			0.309	7.85		I.R.Hydrographic Of'ce
Szegedin			30.16	766.0	23.0	— 5.0	76	E			2		10			0	0		Karl Stancel.
Trieste			30.08	764.0	44.1	6.7	91	Calm			0		10			0.033	0.85	Raining	Prof. V. Faroifi.
Vienna			30.06	763.5	27.1	— 2.7	85	SSE			3		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.8 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.67	751.1	54.3	12.4	88	SW			4		10		WSW	0.441	11.20	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (0—10).	Clouds. Amount. Upper (0—10).	Clouds. Amount. Lower (0—10).	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 4 hours. Inches.	Rain-fall or melted snow in the past 4 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.82	757.4	41.4	5.2		E	31	13.9			9			0	0	Squally	William Roswell.
Ardrossan			29.62	752.3	43	6.1		E			4		8					Overcast	William McNeil.
Armagh, Observatory			29.49	749.0	44.1	6.7		E	15	6.7			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.34	745.2	46.8	8.2		SE			1-2		10					Showery	J. Dreyer.
Bradford			29.58	751.3	41.3	5.2		E			1		10			0.90	22.9	Drizzling	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	83.5	28.6		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.54	750.3	44.5	6.9		Calm			0		10					Overcast	H. Todd. [H.C.
Cardington			29.46	748.3	44.4	6.9		N			1		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.66	753.4	48.9	9.4							10					Foggy	Capt. Fellowes, R. E.
Dartmoor	28.04	712.2	29.53	750.0	47.0	8.3		Calm			0		10					Rain & fog	R. F. Power.
Davos Platz, (Switzerland)	24.67	626.6			45.2	7.3	74	Calm			0		2			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.55	750.6	45	7.2		ESE			6		10					Overcast	J. Mac Gowan.
Dover			29.54	750.3	52	11.1		WSW			1		10					Foggy	J. Costello.
Eccles, (near Manchester)			29.48	748.8	42.7	5.9		E	3.2	1.4			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.38	746.2	56.7	13.7		S			3		10					Foggy	The Staff.
Fort Napier, (Natal)	27.64	702.0	29.87	758.7	77.8	25.4		NE			2		0					Bluesky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.86	758.4	84.0	28.9		W			3		6					*D. clouds	
Galway, Queen's College			29.28	743.7	50	10.0		SE			3		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.78	756.4	68.0	20.0		E			3		4					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.64	752.8	41.1	5.1		ENE			3		4					*D. clouds	Lewis Stuart.
Great Yarmouth			29.52	749.5	45	7.2		NW			1		8					Misty.	G. T. Watson.
Greenwich, Royal Obs'y			29.55	750.6	46.5	8.1		WSW			1		10		4 bl	lm		Overcast	The Staff, for G. B. Airy.
Guernsey			29.45	748.0	57	13.9		SE			2		7					*D. clouds	Dr. S. E. Roskins.
Helston			29.40	746.7	58	14.4		SW			4		8n			1.01	25.7		M. P. Moyle.
Holyhead			29.44	747.8	43	6.1		E			6		10					Drizzling	John Tilston.
Kew, Observatory			29.55	750.6	46.4	8.0		WNW	1	0.4			10					Misty	The Staff.
Kingstown			29.43	747.5	48	8.9		ESE			4		10					Raining	George Mitchell.
Leicester Museum			29.58	751.3	41.9	5.5		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.02	762.5	68.8	20.4		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.76	755.9	40	4.4		E			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.16	766.1	73.0	22.8		NE			3		8					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.56	750.8	42.2	5.7		N			1		10d		NE	0.53	13.5	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.55	750.6	40.2	4.6		NE			2		10					Misty	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.53	750.0	45	7.2		Calm			0		10					Raining	J. Lucas.
Plymouth			29.40	746.7	52	11.1		E			2		10					Raining	John Merrifield.
Roche's Point			29.26	743.2	52	11.1		SE			5		10					Raining	W. Kennedy.
Saint Ann's Head			29.37	746.0	46	7.8		ESE			5		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.47	748.5	58.3	14.6		S			1		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.89	759.2	40	4.4		E	24	10.7			10					Overcast	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.06	763.5	41.4	5.2		NW			1		5			Blank	lank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.55	750.6	42.1	5.6		NE			1		10			0.20	5.1	Overcast	W. F. Cooper.
Silloth Rectory			29.61	752.1	42.0	5.6	82	SE			5		10			0.09	2.4	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			29.55	750.6	41.0	5.0		E			2		10					Raining	Rev. S. J. Perry.
Stornoway, Lewis, (Hebr.)			29.74	755.4	42	5.6		ESE			6		5					*D. clouds	John Smith.
Stratfield Turgiss			29.54	750.3	44.9	7.2		NE			1		10					Raining	Rev. Charles H. Griffith
Thurso			29.84	757.9	41	5.0		E			5		8					Gloomy	John Trotter.
Truro, Royal Institution			29.39	746.5	59	15.0		SW			4		8					Gloomy	W. Newcombe.
Valencia, Observatory			29.19	741.4	54.2	12.3		SE	31	13.9			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					44	6.7		SE			8		10			0.10	2.5		Thomas Dawson.
Cape Good Hope, Obs'y			30.11	764.8	73.3	22.9	43	SSE	16	7.2		1	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.64	752.8	65.0	18.3	88	N			2		4k			0.14	3.6		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.71	754.6	40.3	4.6		E			6		10ks			0.04	1.0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.04	763.0				SE	7.3	3.3						0	0		C. Meldrum.
Melbourne, Observatory			29.93	760.2	54.0	12.2	82	SE	5	2.2			0			0	0	Very fine	R. L. J. Ellery.
Monach Lit-house, (Hebrides)			29.68	753.9	45	7.2		E			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.99	761.7	41	5.0		NE			4	0	0						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.88	758.9	35.2	1.8	67	ESE			6		10						
Vanöe			29.75	755.6	32.5	0.3	92	ENE			4		10						
Godthaab, (Greenland)																			
Reykkisholm, (Iceland)			29.74	755.5	39.7	4.3	70	S			7		8						
Thorshavn, (Faröe)			29.98	761.4	41.4	5.2	66	ESE			4		5						
Vestervig			29.89	759.1	28.4	— 2.0	92	ENE			5		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vinnemyr's; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.65	753.0	45.5	7.5	81	SW			4		8k		SW	0.04	1.	Very cloudy	Normal School.
Amiens			29.61	752.2	58.6	14.8	87	W			3		8		W	0.165	4.2	Very cloudy	Normal School.
Avignon			29.84	757.8	57.2	14	84	N			1		8		SSE	0.012	0.3	Very cloudy	Normal School.
Bar-sur-Seine			29.69	754.1	65.1	18.4	63	SW			2	5c		SW		Inap.	Inap.	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.56	750.9	64.9	18.3	65	S	4.5	2.0					S	0	0		Beaumette Observ'tory.
Beauvais			29.63	752.5	59.0	15.0	75	S			2		8		WSW	0.207	5.25	Very cloudy	Normal School.
Besançon			29.68	753.8	64.4	18	67	S			2		2		SW	0.177	4.5	Slightly cl'dy	Normal School.
Bourg en Bresse			29.89	759.1	61.7	16.5	73	N			4		5n		E	0	0	Cloudy	Normal School.
Bourges			29.69	754.1	61.5	16.4	81	SE			2		5		SW	0	0	Cloudy	Normal School.
Brest			29.39	746.5	60.3	15.7	89	SW			3		3		SW	0.571	14.50	Foggy	Naval Observatory.
Carcassonne			29.76	755.9	54.5	12.5	86	E			4		10		W	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			29.58	751.2	62.2	16.8	99	S			2		7			0	0		Normal School.
Châlons-sur-Marne			29.66	753.4	61.2	16.2	75	SSW			3		10n		NNE	0.055	1.4	Covered	Normal School.
Clermont			29.74	755.3	57.9	14.4	58	SW			4		5		SW	0	0		Puy de Dome Obs'y.
Commercy			30 13?	765.3?	56.3	13.5	77	SW			6		5kn		SW	0.207	5.25	Partly cl'dy.	Normal School.
Commune de Gréasque*			29.91	759.8	65.3	18.5	56	SE			4		5		SE	0.12	3.		M. Kina.
Grenoble			30.27	768.8	61.9	16.6	67	NW			2		0			0	0	Clear	Normal School.
La Roche-sur-Yon					64.0	17.8	69	S			6		8		NE	0	0	Very cloudy	Normal School.
Le Mans			29.90	751.7	59.5	15.3	87	SSW			6		8		SSW	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			29.79	756.6	63.5	17.5	67	S			6		2		W	0	0	Slightly cl'dy	Normal School.
Lorient			29.51	749.5	60.8	16.0	81	S			2		10			0	0	Covered	Naval Observatory.
Mâcon			29.85	758.3	57.7	14.3	91	SSE			2		5		W	0.004	0.1	Cloudy	Normal School.
Metz			29.78	756.4	47.7	8.7	98	SW			3		7		SW	0.448	11.4		M. Schuster.
Mirecourt			29.69	754.0	53.2	11.8	75	WSW					2		ENE	0	0	Slightly cl'dy	Normal School.
Nismes			30.08	764.0	57.7	14.3	60	E			2		5		S	0	0	Cloudy	Normal School.
Orleans			29.61	752.1	63.0	17.2	74	S			2		5		SE	0	0	Cloudy	Normal School.
Paris, Observatory			29.63	752.6	60.8	16.0	75	S			2		8			0.013	0.34	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.91	759.7	57.2	14		NE			2		10		NW	0.236	6.0	Covered	Normal School.
Rochefort, Observatory			29.60	751.7	67.6	19.8	69	SSE			3		8		NE	0	0	¾ covered	Naval Observatory.
Rouen			29.59	751.5	60.3	15.7	73	SSW			2		10			0.037	0.9	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.54	724.9	29.59	751.6	61.7	16.5		S			2		0			0	0	Clear	Normal School.
Villefranche			29.78	756.3	68.9	20.5	86	SE			1		2			0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.76	756.0	79.2	26.2													L'Abbé Marchési.
Marseilles			29.84	757.9	65.1	18.4	71	E			2		6			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.75	628.7	30.05	763.3	53.2	11.8	82	SW	18.6	8.33			4		SSW	0.177	4.5		—. Falguère.
Montsouris, Paris			29.62	752.4	62.6	17.0	72	S			2	10c		S		0.00	0.1		Montsouris Observatory
Perpignan			29.82	757.5	58.6	14.8	83	NW	3.7	1.67			10		SW	0.008	0.2		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.09	535.6			37.4	3.0		SW			6–8		7					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.37	568.2			45.0	7.2		SW			4–6		8			0.057	1.4	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.63	752.7	64.8	18.2	64	S			1		10			0.01	0.3	Cloudy	E. Renou.
Toulouse			29.80	756.9	60.4	15.8	81	SSE			4		3			In ap.	Inap.		Toulouse Observatory.
Tours			29.61	752.2	67.6	19.8	63	WSW			2		8		SW	0	0		C. Marquet.
Versailles, (near Paris)			29.64	752.8	61.5	16.4	73	SW			1		10			0.010	0.25	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.4	46.4	8.0	77	N	0.4	0.17			10			0.028	0.7		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.80	757.0	38.8	3.8	88	S			4		7	S		0.079	2.0		Prof. T. Hoh.
Berlin			29.95	760.6	32.4	0.2	76	S			3		10			0.008	0.2	Raining	Prof. Arndt.
Breslau			29.97	761.1	30.2	—1.0	76	SE			4		9					Raining	Royal University Obs'y.
Carlsruhe			29.74	755.3	46.8	8.2	73	S			1		1			0.197	5.0		A. Senz.
Cassel			29.67	753.7	39.2	4.0	96	S			4		10	SSW		0.606	15.4		Dr. H. Möhl.
Emden			29.69	754.0	31.8	—0.1	93	ESE			1		10			0.150	3.8		Prof. Prestel.
Frankfort on the Main			29.73	755.2	42.6	5.9	75	SW			2		3			0.445	11.3		Physical Society.
Friedrichshafen			29.91	759.7	41.0	5.0	90	WNW			2		3			0	0		M. Wilhelm.
Hamburg			29.68	753.8	29.1	—1.6	94	ESE			2		10			0	0		Captain F. Hegemann.
Kiel			29.68	753.9	33.1	0.6	84	ESE			6		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.11	764.8	30.2	—1.0	93	E			2		10			0	0		Prof. E. Luther.
Köslin			29.99	761.7	33.4	0.8		E			3		4			0	0		H. Müller.
Leipsic			29.75	755.6	35.2	1.8	96	S			2		10					Raining	Prof. Bruhns.
Memel			30.13	765.3	29.5	—1.4	84	SSE			2		10c.s.k.			0	0		Reinbrecht & Skalweit.
Münster			29.71	754.7	48.9	9.4	95	SW			2		10			0.339	8.6		Prof. E. Heis.
Neufahrwasser			30.12	765.1	29.1	—1.6	94	SSW			2		10			Inap.	Inap.		A Lothe.
Posen			30.00	761.9	34.0	1.1	72	W			2		6						Dr. Magener.
Strassburg, (in Alsace)			29.77	756.1	50.0	10.0	84	SW			2		10	NW		0.220	5.6		Dr. Schur.
Stuttgart			29.72	754.8	58.1	14.5	64	W			1		4			0.213	5.5	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.63	752.6	56.8	13.8	73	SW			7		2			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.29	718.5	29.83	757.7	39.4	4.1	79	ESE	9	4			9	ESE		0.327	8.3		Dr. von Bebber.
Wustrow, Naval School			29.85	758.2	32.4	0.2	71	SSE			2		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 29°, 10′, W. 18°, 41′.			29.56	750.7	68.7	20.4	84	W			7		10		W			Rain-squalls	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.00	762.1	55.9	13.3		NW										Cloudy	

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

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.04	763.0	44.2	6.8	51						10			0	0		Prof. Giovanni Clodig.
Padua			30.06	763.5	39.7	4.3	54	W	2.5	1.1			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.07	763.7	42.8	6.0	50	SE	3.1	1.4			9			0	0		Alm. La Schio.
Verona			30.04	763.0	49.1	9.5	79	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.11	764.7	42.6	5.9	63	W			2		4			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.11	764.8	38.7	3.7	68	W			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.08	764.0	43.5	6.4	59	SSW	1.8	0.8			3	NW		0	0		Prof. P. F. Denza.
Mondovi	28.10	713.7	30.06	763.4	41.9	5.5	51	NNW			2		1	NNW		0	0		Prof. C. Bruno.
Porto Maurizio			29.99	761.7	60.4	15.8	66	NNE			2		8	S		0.087	2.2	Raining	Prof. L. Vassallo
Genoa			29.97	761.2	46.6	8.1	74	NE.	6.9	3.1			10	E		0.207	5.2		Prof. Garibaldi.
Piacenza			30.10	764.4	37.0	2.8	84	W	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			30.10	764.5	38.1	3.4	76	W			2		9			0.029	0.7	Light rain	Prof. P. Pigorini.
Bologna			30.07	763.8	38.7	3.7	58	NW			1		10			0	0		Prof. A. Palagi.
Florence			30.02	762.4	50.9	10.5	89	S			2		10			0.110	2.8	Raining	Cav. F. Meucci.
Leghorn			29.94	760.4	55.4	13.0	83	E	11.2	5.0			5			0	0		Prof. P. Monte.
Siena	28.75	730.2	29.98	761.4	53.4	11.9	97	ESE	0	0			10	SW		0.024	0.6	Light rain	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.10	764.6	38.3	3.5	85	W	19.2	8.6			10			0.00	0.1	Light rain	Prof. Luigi Guidi.
Ancona			30.10	764.6	41.0	5.0	84	W			4		10			0	0		Prof. F. De— Bosis.
Grosseto			29.98	761.4	62.6	17.0	80	SE			2		10	S		0	0		Avv. P. Ponticelli.
Rome			29.98	761.4	63.3	17.4	75	SSE	17.4	7.8			4	S		0.024	0.6	Light rain	Prof's. P. Secchi & L. Respighi
Naples, O. U			30.06	763.5	60.8	16.0	75	N			2		10	SW		0	0		Prof. L. Palmieri.
Lecce			30.09	764.3	52.2	11.2	76	ESE	5.6	2.5			0?			0.039	1.0	Light rain ?	Prof. C. De—Giorgi.
Cosenza			30.01	762.3	60.4	15.8	87	SE	2.5	1.1			10			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.93	760.3	62.2	16.8	73						2			0	0		Prof. F. Cafiero.
Palermo			29.94	760.4	70.7	21.5	64	W	2.5	1.1			4			0	0		Prof. G. Cacciatore.
Caltanissetta	28.10	713.8	30.06	763.4	56.8	13.8	93	S			2		10	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.06	763.4	57.7	14.3	80	E	1.3	0.6			10	NE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.58	751.4	49.3	9.6		W			4								
Groningen			29.49	749.0				ENE			4								
Helder			29.55	750.5	34.0	1.1		E			2								
Utrecht			29.51	749.3	41.5	5.3	98	SW			2		10			0.245	6.2	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.99	761.8	30.9	— 0.6	73	Calm	0	0			0			0	0		
Brönö			29.86	758.4	29.1	— 1.6	64	SE	7	3			10			Inap.	Inap.	Light snow	
Christiania			30.00	762.0	26.8	— 2.9	85	SW	0.7	0.3			1			0	0		
Tromsö			29.88	759.0	26.2	— 3.2	82	Calm	0	0			10			0.071	1.8		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.17	740.9	52.9	11.6	71	NNW	4.3	1.9			4			0.197	5.0		Dr. J. A. Sampaio.
Campo Major			29.61	752.2	64.8	18.2	88	SSW	21.7	9.7			9	SSW		0.874	22.2		Dr. A. M. R dos Santos.
Funchal, (Madeira,)			29.33	744.9	68.2	20.1	69	W	14.6	6.53			5			2.114	53.7	Raining	Capt. D. A. de Cunha.
Lisbon			29.48	748.7	67.6	19.8	75	S	32.2	14.4			10			0.856	21.6		The Observatory.
Ponta Delgada, (Azores)			29.17	740.9	60.1	15.6	59	NW	5.6	2.50			4			0.169	4.3		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.12	765.0	30.6	— 0.8	92	SSE	9	4			10						Astronomical Obs.
Wilna			30.19	766.8	35.1	1.7	94	Calm	0	0			10						Astronomical Obs.
Dorpat			30.21	767.3	33.3	0.7	87	S	2	1			10						Physical Cabinet.
St. Petersburg			30.22	767.6	33.1	0.6	91	SSE	11	5			10						Central Physical Obs.
Kuopio			30.10	764.5	30.4	— 0.9	100	S	13	6			10					Snowing	Ch. Forsten.
Kieff			30.04	763.1	37.2	2.9	98	ENE	4	2			10					Foggy	Physical Cabinet.
Nikolaiev			30.04	762.9	30.7	— 0.7	85	W	9	4			10						Kurdakof.
Kertch			29.98	761.6	40.5	4.7	94	N	9	4			10						Lagorio.
Moscow			30.45	773.5	26.4	— 3.1	89	S	4	2			0						Meteorological Obs.
Lugan			30.02	762.4	37.2	2.9	91	ENE	9	4			10			Blank	Blank		Meteorological Obs.
Archangel			30.38	771.7	21.2	— 6.0	95	SE	9	4			10						Ogorodnikof.
Tiflis	28.60	726.5	30.02	762.6	54.7	12.6	62	S	4	2			4						Physical Observatory.
Astrakhan			30.19	766.9	40.3	4.6	60	E	29	13			8						Sebastianof.
Kasan			30.67	779.1	24.1	— 4.4	98	SSE	4	2			1						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.67	753.5	30.67	779.0	32.2	0.1	49	WSW	7	3			7						Meteorological Obs.
Nukuss			30.37	771.4	35.2	1.8	50	ENE	13	6			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.37	771.5	17.8	— 7.9	71	NW	4	2			10						Meteorological Obs.
Yeniseisk			29.92	759.9	14.2	— 9.9	75	W	9	4			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.23	767.7	34.2	1.2	57	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.80	757.0	27.9	— 2.3	79	NW	20	9			1						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.72	754.8	65.7	18.7	78	S	17.9	8.00		0	9			0.287	7.3	Almost cov'd	Royal Observatory.
San Fernando			29.76	755.8	74.8	23.8	60	SE	15.4	6.9		6	3	NW	NW	0.161	4.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.05	763.2	25.5	— 3.6	100	E			2		10					Snowing	
Umea			29.86	758.4	33.1	0.6	89	S			2		10			0.122	3.1		
Hernosand			29.82	757.4	28.4	— 2.0	88	SSW			2		2			0.315	8.0		
Stockholm			30.04	762.9	25.2	— 3.8	89	SW			2		4			0.039	1.0		
Wisby			30.08	764.1	36.7	2.6	65	ESE			4		5			0.035	0.9		
SUB-SERIES.																			
Upsala			30.02	762.6	27.1	— 2.7	87	SSW	10.3	4.6			10			0.020	0.50		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.43	722.0	29.86	758.5	49.8	9.9	88	NNE			2		3			1.146	29.1	Clouds	The Observatory.
Zurich	28.23	717.0	29.90	759.4	44.8	7.1	80	W			1		3			0	0	Fair	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —4.3 mm; Thermometer, +2.2 cent.; Relative Humidity, +11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			30.06	763.4	37.4	3.0	98	NW	0	0			10		NW	Inap.	Inap.		
Fao, (Persian Gulf)																			
Salonica			30.05	763.3	55.8	13.2		SW			1		0						
Valona			30.02	762.6	51.3	10.7		E			1		10						
Varna			29.69	754.0	32.0	0.0		N			3		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.97	761.3	67.1	19.5	63	SW			3		7n		SW	0.44	11.2	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			29.72	754.9	39.8	4.3	93	NE	19	8.5			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.05	763.3	37	2.8		Calm	0	0			10s		NW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			29.66	753.4	41	5.0	98	N	9	4.0			10s		N	0.44	11.2	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.62	752.3	44	6.7	95	E	3	1.3			10s			0.140	3.56	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.99	761.7	36.7	2.6	84	W			1		10s			0	0	Unsettled	James Smith, M. A.
Dalhousie, N. B			29.79	756.7	39	3.9	95	NE			1					0.25	6.3	Misty	H. A. Johnson.
Esquimault, B. C			29.96	761.0	38.1	3.4	100	N					10			0.23	5.8	Rainy	W. H. Bevis.
Fredericton, N. B			29.70	754.4	42.1	5.6	91	NW	6	2.7			10ks			0.175	4.45	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.68	779.3	— 1	—18.3	97	N	12	5.4		0	2s			0.094	2.39	Fair	James Stewart.
Goderich, Ontario			30.08	764.0	47.2	8.4	86	S			1	10k		S		0	0	Unsettled	H. J. Strang, M. A.
Granton, Ontario	.8.86	733.0	29.98	761.5	40	4.4		S			2	8k	0			0	0	Cloudy	James Grant.
*Halifax, N. S			29.56	750.8	43	6.1	98	SW	2	0.9			10n			0.19	5.06	Light rain	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.04	763.0	34	1.1	95	Calm	0	0		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.60	751.8	42.0	5.6	100	SE	8	3.6			10n			1.22	31.0	Raining	C. H. Rigby.
*Montreal, Quebec			29.96	761.0	36	2.2	85	W	15	6.7		0	5s			Inap.	Inap.	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			30.00	762.0	38	3.3	76	W	6	2.7		10k	0	W		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.99	761.7	35	1.7	85	E	4	1.8		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.03	762.7	34	1.1	89	N	4	1.8		10k	0	W		0	0	Fair	H. Morgan.
Port Hastings, N. S			29.63	752.6	46.9	8.3		S	2	0.9						0	0	Foggy	Peter Grant.
Port Stanley, Ontario			30.01	762.2	38	3.3	95	SE	4	1.8			10n		W	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.93	760.2	34	1.1	100	Calm	0	0			Fog			0.15	3.8	Foggy	Capt. Ashe, R. N.
St. John, N. B			29.64	752.8	44	6.7	92	N	3	1.3			10n			0.53	13.59	Cloudy	G. Murdoch, C. E.
*Sangeen, Ontario			29.93	760.2	39	3.9	87	Calm	0	0		5c	2s			0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.99	761.7	32	0.0	94	SE	4	1.8		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	.8.68	728.5	30.00	762.0	34.4	1.3	98	Calm	0	0		3c	Fog	NW		0	0	Foggy	C. J. MacGregor, M. A
*Sydney, C. B			29.63	752.6	44	6.7	99	NE	1	0.4			10n			1.02	25.9	Light rain	T. C. Hill.
*Toronto, Ontario			30.02	762.5	33	0.6	95	NE	2	0.9		2cs	Haze	W		0	0	Fair	Magnetic Observatory.
Woodstock, Ontario			30.00	762.0	36.0	2.2										0.20	5.1		J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.19	766.8	37.0	2.8	100	E	5	2.2						0.01	0.3	Misty	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Gr[illegible] is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error. Inches.	Barometer. Corrected for instrumental error. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.*	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.96	761.0	39	3.9	63	NW	1	0.4		1k	0			0	0	Clear	
Alpena, Mich.			29.90	759.4	40	4.4	91	Calm	0	0			10s		SW	0	0	Cloudy	
Atlantic City, N. J.			30.05	763.3	40	4.4	82	Calm	0	0		0	Haze			0	0	Clear	
Augusta, Ga.			30.28	769.1	40	4.4	82	Calm	0	0		5cs	Haze	N		0	0	Fair	
Baltimore, Md.			30.08	764.0	42	5.6	74	Calm	0	0		2c	Fog			0	0	Foggy	
Barnegat, N. J.			30.03	762.7	45	7.2	71	W	10	4.5		0	0			0	0	Clear	
Bismarck, Dakota	28.83	732.3	30.80	782.3	2	—16.7	72	N	1	0.4		0	0			0.05	1.3	Clear	
Boston, Mass.			29.85	758.2	40	4.4	73	W	17	7.6		1cs	0	W		0.02	0.5	Clear	
Breckenridge, Minn.			30.61	777.5	5	—15.0	75	NW	24	10.7		0	0			Inap.	Inap.	Clear	
Buffalo, N. Y.			29.98	761.5	42	5.6	83	S	3	1.3		1c	Fog			0	0	Foggy	
Burlington, Vt.			29.96	761.0	38	3.3	71	N	6	2.7			10s			0.02	0.5	Cloudy	
Cairo, Ill.			30.13	765.3	58	14.4	75	S	4	1.8			10ks		S	0	0	Cloudy	
Cape Hatteras, N. C.			30.10	764.5	55	12.8	73	W	6	2.7		5cs	Sm'e			0	0	Fair	
Cape Henry, Va.			30.11	764.8	50	10.0	79	W	4	1.8		8c	0	W		0	0	Fair	
Cape Lookout, N. C.			30.20	767.1	60	15.6	66	W	11	4.9		2c	Haze	S		0	0	Fair	
Cape May, N. J.			30.05	763.3	50	10.0	85	NW	6	2.7		0	0			0	0	Clear	
Charleston, S. C.			30.27	768.8	51	10.6	72	W	4	1.8		2cs	Sm'e			0	0	Fair	
Cheyenne, Wyoming	24.25	615.9	30.19	766.8	7	—13.9	100	NW	2	0.9		0	1s			Inap.	Inap.	Clear	
Chicago, Ill.			29.99	761.7	49	9.4	77	SW	8	3.6			10s			0	0	Cloudy	
Cincinnati, Ohio			30.05	763.3	57	13.9	75	SW	3	1.3			10ks		NW	0	0	Cloudy	
Cleveland, Ohio			30.00	762.0	56	13.3	74	S	10	4.5			10s		S	0	0	Cloudy	
Corsicana, Tex.			29.98	761.5	66	18.9	90	SE	8	3.6			10s		SE	0.04	1.0	Cloudy	
Davenport, Iowa			30.18	766.6	35	1.7	80	NW	10	4.5			10s			0	0	Cloudy	
Denison, Tex.			29.93	760.2	66	18.9	89	SE	6	2.7			10s		S	0	0	Cloudy	
Denver, Col.	25.11	637.8	30.33	770.4	18	— 7.8	84	SE	4	1.8			10s			0.38	9.7	Cloudy	
Detroit, Mich.			29.94	760.5	50	10.0	78	SW	5	2.2			10s		W	0	0	Cloudy	
Dodge City, Kan.	27.76	705.1	30.28	769.1	17	— 8.3	92	N	36	16.1			10s		N	0.04	1.0	Cloudy	
Dubuque, Iowa			30.14	765.5	37	2.8	80	NW	12	5.4			10s			0	0	Cloudy	
Duluth, Minn.			30.28	769.1	23	— 5.0	73	W	8	3.6		8k	0	W		0.06	1.5	Clearing	
Eastport, Me.			29.62	752.3	44	6.7	100	N	18	8.0			10s		N	0.66	16.8	Cloudy	
Erie, Pa.			29.98	761.5	51	10.6	78	S	10	4.5		8ck	Fog	W		0	0	Fair	
Escanaba, Mich.			29.96	761.0	42	5.6	79	NW	9	4.0			10s		NW	0	0	Cloudy	
Fort Gibson, Indian Ter.			30.08	764.0	42	5.6	83	N	13	5.8			10s		N	0.01	0.3	Threatening	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.01	736.8	30.13	765.3	53	11.7	79	N	30	13.4			10s			Inap	Inap.	Cloudy	
Fort Sully, Dakota	28.92	734.6	30.85	783.6	— 1	—18.3	84	NW	4	1.8		0	5s			0.20	5.1	Fair	
Florence, Arizona	28.49	723.6	30.02	762.5	51	10.6		W				0	0			0.79	20.1	Clear	
Galveston, Tex.			30.05	763.3	71	21.7	85	SE	8	3.6			10s			0.09	2.3	Cloudy	
Grand Haven, Mich.			29.92	760.0	53	11.7	86	SW	8	3.6			10s		SW	0	0	Cloudy	
Indianapolis, Ind.			30.03	762.7	57	13.9	87	SW	1	0.4		2ck	5s, fg	W		Inap.	Inap.	Clearing	
Indianola, Tex.			29.98	761.5	74	23.3	81	SE	10	4.5			10s		S	0	0	Cloudy	
Jacksonville, Fla.			30.28	769.1	48	8.9	77	Calm	0	0		0	0			0	0	Clear	
Keokuk, Iowa			30.21	767.3	34	1.1	79	NW	12	5.4			10s		NW	0	0	Cloudy	
Key West, Fla.			30.15	765.8	66	18.9	90	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, N. C.			30.25	768.3	51	10.6	78	W	11	4.9		0	8s		W	0	0	Cloudy	
Knoxville, Tenn.			30.31	769.6	39	3.9	81	NE	4	1.8		0	Fog			0	0	Fair	
La Crosse, Wis.			30.18	766.6	33	0.6	79	NW	15	6.7			10s		NW	0	0	Cloudy	
Leavenworth, Kan.			30.33	770.4	28	— 2.2	77	N	20	8.9			10s		N	0	0	Cloudy	
Louisville, Ky.			30.10	764.5	59	15.0	70	S	7	3.1			10s		S	0	0	Cloudy	
Lynchburg, Va.			30.12	765.0	51	10.6	64	Calm	0	0		0	Sm'e			0	0	Smoky	
Malone, N. Y.			29.96	761.0	37	2.8	80	W	5	2.2			10s		W	0.02	0.5	Cloudy	
Marquette, Mich.			29.98	761.5	40	4.4	73	NW	12	5.4			10s			0	0	Cloudy	
Memphis, Tenn.			30.19	766.8	57	13.9	81	S	6	2.7		5cs	Sm'e	SW	S	0	0	Fair	
Milwaukee, Wis.			30.00	762.0	46	7.8	76	NW	19	8.5		10s	Fog			0	0	Cloudy	
Mobile, Ala.			30.22	767.6	59	15.0	81	SE	4	1.8		5c	5s	SE	SE	0	0	Cloudy	
Montgomery, Ala.			30.29	769.4	45	7.2	88	Calm	0	0		10c	Fog			0	0	Cloudy	
Morgantown, W. Va.	29.04	737.6	30.09	764.3	55	12.8	61	SW	4	1.8		10c	Sm'e	W		0	0	Cloudy	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	20	— 6.7	100	N	48	21.5			Fog			0.28	7.1	Foggy	
Nashville, Tenn.			30.18	766.6	55	12.8	74	Calm	0	0		10k	0	W		0	0	Cloudy	
New Haven, Conn.			29.96	761.0	41	5.0	75	NW	12	5.4		Haze	Sm'e			0	0	Clear	
New London, Conn.			29.93	760.2	44	6.7	67	NW	4	1.8		0	0			Inap.	Inap.	Clear	
New Orleans, La.			30.16	766.1	62.5	16.9	75	E	5	2.2		1c	5k	NW	S	0	0	Fair	
Newport, R. I.			29.90	759.4	42	5.6	75	W	11	4.9		0	0			0.02	0.5	Clear	
New York, N. Y.			30.02	762.5	42	5.6	65	W	5	2.2		0	Haze			0	0	Clear	
Norfolk, Va.			30.12	765.0	48.5	9.2	74	SW	2	0.9		5c	Fog			0	0	Fair	
North Platte, Neb.	27.54	699.5	30.43	772.9	9	—12.8	78	N	20	8.9			10s			0.35	8.9	Cloudy	
Omaha, Neb.	29.32	744.7	30.51	774.9	18	— 7.8	92	NW	16	7.2			10n			0.03	0.8	Light snow.	
Oswego, N. Y.			30.04	763.0	37	2.8	90	S	2	0.9		0	Haze			0	0	Hazy	
Pembina, Dakota			30.95	778.5	2	—16.7	86	NW	20	8.9		0	2ks		NW	0.03	0.8	Clear	
Philadelphia, Pa.			30.05	763.3	44	6.7	67	NW	4	1.8		0	Sm'e			0	0	Smoky	
Pike's Peak, Col.	17.63	447.8	29.84	757.9	2	—16.7	100	NE	15	6.7			10n		NE	0.32	8.1	Light snow.	
Pittsburgh, Pa.			30.03	762.7	56	13.3	62	W	8	3.6		2cs	8s	W	W	0	0	Cloudy.	
Port Huron, Mich.			29.94	760.5	48	8.9	85	SW	8	3.6			10s,sm'		W	0	0	Smoky	
Portland, Me.			29.80	756.9	45	7.2	60	NW	14	6.3			10s			0. 0	10.2	Cloudy	
Portland, Oregon			30.19	766.8	38	3.3	81	Calm	0	0			10n			0.31	7.9	Light rain	
Punta Rassa, Fla.			30.22	767.6	62.0	16.7	82	NE	6	2.7		2ck	0	NE		0	0	Fair	
Rochester, N. Y.			30.00	762.0	37	2.8	80	SW	5	2.2		2c	Fog	W		0	0	Fair	
Salt Lake City, Utah	25.86	656.8	30.19	766.8	28	— 2.2	86	E	6	2.7		0	0			0	0	Clear	
Sandy Hook, N. J.			29.99	761.7	44	6.7	67	W	20	8.9		0	0			0	0	Clear	
San Diego, Cal.			30.01	762.2	52	11.1	32	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.12	765.0	50	10.0	82	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.23	590.0	29.77	756.1	26	— 3.3	88	N	5	2.2			10n			0.26	6.6	Light snow.	
Savannah, Ga.			30.30	769.6	48	8.9	37	W	4	1.8		5c	Sm'e			0	0	Fair	
Shreveport, La.			30.13	765.3	62	16.7	83	SE	4	1.8			10s			0	0	Cloudy	
Smithville, N. C.			30.22	767.6	52	11.1	64	W	4	1.8		8c	0	NW		0	0	Cloudy	
Springfield, Mass.			29.93	760.2	42.5	5.8	65	W	4	1.8		0	0			0.04	1.0	Clear	
St. Louis, Mo.			30.12	765.0	48	8.9	77	NE	8	3.6			10s			0.02	0.5	Cloudy	
St. Marks, Fla.			30.29	769.4	41	5.0	91	N	4	1.8		Haz	0			0	0	Fair	
St. Paul, Minn.			30.30	769.6	20	— 6.7	85	NW	14	6.3			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.84	757.9	42	5.6	75	NW	24	10.7		0	1s		NW	0.25	8.9	Clear	
Toledo, Ohio			29.95	760.7	53	11.7	71	S	12	5.4			10s		S	0	0	Cloudy	
Tucson, Arizona	27.53	699.2	30.08	764.0	49	9.4		E				1cs	0	SW		0	0	Clear	
Tybee Island, Ga.			30.28	769.1	54	12.2	68	W	4	1.8		2c	Sm'e	W		0	0	Smoky	
Vicksburg, Miss.			30.29	767.6	56.5	13.6	90	SE	9	4.0		10c,cs	0			0	0	Fair	
Virginia City, M. T.	24.40	619.8	29.88	758.9	14	—10.0	63	Calm	0	0		1k	0	NW		0	0	Clear	
Washington, D. C.			30.09	764.3	39	3.9	91	NW	2	0.9		Fog	5c			0	0	Fair	
Wilmington, N. C.			30.21	767.3	50	10.0	71	W	5	2.2		8cs	Haze	NW		0	0	Hazy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.88	758.9	45	7.2	67	NW	18	8.0		0	0			0	0	Clear	
Yankton, Dakota	29.24	742.7	30.69	779.5	11	—11.7	80	NW	20	8.9			10s			0.03	0.8	Cloudy	
Yuma, Arizona			30.05	763.3	57	13.9		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.08	764.0	76	24.4	82	Calm	0	0		8c	8n		SE	0.03	0.8		James Gall.
Navassa, W. I.								NE			3					0.10	2.5	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.15	689.6	29.93	760.2	78	25.6		N	2.0	0.9		8c	2k	N		0.19	4.8	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			29.91	759.7	65	18.3	90	SE			2	4k	5ks	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.04	762.9			81	27.2	87	E								0.709	18.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			79.7	26.5		Calm			0	2cs	6s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			30.54	775.7	62.8	17.1	90	N	14	6.3		0	6s		N	0.04	1.0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	— 6.0	—21.1	81	S			1					0	0		Daniel Smith.
Makawao, Maui, H. I.					74	23.3													F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Hyannis, Mass.			29.84	757.9	43	6.1	83	NW	10	4.5		0	0					Clear	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 14, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:14 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.78	756.5	69.6	20.9	67	Calm			0		8			0	0	Cloudy	Charnot.
Algiers			29.83	757.6	82.4	28.0	33	W			1		4			Inap.	Inap.	Fair	Peter.
La Calle			29.89	759.1	72.3	22.4	62	NE			2		2			0	0	Clear	Fleury.
Tunis			29.95	760.8	75.2	24.0	46	WSW			1		4			0	0	Fair	Jacques.
Stax			30.03	762.7															
Salda			29.94	760.4	73.4	23.0	18	SW			4		2			0	0	Clear	Millot.
Tebessa			30.00	761.9	65.3	18.5		SW			2		0			0	0	Clear	Bourgeois.
Geriville			30.04	763.1	64.9	18.3	69	SSW			5		3			0	0	Fair	Lemaillot.
Laghouat			30.04	763.1	67.6	19.8	23	S			4		6			0	0	Fair	Guyot.
Biskra			29.98	761.4	72.1	22.3	30	N			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.10	764.6	36.3	2.4	93	NE			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.08	763.9	33.4	0.8	82	NE			2		10			0	0		Dr. Wierzbiski.
Eperies			30.15	765.7	24.4	— 4.2	81	Calm			0		3cs			0	0		Julius Mikolik.
Gratz	28.82	732.1	30.14	765.5	33.8	1.0	82	SW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.64	727.4	30.15	765.7	26.4	— 3.1	80	SE			1		0			0	0		Prof. Reissenberger.
Kremsmünster	28.63	727.3	30.04	762.9	33.1	0.6	92	ENE			2		10			0	0		Prof. C. Wagner.
Lemberg			30.08	763.9	32.5	0.3	98	S			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.06	763.5	51.3	10.7	83	NNW			1		10s			0.010	0.25		I.R.Hydrographic Of'ce
Szegedin			30.14	765.6	24.3	— 4.3	79	N			2		5			0	0		Karl Stancel.
Trieste			30.08	763.9	49.3	9.6	96	Calm			0		10			0	0		Prof. V. Farolfi.
Vienna			30.10	764.4	30.7	— 0.7	96	SE			2		10			0.079	2.0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.67	753.7	57.9	14.4	81	SSE			1		8ck,k		SW	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.77	756.1	42.5	5.8		SE	35	15.6			10			0.070	1.78	Raining	William Boswell.
Ardrossan			29.53	750.0	44	6.7		ENE			4		9					Raining	William McNeil.
Armagh, Observatory			29.33	745.0	48.3	9.1		E	18	8.0			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.21	741.9	56.1	13.4		SE			1		10					Raining	J. Dreyer.
Bradford			29.58	751.3	45.3	7.4		S			2		10			0.19	4.8	Raining	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	82.0	27.8		NE			3		7					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.54	750.3	60.4	15.8		SE			2		7					*D. clouds	H. Todd. [H.C.
Cardington			29.55	750.6	57.6	14.2		SE			1		5					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.59	751.6	58.4	14.7							4					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.06	711.2	29.46	748.3	54.0	12.2		S			4		10					Drizzling	R. F. Power.
Davos Platz, (Switzerland)	24.71	627.6			50.0	10.0	59	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.40	746.7	48	8.9		ESE			6		10					Raining	J. Mac Gowan.
Dover			29.59	751.6	58	14.4		E			1		0					Clear	J. Costello.
Eccles, (near Manchester)			29.49	749.0	50.9	10.5		E	4.6	2.1			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.30	744.2	56.0	13.3		SSE			5		10					Raining	The Staff.
Fort Napier, (Natal)	27.08	687.4	29.92	760.0	69.7	20.9		SE			3		9					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	79.0	26.1		Calm?			2?		3					*D. clouds	
Galway, Queen's College			29.14	740.1	50	10.0		SE			2		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.75	755.6	69.0	20.6		E			3		8					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.55	750.6	42.8	6.0		ENE			4		10					Raining	Lewis Stuart.
Great Yarmouth			29.67	752.3	51	10.6		SE			4		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.56	750.8	63.1	17.3		SSE			1		7			Blank	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.41	747.0	58.5	14.7		SSE			4		7					*D. clouds	Dr. S. E. Heskins.
Helston			29.30	744.2	58	14.4		SE			6		10n			0.25	6.3	Raining	M. P. Moyle.
Holyhead			29.32	744.7	52	11.1		ESE			3		10.					Drizzling	John Tilston.
Kew, Observatory			29.54	750.3	61.1	16.2		SE	9	4.0			7					Misty	The Staff.
Kingstown			29.32	744.7	52	11.1		SE			4		10					Raining	George Mitchell.
Leicester Museum			29.55	750.6	53.2	11.8		E			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.97	761.2	69.0	20.6		SE			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.69	754.1	43	6.1		E			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.09	764.3	75.5	24.2		N			7		5						Surg. Maj. Henry.
Nottingham, Observatory			29.54	750.3	51.7	10.9		ESE			1		10s		ESE	0.024	0.61	Foggy	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.49	749.0	50.2	10.1		E			2		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.48	748.8	59	15.0		SE			1		10					Misty	J. Lucas.
Plymouth			29.35	745.5	56.2	13.3		ESE			2		10					Raining	John Merrifield.
Roche's Point			29.16	740.7	55	12.8		SSE			6		10					Raining	W. Kennedy.
Saint Ann's Head			29.27	743.4	55	12.8		SE			5		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.42	747.3	61.0	16.1		SSW			4		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.81	757.2	40.5	4.7		ESE	28	12.5			10					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.10	764.5	36.8	2.7		N			2		10					Gloomy	Sergt. W. H. Lyne.
Sheffield			29.57	751.1	47.5	8.6		NE			1		10					Foggy	W. F. Cooper.
Silloth Rectory			29.41	747.0	49.3	9.6	85	SE			6		10			0.209	5.31	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			29.52	749.8	41.4	5.2		NE			3		10			0.58?	14.78	Raining	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.56	750.8	44	6.7		ESE			6		10					Overcast	John Smith.
Stratfield Turgiss			29.50	749.3	61.0	16.1		SE			0		4					*D. clouds	Rev. Charles H. Griffith.
Thurso			29.76	755.9	42	5.6		ESE			5		9					Showery	John Trotter.
Truro, Royal Institution			29.31	744.5	58	14.4		SE			6		10					Raining	W. Newcombe.
Valencia, Observatory			29.04	737.6	58.3	14.6		SE	23	10.3			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					43	6.1		ESE			7		10			0.30	7.6		Thomas Dawson.
Cape Good Hope, Obs'y			30.11	764.8	73.0	22.8	44	S	33	14.8		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.83	757.7	68.0	20.0	68	NW			2		8k			0.01	0.3	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.65	753.1	43.1	6.2		E			4		10n			0.11	2.8	Overcast	Andrew Gibb.
Mauritius, Observatory			29.98	761.5				E	19.0	8.5						0	0		C. Meldrum.
Melbourne, Observatory			29.74	755.4	74.9	22.8	47	NE	10	4.5			0			0	0	Fine, sultry	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.47	748.5	46	7.8		SE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.99	761.7	42	5.6		SSE			6	3	5	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot to Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 9 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.90	759.4	36.0	2.2	94	E			6		10						
Faröe			29.92	760.0	34.0	1.1	100	NE			2		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.34	745.2	40.5	4.7	98	SE			7		10						
Thorshavn, (Faröe)			29.90	759.4	41.7	5.4	60	SE			6		6					Raining	
Vestervig			29.95	760.8	32.0	0.0	98	NE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.63	752.7	46.4	8.0	73	SW			4		8k		SW	0	0	Very cloudy	Normal School.
Amiens			29.64	752.9	60.1	15.6	79	SSW			3		2		SW	0	0	Slightly cl'dy	Normal School.
Avignon			29.91	759.8	68.0	20	58	SSE			2		5		S	0	0	Cloudy	Normal School.
Bar-sur-Seine			29.71	754.6	64.9	18.3	65	SSW			2		2			0	0	Slightly cl'dy	C. Saillard.
Beaumette, (near Angers)			29.54	750.2	66.7	19.3	59	S	4.0	1.8					S	0	0		Beaumette Observ'tory.
Beauvais			29.66	753.4	59.9	15.5	71	SSE			1		2		SSE	0	0	Slightly cl'dy	Normal School.
Besançon			29.84	757.9	52.9	11.6	87	E			2		0			0	0	Clear	Normal School.
Bourg en Bresse			29.93	760.1	65.5	18.6	56	N			6		5n		S	0	0	Cloudy	Normal School.
Bourges			29.67	753.7	62.8	17.1	81	E			2		2		SE	0	0	Slightly cl'dy	Normal School.
Brest			29.32	744.6	48.8	14.9	89	SW			4		10		SSW	0.010	0.26	Raining	Naval Observatory.
Carcassonne			30.10	764.5	58.5	14.7	55	E			6		10		W	0.031	0.8	Covered	Normal School.
Caen																			Normal School.
Chartres			29.58	751.4	64.6	18.1	99	SW			2		5		W	0	0		Normal School.
Châlons-sur-Marne			29.72	755.0	64.2	17.9	76	SSE			2		5ck		NNW	0	0	Cloudy	Normal School.
Clermont			29.72	754.8	63.0	17.2	80	S			4		5		S	0	0		Puy de Dome Obs'y.
Commercy			29.78	756.5	60.8	16	71	SSE			4		5ck		SSE	0	0	Partly cl'dy	Normal School.
Commune de Gréasque*			28.98	761.6	64.0	17.8	63	SE			2		8		SE	0	0		M. Kina.
Grenoble			29.85	758.2	61.2	16.2	58	NE			4		2cs		S	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					64.8	18.2	69	SE			2		8		E	0	0	Very cloudy	Normal School.
Le Mans			29.57	751.0	62.8	17.1	72	S			2		5		S	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.82	757.5	63.9	17.7	63	SW			6		0			0	0	Clear	Normal School.
Lorient			29.45	747.9	59.7	15.4	83	SSE			4		10			0.350	8.9	Raining	Naval Observatory.
Mâcon			29.87	758.6	61.2	16.2	79	SSE			8		0			0	0	Clear	Normal School.
Metz			29.87	758.7	52.9	11.6	95	ESE			2		5s		E	0	0		M. Schuster.
Mirecourt			29.78	756.4	50.2	10.1	64	WSW					2		ENE	0	0	Slightly cl'dy	Normal School.
Nismes			29.92	759.9	64.8	18.2	71	SW			2		2		S	0	0	Slightly cl'dy	Normal School.
Orleans			29.62	752.3	63.7	17.6	87	SE			2		0			0	0	Clear	Normal School.
Paris, Observatory			29.65	753.1	63.7	17.6	60	SE			2		2			0	0	Slightly cl'dy	National Observatory.
Parthenay																			Normal School.
Privas			29.89	759.3	63.0	17.2		SW			2		2		SW	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.55	750.5	64.4	18.0	72	SE			5		10		NE	0	0	Covered	Naval Observatory.
Rouen			29.60	751.9	65.1	18.4	59	SE			2		0			0	0	Clear	Normal School.
Saint Lo																			Normal School.
Tarbes	28.86	733.0	29.93	760.3	55.4	13		WNW			2		10			0	0	Covered	Normal School.
Villefranche			29.77	756.1	68.0	20	70	SSE			6		2		NW	0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.78	756.3	81.1	27.3													L'Abbé Marchési.
Marseilles			29.89	759.1	68.4	20.2	55	E			3		7			0	0	Cloudy	Marseilles Observatory.
Mont-Louis	24.72	627.9	30.02	762.5	53.2	11.8	86	SSW	31.7	14.17			4		SW	0	0		—. Falguère.
Montsouris, Paris			29.65	753.1	66.7	19.3	61	SSE			2	3c		SSE		0	0		Montsouris Observatory
Perpignan			29.73	755.1	72.3	22.4	59	S	16.8	7.50			2		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.05	534.6			37.0	2.8		SSW			4–6		8					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.28	566.0			44.6	7.0		SSW			4		9			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.65	753.2	65.3	18.5	60	SSE			2		0			0	0		E. Renou.
Toulouse			29.68	753.8	66.4	19.1	64	SSE			8		5			0	0		Toulouse Observatory.
Tours			29.59	751.5	59.4	15.2		S			1		5		SW	0	0		C. Marquet.
Versailles, (near Paris)			29.66	753.4	63.0	17.2	74	S			2		4			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.18	766.6	48.6	9.2	97	Calm	0	0			10			0.051	1.3		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.89	759.3	38.8	3.8	87	SE			2		4	SE		0	0		Prof. T. Hoh.
Berlin			29.90	759.4	46.0	7.8	86	S			1		8			0.134	3.4		Prof. Arndt.
Breslau			29.98	761.6	41.0	5.0	88	SE			2		10			0.116	2.8	Rain, fog	Royal University Obs'y
Carlsruhe			29.89	759.1	55.8	13.2	71	NE			1		0			0	0		A. Senz.
Cassel			29.91	759.6	53.2	11.8	82	SW			2		10	SW		0	0		Dr. H. Möhl.
Emden			29.89	759.3	41.0	5.0	97	NE			1		10			0	0		Prof. Prestel.
Frankfort on the Main			29.89	759.3	50.2	10.1	67	E			1		2			0	0		Physical Society.
Friedrichshafen			29.98	761.5	40.6	4.8	97	W			1		10			0	0		M. Wilhelm.
Hamburg			29.85	758.3	40.1	4.5	98	SE			1		10			0.028	0.7	Foggy	Captain F. Hegemann.
Kiel			29.86	758.6	37.8	3.2	92	E			3		10			0.008	0.2		Prof. G. Karsten.
Königsberg, (Prussia.)			29.99	761.8	33.4	0.8	81	SE			5		10			Inap.	Inap.		Prof. E. Luther.
Köslin			29.94	760.4	36.5	2.5		Calm			0		8			0	0		H. Müller.
Leipsic			29.90	759.5	9.9—12.3		83	S			2		8	SW		0.150	3.8		Prof. Bruhns.
Memel			30.00	761.9	33.1	0.6	94	S			3		10ks			0	0		Reinbrecht & Skalweit.
Münster			29.74	755.5	55.8	13.2	91	SW			1		4			0.122	3.1		Prof. E. Heis.
Neufahrwasser			29.96	760.9	32.4	0.2	92	S			2		10			Inap.	Inap.	Light rain	A Lothe.
Posen			29.97	761.3	39.7	4.3	92	W			1		10						Dr. Magener.
Strassburg, (in Alsace)			29.87	758.6	52.0	11.1	86	Calm			0		4			0	0		Dr. Schur.
Stuttgart			29.84	758.0	55.8	13.2	73	E			1		4			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.75	755.7	54.1	12.2	88	NE			1		1			0.008	0.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.40	721.4	29.93	760.1	46 0	7.8	93	Calm	0	0			4			0	0		Dr. von Bel ber.
Wustrow, Naval School			29.91	759.8	37.0	3.1	96	SSE			2		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 27°, 5′, W. 17°, 22′.			29.90	759.4	74.7	23.7	81	WSW			4–		8		WSW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.10	764.5	52.0	11.1		NE										Cloudy	

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

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			30.03	762.8	47.3	8.7	69						10			0	0		Prof. Giovanni Clodig
Padua			30.04	763.0	48.4	9.1	66	N	0.7	0.3			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.04	763.1	50.0	10.0	56	SE	0.7	0.3			0			0	0		Alm. Da Schio.
Verona			30.05	763.3	50.0	10.0	62	E			2		0			0.10	2.6		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.04	763.1	46.8	8.2	74	NW			2		1			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.07	763.7	46.8	8.2	61	S			1		9			0	0		Prof. Gio. Cantoni.
Moncalieri			30.06	763.5	46.9	8.3	70	SE	0.7	0.3			3	NE		0	0		Prof. P. F. Denza.
Mondovi	*28.10	713.7	30.06	763.4	49.3	9.6	68	NE			2		9			0	0		Prof. C. Bruno.
Porto Maurizio			30.02	762.4	63.3	17.4	69	E			2		2	E		0	0		Prof. L. Vassallo.
Genoa			30.00	761.9	51.1	10.6	88	NE	1.3	0.6			10	E		0.181	4.6	Raining	Prof. Garibaldi.
Piacenza			30.07	763.7	44.8	7.1	67	W	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			30.08	764.1	44.8	7.1	70	W			2		10			0.008	0.2	Light rain	Prof. P. Pigorini.
Bologna			30.09	764.3	46.6	8.1	36	NW			1		7	S		0	0		Prof. A. Palagi.
Florence			30.02	762.6	59.9	15.5	89	N			2		10	N		0	0		Cav. F. Meucci.
Leghorn			29.98	761.6	62.6	17.0	77	S	5.0	2.5			8	ENE		0	0		Prof. P. Monte.
Siena	28.78	730.9	30.00	762.1	58.8	14.9	85	ESE	0	0			4	W		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.09	764.2	44.8	7.1	79	N	13.0	5.8			10			0	0		Prof. Luigi Guidi.
Ancona			30.07	763.7	46.4	8.0	33	W			4		10			0	0		Prof. F. De—Bosis.
Grosseto			29.99	761.7	65.5	18.6	64	NNW			4		3	S		0	0		Avv. P. Ponticelli.
Rome			29.98	761.6	67.1	19.5	60	N	2.5	1.1			1			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U			30.02	762.5	68.0	20.0	61	N			1		2	NE		0	0		Prof. L. Palmieri.
Lecce			30.08	764.0	57.6	14.2	72	NNE	6.3	2.8			5			0	0		Prof. C. De—Giorgi.
Cosenza			30.08	764.0	58.5	14.7	78	SE	1.3	0.6			10			0.01	0.3	Light rain	Prof. F. D. Conti.
Riposto, (Sicily)			30.06	762.0	62.8	17.1	88	SE			2		9	NW		0	0		Prof. F. Cafiero.
Palermo			29.93	760.3	71.2	21.8	63	Calm	0	0			10			0	0		Prof. G. Cacciatore.
Caltanissetta	28.07	712.9	30.02	762.5	60.8	16.0	73	S			1		10	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.02	762.5	63.3	17.4	69	NE	1.8	0.8			1	W		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei																			

NETHERLANDS' SERIES.

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

Flushing			29.70	754.4	54.3	12.4		SE			3								
Groningen			29.74	755.4	38.5	3.6					3								
Helder			29.74	755.4	41.0	5.0		E			2								
Utrecht			29.71	754.5	55.9	13.3	85	SE			2		6			0	0	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			30.04	762.9	28.8	— 1.8	80	Calm	0	0			0			0	0		
Brönø			29.95	760.7	35.6	2.0	82	SSW	18	8			10			0.394	10.0	Light rain	
Christiania			30.10	764.4	23.9	— 4.5	84	SE	0	0			2			0	0		
Tromsö			29.90	759.5	30.2	— 1.0	78	SW	13	6			10			0.164	6.7	Light snow	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.45	748.1	58.1	14.5	76	WNW	6.9	3.1			5			0.433	11.0		Dr. J. A. Sampaio.
Campo Major			29.58	751.3	59.4	15.2	89	SSW	16.8	7.5			9	SSW		0.732	18.6		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.50	749.3	63.3	17.4	78	WNW	7.2	3.23			10			0.768	19.5	Raining	Capt. D. A. de Cunha.
Lisbon			29.50	749.3	61.2	16.2	79	SSW	26.2	11.7			9			1.252	31.8		The Observatory.
Ponta Delgada, (Azores)			29.43	747.6	63.7	17.6	56	N	8.7	3.89			4	SE		0.150	3.8		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.04	763.1	29.1	— 1.6	90	SSE	11	5			10						Astronomical Obs.
Wilna			30.13	765.4	36.1	2.3	91	SE	2	1			10						Astronomical Obs.
Dorpat			30.10	764.4	35.4	1.9	93	S	4	2			10						Physical Cabinet.
St. Petersburg			30.13	765.3	33.6	0.9	97	S	11	5			10						Central Physical Obs.
Kuopio			30.00	762.0	30.4	— 0.9	100	S	13	6			10						Ch. Forsten.
Kieff			30.11	764.7	33.6	0.9	98	N	4	2			10					Foggy	Physical Cabinet.
Nikolaiev			30.02	762.5	36.1	2.3	94	SE	13	6			10					Raining	Kurdakof
Kertch			29.96	761.0	39.4	4.1	98	W	9	4			10						Lagorio.
Moscow			30.44	773.1	19.0	— 7.2	87	S	7	3			0						Meteorological Obs.
Lugan			30.02	762.4	36.1	2.3	93	E	25	11			10			Blank	Blank		Meteorological Obs.
Archangel			30.09	764.3	32.4	0.2	92	SSW	22	10			10						Ogorodnikof.
Tiflis	28.65	727.6	30.07	763.7	55.4	13.0	67	Calm	0	0			8						Physical Observatory.
Astrakhan			30.19	766.7	39.9	4.4	60	E	27	12			9						Sebastianof.
Kasan			30.65	778.6	16.2	— 8.8	85	Calm	0	0			0						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.63	752.6	30.63	778.1	30.4	— 0.9	92	SW	7	3			8						Meteorogical Obs.
Nukuss			30.34	770.6	40.3	4.6	31	ENE	11	5			1						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.50	774.6	17.8	— 7.9	94	NW	4	2			10						Meteorological Obs.
Yeniseisk			30.17	766.4	— 7.8	—22.1	74	WNW	4	2			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.02	762.5	38.1	3.4	55	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.01	762.2	29.2	— 4.9	57	Calm	0	0			1						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.63	752.5	57.2	14.0	98	S	20.9	9.34			10			0.465	11.8	Rainy	Royal Observatory.
San Fernando			29.75	755.6	65.3	18.5	81	SSW	10.7	4.8		0	10		SSW	1.165	29.6		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.86	758.5	23.0	— 5.0	88	SW			2		0			0.472	12.0		
Umea			29.98	761.4	14.7	— 9.6	100	Calm			0		0			0.280	7.1		
Hernosand			30.06	763.4	20.1	— 6.6	84	E			2		0			0	0		
Stockholm			29.98	761.6	27.3	— 2.6	92	Calm			0		10			0.146	3.7		
Wisby			29.97	761.3	35.2	1.8	93	ENE			4		10			0	0		
SUB-SERIES.																			
Upsala			30.02	762.5	24.1	— 4.4	89	NNW	6.3	2.8			10		WSW	0.002	0.04		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.50	723.8	29.95	760.7	45.5	7.5	98	NE			1		9			0	0	Foggy	The Observatory.
Zurich	28.29	718.6	29.97	761.1	43.7	6.5	82	WSW			1		3			0	0	Fair	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —2.5 mm; Thermometer, +0.5 cent.; Relative Humidity, +21 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.13	765.3	36.5	2.5	64	NW	7	3.0			10		N	0	0		
Fao, (Persian Gulf)			30.32	770.0	64.4	18.0		NW			1		10						
Salonica			30.12	765.1	56.7	13.7		SE			1		5						
Valona			30.02	762.4	56.3	13.5		W			1		0						
Varna			29.96	761.0	32.0	0.0		N			4		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.92	759.9	60.4	15.8	94	S			1		10n		SW	0.45	11.4	Raining	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.86	758.4	38.4	3.6	92	Calm	0	0			8			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.22	767.6	39	3.9		NW	3	1.3			8s		NW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.82	757.4	37	2.8	95	N	5	2.2		8k	2ks	N	N	0.26	6.6	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.76	755.9	41	5.0	96	N	11	4.9			10n			0.010	0.25	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.08	764.0	39.7	4.3	87	W			1		10s			0.059	1.50	Unsettled	James Smith, M. A.
Dalhousie, N. B.			29.88	758.9	36.0	2.2	95	W			1					0.30	7.6	Overcast	H. A. Johnson.
Esquimault, B. C.			29.58	751.3	45.3	7.4	100	Calm					10			0.86	21.8	Heavy rain	W. H. Bevis.
Fredericton, N. B.			29.90	759.4	37.5	3.1	85	N	5	2.2		0	5k			Inap.	Inap.	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.50	774.7	3	—16.1	87	SE	8	3.6			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			30.28	769.1	36.0	2.2	77	Calm			0		10n			0.017	0.33	Dull	H. J. Strang, M. A.
Grantou, Ontario	29.06	738.1	30.20	767.1	35	1.7	90	N			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			29.68	753.9	44	6.7	92	N	11	4.9			5ks		N	0.310	7.87	Clearing	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.18	766.6	40	4.4	84	Calm	0	0			10ks			0.05	1.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.66	753.4	41.8	5.4	100	E	10	4.5			10n			0.05	1.3	Misty	C. H. Rigby.
*Montreal, Quebec			30.08	764.0	39	3.9	87	NW	10	4.5			10n			0.09	2.3	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.14	765.5	39	3.9	83	N	14	6.3		5k	2n	W	N	0	0	Clearing	J. B. Haney.
*Parry Sound, Ontario			30.31	769.9	30	— 1.1	73	N	17	7.6		5k	5ks	N	N	Inap.	Inap.	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.20	767.1	37	2.8	90	NW	8	3.6			10n			0.11	2.8	Light rain	H. Morgan.
Port Hastings, N. S.			29.67	753.6	42.9	6.1		NW	4	1.8						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.21	767.3	35	1.7	90	NW	5	2.2			10n		NW	0.15	3.8	Light rain	M. Payne.
*Quebec, Quebec			30.00	762.0	36	2.2	90	SW	2	0.9			10n			0.04	1.0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.85	758.2	37	2.8	95	N	8	3.6			7s			0.020	0.51	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			30.27	768.8	34	1.1	69	NE	12	5.4			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.24	768.1	35	1.7	69	NE	10	4.5			10n		NE	0.25	6.3	Cloudy	R. J. Cole.
Stratford, Ontario	28.89	733.8	30.22	767.6	35.0	1.7	89	NE	7	3.1			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.67	753.6	43	6.1	99	NE	8	3.6			Fog			0.04	1.0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.21	767.3	40	4.4	56	N	13	5.8			8s		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.20	767.1	36.6	2.6	88	N	12	5.4			10ks			0.05	1.3	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.97	761.2	39.0	3.9	100	E	4	1.8			10n			0.01	0.3	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Grantou is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.98	761.5	43	6.1	83	Calm	0	0			10s		W	0	0	Threatening	
Alpena, Mich.			30.39	771.9	29	— 1.7	78	N	14	6.3			10s		N	Inap.	Inap.	Cloudy	
Atlantic City, N. J.			30.00	762.0	51	10.6	86	SW	4	1.8		0	Haze			0	0	Hazy	
Augusta, Ga.			30.18	766.6	46	7.8	92	Calm	0	0		5cs	Haze	W		0	0	Fair	
Baltimore, Md.			30.03	762.7	57	13.9	75	NW	2	0.9		5c	Sm'e	W		0	0	Fair	
Barnegat, N. J.			29.99	761.7	52	11.1	90	W	5	2.2		8k	Haze	NW		0	0	Cloudy	
Bismarck, Dakota	28.46	722.9	30.30	769.6	5	—15.0	75	SW	3	1.3		8ck	0	NW		0	0	Fair	
Boston, Mass.			29.95	760.7	39	3.9	81	W	2	0.9		10ck	Sm'e	W		0	0	Cloudy	
Breckenridge, Minn.			30.54	775.7	5	—15.0	88	SE	4	1.8			10s			0	0	Cloudy	
Buffalo, N. Y.			30.14	765.5	40	4.4	91	N	3	1.3			10n			0.05	1.3	Rain, fog	
Burlington, Vt.			30.06	763.5	40	4.4	82	N	1	0.4			10s			0.09	2.3	Cloudy	
Cairo, Ill.			30.06	763.5	42	5.6	100	N	2	0.9			10n			0.28	7.1	Light rain	
Cape Hatteras, N. C.			30.01	762.2	56	13.3	80	NW	6	2.7		Haze	Sm'e			0	0	Smoky	
Cape Henry, Va.			30.05	763.3	58	14.4	79	SW	4	1.8		Haze	Haze			0	0	Hazy	
Cape Lookout, N. C.			30.11	764.8	58	14.4	69	NW	9	4.0		0	Haze			0	0	Clear	
Cape May, N. J.			30.01	762.2	54	12.2	87	N	8	3.6		5k	Haze	W		0	0	Hazy	
Charleston, S. C.			30.18	766.6	54	12.2	67	W	7	3.1		2cs	0			0	0	Fair	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	31	— 0.6	48	NW	4	1.8		0	0			0	0	Clear	
Chicago, Ill.			30.22	767.6	37	2.8	71	NE	14	6.3			10n			0.32	8.1	Light snow	
Cincinnati, Ohio			30.06	763.5	49	9.4	93	NE	5	2.2			10n		NE	Inap.	Inap.	Light rain	
Cleveland, Ohio			30.19	766.8	39.5	4.2	96	N	16	7.2			10n		N	0.16	4.1	Light rain	
Corsicana, Tex.			30.38	771.6	27	— 2.8	88	NW	24	10.7			10s		N	1.08	27.4	Cloudy	
Davenport, Iowa			30.34	770.6	29	— 1.7	78	NE	12	5.4			10n			Inap.	Inap.	Light snow	
Denison, Tex.			30.39	771.9	26	— 3.3	88	NW	11	4.9			10s		N	1.37	34.8	Cloudy	
Denver, Col.	24.90	632.4	30.12	765.0	11	—11.7	79	SW	1	0.4		0	0			0	0	Clear	
Detroit, Mich.			30.23	767.8	33	0.6	89	N	8	3.6			10n			0.16	4.1	Light snow	
Dodge City, Kan.	27.71	703.8	30.28	769.1	6	—14.4	63	N	6	2.7		0	0			0	0	Clear	
Dubuque, Iowa			30.36	771.1	26	— 3.3	76	N	8	3.6			10s		N	0	0	Cloudy	
Duluth, Minn.			30.53	775.4	17	— 8.3	84	NW	12	5.4			10s		NW	0	0	Cloudy	
Eastport, Me.			29.85	758.2	38	3.3	90	N	11	4.9			10s		N	0.07	1.8	Cloudy	
Erie, Pa.			30.15	765.8	42	5.6	83	N	14	6.3			10ks		NE	0.06	1.5	Cloudy	
Escanaba, Mich.			30.43	772.9	29	— 1.7	67	NE	16	7.2			10s		N	Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.33	770.4	25	— 3.9	75	N	11	4.9			10s		N	1.96	49.8	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.14	740.1	30.36	771.1	20	— 6.7	27	N	13	5.8		2c	0			0.97	24.6	Fair	
Fort Sully, Dakota	28.40	721.3	30.24	768.1	4	—15.6	74	NW	4	1.8		0	5s			0	0	Fair	
Florence, Arizona	28.52	724.4	30.06	763.5	52	11.1		E				0	0			0	0	Clear	
Galveston, Tex.			30.22	767.6	44	6.7	100	NW	42	18.8			10n			0.60	15.2	Heavy rain	
Grand Haven, Mich.			30.20	768.6	32	0.0	79	NE	14	6.3			10s		NE	Inap.	Inap.	Cloudy	
Indianapolis, Ind.			30.10	764.5	44	6.7	92	NE	5	2.2			10n			0.51	13.0	Light rain	
Indianola, Tex.			30.30	769.6	40	4.4	91	N	28	12.5			10s		N	0.20	5.1	Cloudy	
Jacksonville, Fla.			30.22	767.6	53	11.7	86	Calm	0	0		7k	0	SW		0	0	Fair	
Keokuk, Iowa			30.29	769.4	27	— 2.8	100	N	10	4.5			10n		N	0.50	12.7	Light snow	
Key West, Fla.			30.12	765.0	69	20.6	90	NE	12	5.4		2cs	0			0	0	Clear	
Kittyhawk, N. C.			30.08	764.0	54	12.2	87	W	6	2.7		2c	Haze			0	0	Hazy	
Knoxville, Tenn.			30.18	766.6	43	6.1	91	Calm	0	0			Fog			0	0	Dense fog	
La Crosse, Wis.			30.47	773.9	18	— 7.8	68	N	9	4.0			10s		N	0	0	Cloudy	
Leavenworth, Kan.			30.37	771.4	22	— 5.6	85	N	8	3.6			10s		N	0.53	13.5	Cloudy	
Louisville, Ky.			30.09	764.3	49	9.4	93	N	5	2.2			10n			0.01	0.3	Light rain	
Lynchburg, Va.			30.09	764.3	49	9.4	85	W	2	0.9		10k	Sm'e	W		0	0	Cloudy	
Malone, N. Y.			30.07	763.8	38	3.3	100	NW	7	3.1			10n		NW	0.25	6.3	Light rain	
Marquette, Mich.			30.44	773.2	28	— 2.2	77	N	8	3.6			10s		N	0.02	0.5	Cloudy	
Memphis, Tenn.			30.02	762.5	59	15.0	93	S	4	1.8			10n		S	0.05	1.3	Light rain	
Milwaukee, Wis.			30.32	770.1	34	1.1	69	NE	18	8.0			10ks		NE	0.01	0.3	Cloudy	
Mobile, Ala.			30.18	766.6	60	15.6	88	S	2	0.9		5c	5s, fg	NW		0	0	Cloudy	
Montgomery, Ala.			30.19	766.8	57	13.9	78	SE	1	0.4		10ck	Sm'e	W		0	0	Cloudy	
Morgantown, W. Va.	29.01	736.8	30.06	763.5	50	10.0	93	N	9	4.0			10s		N	0.03	0.8	Threatening	
Mt. Washington, N. H.	23.59	599.2	29.95	760.7	31	— 0.6	100	N	30	13.4			Fog			0	0	Foggy	
Nashville, Tenn.			30.07	763.8	54	12.2	73	SE	1	0.4			10s		SW	0	0	Cloudy	
New Haven, Conn.			29.95	760.7	52	11.1	79	W	3	1.3			10s, fg		N	0	0	Cloudy	
New London, Conn.			29.96	761.0	47	8.3	69	Calm	0	0		10s	Fog	N		0	0	Cloudy	
New Orleans, La.			30.18	765.3	62.5	16.9	80	S	4	1.8		9cs	0	W		0	0	Cloudy	
Newport, R. I.			29.95	760.7	45	7.2	85	NW	4	1.8			10ks		NW	0	0	Cloudy	
New York, N. Y.			29.97	761.2	53	11.7	79	W	5	2.2		5cs	Fog	W		0	0	Fair	
Norfolk, Va.			30.07	763.8	53	11.7	86	Calm	0	0		Haze	Haze			0	0	Hazy	
North Platte, Neb.	27.34	694.4	30.24	768.1	1	—17.2	72	Calm	0	0		0	0			0	0	Clear	
Omaha, Neb.	29.29	744.0	30.50	774.7	10	—12.2	100	N	5	2.2		0	1s			Inap.	Inap.	Clear	
Oswego, N. Y.			30.14	765.5	43	6.1	88	NE	16	7.2			10s		NE	0.03	0.8	Threatening	
Pembina, Dakota			30.50	774.7	3	—16.1	86	SE	5	2.2			10s			0	0	Cloudy	
Philadelphia, Pa.			30.03	762.7	58	14.4	69	NW	10	4.5		2c	Sm'e	W		0	0	Fair	
Pike's Peak, Col.	17.73	450.3	29.94	760.5	9	—12.8	89	NE	22	9.8		5k	0	NE		0	0	Fair	
Pittsburgh, Pa.			30.08	764.0	48	8.9	92	N	4	1.8			10n		N	0.08	2.0	Light rain	
Port Huron, Mich.			30.22	767.6	34	1.1	79	NW	11	4.9			10n			0.10	2.5	Light rain	
Portland, Me.			29.94	760.5	44	6.7	75	Calm	0	0		10ck	Haze	NW		0	0	Cloudy	
Portland, Oregon			29.94	760.5	56	13.3	80	S	16	7.2			10n			1.05	26.7	Light rain	
Punta Rassa, Fla.			30.18	766.6	65.5	18.6	78	NE	8	3.6		5ck	0	NE		0	0	Fair	
Rochester, N. Y.			30.12	765.0	43	6.1	91	N	8	3.6			10n		N	0.06	1.5	Light rain	
Salt Lake City, Utah	25.89	657.6	30.22	767.6	35	1.7	70	Calm	0	0		5k	0			0	0	Fair	
Sandy Hook, N. J.			29.94	760.5	53	11.7	86	W	8	3.6		0	Haze			0	0	Hazy	
San Diego, Cal.			30.16	766.1	51	10.6	37	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.19	766.8	53	11.7	69	NW	6	2.7		0	0			0	0	Clear	
Santa Fé, N. M.	23.37	593.6	29.91	759.7	22	— 5.6	86	N	4	1.8			10s			0.20	5.1	Cloudy	
Savannah, Ga.			30.20	767.1	53	11.7	68	W	4	1.8		0	Sm'e			0	0	Fair	
Shreveport, La.			30.30	769.6	36	2.2	90	NW	10	4.5			10s		NW	0.06	1.5	Cloudy	
Smithville, N. C.			30.13	765.3	53	11.7	86	W	5	2.2		10c	0	W		0	0	Cloudy	
Springfield, Mass.			29.96	761.0	44	6.7	75	N	4	1.8			10s			0	0	Cloudy	
St. Louis, Mo.			30.16	766.1	35	1.7	100	N	8	3.6			10n			1.11	28.2	Light rain	
St. Marks, Fla.			30.22	767.6	49	9.4	93	Calm	0	0		8k	0	W		0	0	Clear	
St. Paul, Minn.			30.50	774.7	13	—10.6	62	N	8	3.6		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.94	760.5	41	5.0	83	NW	8	3.6		2ck	5s	NW	NW	0	0	Fair	
Toledo, Ohio			30.20	767.1	34	1.1	90	N	16	7.2			10n			0.16	4.1	Light snow	
Tucson, Arizona	27.72	704.1	30.27	768.8	43	6.1		E				0	0			0	0	Clear	
Tybee Island, Ga.			30.16	766.1	49	9.4	93	SW	5	2.2		2c	Sm'e	W		0	0	Fair	
Vicksburg, Miss.			30.14	765.5	63.5	17.5	91	SW	6	2.7			10s			0.02	0.5	Threatening	
Virginia City, M. T.	24.34	618.2	29.82	757.4	27	— 2.8	66	Calm	0	0		8k	0	W		Inap.	Inap.	Cloudy	
Washington, D. C.			30.05	763.3	50.5	10.3	86	Calm	0	0		10c	Haze			0	0	Cloudy	
Wilmington, N. C.			30.13	765.3	51	10.6	79	W	4	1.8		8cs	Haze	NW		0	0	Hazy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.97	761.2	46	7.8	67	N	6	2.7		8ck	2s	NW		0	0	Cloudy	
Yankton, Dakota	29.16	740.7	30.64	778.2	1	—17.2	71	NW	1	0.4		0	0			0	0	Clear	
Yuma, Arizona			30.20	767.1	54	12.2		N				0	2s		NW	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.01	762.2	76	24.4	86	N	4	1.8		5c	5n	N	N	0.17	4.3		James Gall.
Navassa, W. I.					82	27.8		NE			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	67	19.4	90	N	2.0	0.9		2c	2k	N		0.96	24.4	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			29.94	760.5	82	27.8	79	SE			3	5k	5k	SE		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.07	763.8			85.1	29.5		SE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.0	17.8	90	Calm			0	2ck	2ks			0.41	10.4	Fair	Thomas Herran.
York Factory, B. A.			30.36	771.1	—21.0	—29.4		SW	4	1.8		0	2s		W	0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	74	23.3		NE			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Hyannis, Mass.			29.91	759.7	44	6.7	92	N	5	2.2		2k	0	W				Clear	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1.670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 15, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Endeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.85	758.3	77.0	25.0	34	WNW			2		4			0	0	Fair	Charnot.
Algiers			29.84	757.8	72.3	22.4	67	WNW			4		8			0	0	Cloudy	Peter.
La Calle			29.88	758.9	72.5	22.5	59	NE			2		3			0	0	Fair	Fleury.
Tunis			29.95	760.6	70.9	21.6	77	E			3		3			0	0	Fair	Jacques.
Sfax			29.99	761.7															
Saida			29.94	760.5	64.2	17.9	63	WNW			1		2			0	0	Clear	Millot.
Tebessa			29.97	761.2	64.8	18.2		SW			3		0			0	0	Clear	Bourgeois.
Geriville			29.97	761.1	63.0	17.2	71	SSE			2		2			0	0	Clear	Lemaillot.
Laghouat			30.00	762.1	76.6	24.8	12	S			3		0			0	0	Clear	Guyot.
Biskra			29.89	759.3	73.2	22.9	39	N			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.01	762.2	38.8	3.8	95	NE			2		10			0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.03	762.7	38.5	3.6	93	W			1		10			0	0		Dr. Wierzbiski.
Eperies			30.03	762.7	33.1	0.6	68	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.73	729.8	30.04	763.1	32.5	0.3	80	SW			2		10			0	0		Andreas Rospini.
Hermannstadt	28.51	724.2	30.00	762.0	31.6	— 0.2	74	SE			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.56	725.5	29.97	761.2	30.9	— 0.6	96	ENE			3		10			0	0		Prof. C. Wagner.
Lemberg			29.98	761.6	31.6	— 0.2	98	SW			1		9			0	0		Dr. T. Stanecki.
Nytregyhaza																			Habzsuda Daniel.
Pola			30.00	761.9	53.2	11.8	93	SSW			0		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			30.04	763.0	31.1	— 0.5	77	Calm			0		10			0	0		Karl Stancel.
Trieste			30.01	762.3	51.6	10.9	90	Calm			0		10			0.057	1.45	Raining	Prof. V. Farolfi.
Vienna			30.02	762.6	31.6	— 0.2	100	SE			1		10			0.020	0.5	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.63	752.6	61.7	16.5	71	S			1	2c	0	SW		0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.42	747.3	50.3	10.2		SSE	9	4.0			10			1.760	44.70	Drizzling	William Boswell.
Ardrossan			29.37	746.0	54	12.2		SSE			3		7					*D. clouds	William McNeil.
Armagh, Observatory			29.33	745.0	55.0	12.8		S	18	8.0			7					Squally	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.34	745.2	57.8	14.3		SSW			1–3		8					*D. clouds	J. Dreyer.
Bradford			29.50	749.3	55.1	12.8		S			1		2			0.30	7.6	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.2	29.0		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.55	750.6	59.0	15.0		WSW			1		7			Blank	Blank	*D. clouds	H. Todd. [H.C.
Cardington			29.54	750.3	56.6	13.7		SW			1		1					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.57	751.1	58.0	14.4		SE			1		1					Hazy	Capt. Fellowes, R. E.
Dartmoor	28.10	713.7	29.58	751.3	53.0	11.7		S			1		10					Gloomy	R. F. Power.
Davos Platz, (Switzerland)	24.69	627.1			43.0	6.1	74	S			1		7			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.35	745.5	54	12.2		SSW			4		8					*D. clouds	J. Mac Gowan.
Dover			29.56	750.8	55	12.8		WSW			4		5					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.58	751.3	58.1	14.5		SW	1.8	0.8			3					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.49	749.0	55.8	13.2		SSE			3		10					Overcast	The Staff.
Fort Napier, (Natal)	27.84	707.1	30.07	763.8	66.9	19.4		E			2		9					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	84.0	28.9		W			3		4					*D. clouds	
Galway, Queen's College			29.25	742.9	49	9.4		S			3		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.83	757.7	69.7	20.9		SW			6		4					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.37	746.0	52.8	11.6		SSE			1		10					Overcast	Lewis Stuart.
Great Yarmouth			29.54	750.3	52	11.1		SSW			2		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.58	751.3	58.2	14.6		SW			1		1			3 hd	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.53	750.0	55	12.8		SE			2		10					Misty	Dr. S. E. Hoskins.
Helston			29.46	748.3	56	13.3		SE			4		8K			0.25	6.3		M. P. Moyle.
Holyhead			29.7[illegible]	748.5	55	12.8		SSW			4		10					Misty	John Tilston.
Kew, Observatory			29.57	751.1	58.6	14.8		SW	5	2.2			4					Misty	The Staff.
Kingstown			29.41	747.0	56	13.3		S			4		1					Blue sky	George Mitchell.
Leicester Museum			29.54	750.3	60.2	15.7		SW			1		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	69.4	20.8		SE			1		8K					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.31	744.5	55	12.8		ESE			1		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	73.5	23.1		NE			3		8						Surg. Maj. Henry.
Nottingham, Observatory			29.52	749.8	58.4	14.7		SSW			1		10		SSW	0.07	1.8	Blue sky	F. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.50	749.3	57.1	13.9		S			0–1		9s					Misty	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.53	750.0	56	13.3		S			1		3					Blue sky	J. Lucas.
Plymouth			29.50	749.3	55.1	12.8		ESE			1		10					Overcast	John Merrifield.
Roche's Point			29.38	746.2	54	12.2		SSW			4		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.46	748.3	55	12.8		S			3		7					Misty	John C. Walker.
Saint Helier, (Jersey)			29.54	750.3	53.8	12.1		SE			2							Foggy	A. P. Amy.
Sandwick Manse, (Orkneys)			29.35	745.7	49.0	9.4		SE	28	12.5			10					Drizzling	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.01	762.2	41.6	5.3		W			2		10					Raining	Sergt. W. H. Lyne.
Sheffield			29.50	749.3	55.9	13.3		SW			1		6			0.310	7.87	*D. clouds	W. F. Cooper.
Silloth Rectory			29.43	747.5	55.2	12.9	85	SW			5		4			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.47	748.5	54.9	12.7		SW			3		9			3hd	Blank	*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.[illegible]4	742.7	52	11.1		S			3		10					Drizzling	John Smith.
Stratfield Turgiss			29.56	750.8	55.9	13.3		SW			1		5					*D. clouds	Rev. Charles H. Griffith.
Thurso			29.31	744.5	52	11.1		SSE			4		9					Gloomy	John Trotter.
Truro, Royal Institution			29.48	748.8	58	14.4		SE			6		10					Gloomy	W. Newcombe.
Valencia, Observatory			29.37	746.0	52.9	11.6		WNW	13	5.8			8					Showery	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					54	12.2		SSW			7	5	5			0.20	5.1		Thomas Dawson.
Cape Good Hope, Obs'y			29.99	761.7	77.3	25.2	37	SSE	28	12.5		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.61	752.1	72.0	22.2	73	Calm			0		10ku			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.42	747.3	55.0	12.8		SW			2		10K			0.81	20.6	Cloudy	Andrew Gibb.
Mauritius, Observatory			29.94	760.5				ENE	13.6	6.1						0	0		C. Meldrum.
Melbourne, Observatory			29.62	752.3	68.3	20.2	94	NE	5	2.2			10			0.21	5.3	Raining	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.08	738.6	49	9.4		S			6		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.55	750.6	42	5.6		SSE			8		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read at and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105.7 feet, or 1,556.07 meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.06	763.5	39.4	4.1	85	ESE			6		10						
Fanöe			29.82	757.5	40.6	4.8	96	ESE			6		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.68	753.9	41.9	5.5	82	NE			8		5						
Thorshavn, (Faröe)			29.36	745.8	46.0	7.8	93	SE			3		10					Raining	
Vestervig			29.87	758.8	34.5	1.4	96	ENE			6		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alengon			29.61	752.2	51.8	11.0	88	SW			3		10kn		SW	0	0	Covered	Normal School.
Amiens			29.62	752.4	62.6	17.0	73	SW			3		0			0.031	0.8	Clear	Normal School.
Avignon			29.82	757.3	66.6	19.2	57	SE			2		5		S	0	0	Cloudy	Normal School.
Bar-sur-Seine			29.68	753.8	60.6	15.9	73	S			2		10		SW	0	0	Covered	C. Saillard.
Beaumette, (near Angers)			29.59	751.5	58.1	14.5	91	S	0	0					S	0.192	4.9	Raining	Beaumette Observ'tory.
Beauvais			29.64	752.0	60.6	15.9	70	S			1		5		SW	0	0	Cloudy	Normal School.
Besançon			29.78	756.5	54.7	12.6	87	E			2		8		S	0	0	Very cloudy	Normal School.
Bourg en Bresse			29.84	757.8	62.6	17	67	NW			4		5kn		SE	0	0	Cloudy	Normal School.
Bourges			29.61	752.1	60.4	15.8	81	E			2		5		E	0.008	0.2	Cloudy	Normal School.
Brest			29.39	746.6	58.8	14.9	80	SE			3		8		SE	0.059	1.50	Stormy	Naval Observatory.
Carcassonne			29.66	753.4	61.7	16.5	86	E			6		10		W	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			29.57	751.1	60.6	15.9	97	SE			2		5			0.201	5.1	Cloudy	Normal School.
Châlons-sur-Marne			29.68	753.9	63.7	17.6	72	SSE			2		5ck		NE	0	0	Cloudy	Normal School.
Clermont			29.63	752.6	60.8	16.0	58	S			4		10		S	0	0		Puy de Dome Obs'y.
Commercy			29.76	756.0	55.0	12.8	88	SE			2		8kn		SE	0	0	Very cloudy	Normal School.
Commune de Gréasque*			29.89	759.1	62.4	16.9	64	SE			6		8		SE	0	0		M. Kina.
Grenoble			29.82	757.4	54.1	12.3	74	NE			2		10n		SE	0	0	Covered	Normal School.
La Roche-sur-Yon					61.2	16.2	76	SE			2		10			0.207	5.25	Covered	Normal School.
Le Mans			29.57	751.1	58.3	14.6	82	E			2		8		E	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			29.74	755.5	61.7	16.5	66	SE			1		8		S	0.20	5.	Raining	Normal School.
Lorient			29.47	748.6	59.0	15.0	76	SSE			2		10			0.543	13.8	Covered	Naval Observatory.
Mâcon			29.84	757.9	60.1	15.6	83	Calm			0		10			0	0	Covered	Normal School.
Metz			29.84	757.9	54.5	12.5	95	E			2		5		E	0	0		M. Schuster.
Mirecourt			29.71	754.5	57.7	14.3	73	SW					2		NE	0	0	Slightly cl'dy	Normal School.
Nismes			29.81	757.2	62.2	16.8	73	SW			2		2		S	0	0	Slightly cl'dy	Normal School.
Orleans			29.59	751.5	62.6	17	73	E			2		5		SE	0	0	Cloudy	Normal School.
Paris, Observatory			29.64	752.8	61.5	16.4	72	S			2		8			0	0	Almost cov'd	National Observatory.
Parthenay																			Normal School.
Privas			29.84	757.8	61.7	16.5		SSE			2		10		SSE	0	0	Covered	Normal School.
Rochefort, Observatory			29.47	748.6	60.8	16.0	79	SE			3		10		NW	0.217	5.5	Covered	Naval Observatory.
Rouen			29.63	752.5	59.2	15.1	75	SW			2		10			0.09	2.4	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.39	721.0	29.43	747.6	59.0	15		E			2		10			0	0	Covered	Normal School.
Villefranche			29.73	755.1	61.7	16.5	77	ESE			2		10		W	0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.81	757.2	75.9	24.4													L'Abbé Marchési.
Marseilles			29.79	756.7	66.6	19.2	63	E			6		10					Rainy	Marseilles Observatory.
Mont-Louis	24.60	624.9	29.89	759.2	50.4	10.2	88	SSW	26.0	12.50			10		S	0.00	0.2		—. Falguère.
Montsouris, Paris			29.63	752.6	62.4	16.9	72	S			1		10		S	Inap.	Inap.		Montsouris Observatory
Perpignan			29.71	754.5	63.1	17.3	83	SE	16.8	7.50			10		SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.91	531.1			30.4	— 0.9		SW			3		10					Rain & snow	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.15	562.7			35.1	1.7		SW			3		10			0.68	17.5	Rain & snow	General de Nansouty.
Saint Maur, (near Paris)			29.64	752.8	62.8	17.1	70	SW			1		10			0	0	Cloudy	E. Renou.
Toulouse			29.56	750.8	61.5	16.4	77	SSE			8		10			0	0		Toulouse Observatory.
Tours			29.52	749.7	61.3	16.3		SE			1		10		SW	0.05	1.4		C. Marquet.
Versailles, (near Paris)			29.64	752.9	62.2	16.8	78	S			1		8			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.17	766.3	53.4	11.9	73	NE	1.1	0.50			10			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.90	759.4	43.7	6.5	78	S			2		3	S		0	0	Foggy	Prof. T. Hoh.
Berlin			29.93	760.1	45.5	7.5	82	SE			1		2			0	0		Prof. Arndt.
Breslau			29.99	761.8	46.0	7.8	79	SE			3		3			0	0		Royal University Obs'y
Carlsruhe			29.81	757.1	51.4	10.8	76	N			1		9	SW		0	0		A. Senz.
Cassel			29.85	758.3	54.1	12.3	94	SW			2		6	WSW		0	0		Dr. H. Möhl.
Emden			29.84	757.9	49.1	9.5	90	ESE			2		1			0	0		Prof. Prestel.
Frankfort on the Main			29.86	758.5	49.1	9.5	63	SE			1		3			0	0		Physical Society.
Friedrichshafen			29.92	759.9	40.3	4.6	90	NNE			2		10			0	0		M. Wilhelm.
Hamburg			29.85	758.3	43.2	6.2	91	ESE			4		10cs			0.004	0.1		Captain F. Hegemann.
Kiel			29.84	758.0	42.4	5.8	90	ESE			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.14	765.6	33.6	0.9	88	NE			2		10			0.051	1.3		Prof. E. Luther.
Köslin			30.10	764.5	37.0	2.8		E			4		4			0	0		H. Müller.
Leipsic			29.90	759.5	13.3	—10.4	84	E			2		4			0	0	Smoke-haze.	Prof. Bruhns.
Memel			30.15	765.8	34.5	1.4	78	NE			3		1cs	NNW		0.071	1.8		Reinbrecht & Skalweit.
Münster			29.71	754.5	58.1	14.5	80	E			1		0			0	0		Prof. E. Heis.
Neufahrwasser			30.14	765.6	39.2	4.0	80	ESE			3		8	E		0	0		A Lothe.
Posen			30.04	763.0	39.4	4.1	94	W			2		10						Dr. Magener.
Strassburg, (in Alsace)			29.83	757.6	51.8	11.0	81	Calm			0		10	W		0	0		Dr. Schur.
Stuttgart			29.84	757.8	52.2	11.2	70	N			1		6			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.70	754.4	57.4	14.1	77	SW			2		6			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.37	720.6	29.92	759.9	38.8	3.8	83	SSE	2	1			4	SSE		0	0	Light fog	Dr. von Bebber.
Wustrow, Naval School			30.01	762.3	39.0	3.9	93	SE			3		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 25°, 49', W. 17°, 21'.			30.07	763.8	76.1	24.5	80	NNW			1		9		NNW				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.04	763.1	57.2	14.0		S					..k					Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			29.97	761.2	49.3	9.6	71						10			0	0		Prof. Giovanni Clodig
Padua			29.97	761.1	50.9	10.5	70	WNW	1.8	0.8			5	SW		0	0		Prof. Dott. Lorenzoni.
Vicenza			29.97	761.3	51.4	10.8	64	SE	0	0			4			0	0		Alm. Da Schio.
Verona			29.94	760.4	53.6	12.0	43	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.98	761.6	48.6	9.2	80	W			1		10			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			29.99	761.7	48.6	9.2	77	SW			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.00	761.9	47.7	8.7	93	ESE	3.1	1.4			9	N		0	0		Prof. P. F. Denza.
Mondovi	28.04	712.2	30.00	761.9	53.2	11.8	69	NNE			2		10			0	0		Prof. C. Bruno.
Porto Maurizio			29.96	761.0	63.0	17.2	65	ENE			4		8	E		0	0		Prof. L. Vassallo.
Genoa			29.95	760.8	55.8	13.2	66	Calm	0	0			10	S		0.039	1.0	Light rain	Prof. Garibaldi.
Piacenza			29.98	761.6	50.0	10.0	81	W	4.3	1.9			10			0	0		Dott. G. Manzi.
Parma			30.00	762.1	52.2	11.2	59	E			2		10			0	0		Prof. P. Pigorini.
Bologna			30.00	762.0	50.9	10.5	41	WNW			1		8	E		0	0		Prof. A. Palagi.
Florence			30.00	761.9	53.6	12.0	94	E			2		10			0	0		Cav. F. Meucci.
Leghorn			29.94	760.4	60.1	15.6	75	ENE	3.8	1.7			10	SE		0	0		Prof. P. Monte.
Siena	28.74	730.0	29.97	761.2	56.7	13.7	85	E	0	0			10	SW		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.03	762.8	49.1	9.5	78	N	16.1	7.2			10			0	0		Prof. Luigi Guidi.
Ancona			30.02	762.4	50.0	10.0	88	E			4		10			0	0		Prof. F. De— Bosis.
Grosseto			29.97	761.2	65.1	18.4	66	S			2		4	SE		0	0		Avv. P. Ponticelli.
Rome			29.98	761.5	66.0	18.9	65	SSW	1.3	0.6			5	SSE		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.99	761.8	66.9	19.4	60	SSW			2		1	NW		0	0		Prof. L. Palmieri.
Lecce			30.06	763.5	58.3	14.6	78	NE	3.8	1.7			9			0	0		Prof. C. De—Giorgi.
Cosenza			30.04	762.9	59.9	15.5	77	SW	0	0			0?			0.008	0.2	Light rain ?	Prof. F. D. Conti.
Riposto, (Sicily)			30.00	761.9	64.6	18.1	88	SE			2		9	NW		0.15	3.9	Raining	Prof. F. Cafiero.
Palermo			29.91	759.8	68.2	10.1	63	NE	3.8	1.7			1			0	0		Prof. G. Cacciatore.
Caltanissetta	28.0	711.7	29.97	761.3	62.6	17.0	66	ESE			2		1	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.00	762.1	64.0	17.8	65	SW	1.8	0.8			2	SE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

Flushing			29.35	753.1	57.9	14.4		SSW			4								
Groningen			29.33	752.6	48.9	9.4		S			1								
Helder			29.33	752.6	52.2	11.2		SSE			2								
Utrecht			29.33	752.7	57.9	14.4	82	SSE			1		5			0	0	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.83	757.6	36.5	2.5	94	Calm	0	0			10			0.268	6.8	Light rain	
Brönö			30.10	764.5	34.2	1.2	78	E	7	3			5			0	0		
Christiania			30.22	767.6	28.0	— 2.2	81	ENE	2.2	1.0			10			0	0		
Tromsö			30.16	766.1	32.9	0.5	90	Calm	0	0			10			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.90	759.5	58.6	14.8	70	WNW	4.9	2.2			5			0.079	2.0	Raining	Dr. J. A. Sampaio.
Campo Major			29.59	751.6	60.3	15.7	76	SW	16.8	7.5			9	SW		1.114	28.3		Dr. A. M. R. dos Santos.
Funchal, (Ma deira,)			29.84	757.8	68.5	20.3	67	WSW	13.0	5.81			5			0.358	9.1	Raining	Capt. D. A. de Cunha.
Lisbon			29.55	750.6	63.7	17.6	74	SW	29.8	13.3			7	WSW		0.346	8.8		The Observatory.
Ponta Delgada, (Azores)			29.89	759.1	63.0	17.2	53	NNW	9.3	4.17			5	W		0.12	3.1		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.05	763.2	33.4	0.8	94	NE	4	2			10						Astronomical Obs.
Wilna			30.10	764.5	32.7	0.4	85	N	2	1			9						Astronomical Obs.
Dorpat			30.01	762.3	29.7	— 1.3	92	WNW	7	3			10						Physical Cabinet.
St. Petersburg			29.78	756.4	31.1	— 0.5	94	NNE	11	5			10					Snowing	Central Physical Obs.
Kuopio			30.03	762.8	26.6	— 3.0	100	N	18	8			10						Ch. Forsten.
Kieff			30.00	761.9	34.2	1.2	96	ENE	4	2			10					Foggy	Physical Cabinet.
Nikolaiev			30.04	763.0	44.6	7.0	69	SE	13	6			0						Kurdakof.
Kertch			30.11	764.9	42.6	5.9	88	ENE	9	4			10						Lagorio.
Moscow			30.04	763.0	28.4	— 2.0	92	S	9	4			10						Meteorological Obs.
Lugan			30.07	763.5	40.6	4.8	92	ENE	9	4			10						Meteorological Obs.
Archangel			29.94	760.4	24.8	— 4.0	95	S	7	3			10						Ogorodnikof.
Tiflis	28.60	*726.4	30.03	762.7	56.7	13.7	64	SSW	4	2			10						Physical Observatory.
Astrakhan			30.18	766.5	40.3	4.6	68	ESE	16	7			5						Sebastianof.
Kasan			30.39	772.0	10.9	—11.7	85	Calm	0	0			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	*29.52	*749.7	30.52	775.3	27.5	— 2.5	44	WSW	4	2			0						Meteorological Obs.
Nukuss			30.34	770.6	45.0	7.2	24	ENE	7	3			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.50	774.8	14.9	— 9.5	87	SW	9	4			10						Meteorological Obs.
Yenisseisk			30.34	770.5	—19.3	—28.5	80	Calm	0	0			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.14	765.6	41.4	5.2	48	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.17	766.2	22.1	— 5.5	68	Calm	0	0			0						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.57	751.0	56.3	13.5	77	SW	29.8	13.33			10			0.23	5.9	Covered	Royal Observatory.
San Fernando			29.81	757.1	66.0	18.9	74	WSW	7.6	3.4		0	9		W	0.16	4.2		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.25	768.4	15.4	— 9.2	69	N			2		0			0	0		
Umea			30.29	769.3	22.3	— 5.4	96	NW			2		1			0	0		
Hernosand			30.26	768.7	21.6	— 5.8	95	Calm			0		6			0	0		
Stockholm			30.30	769.7	29.5	— 1.4	96	Calm			0		10			0.051	1.3		
Wisby			30.22	767.5	36.0	2.2	79	ENE			4		10			0.051	1.3		
Sub-Series.																			
Upsala			30.23	767.8	26.6	— 3.0	96	NW	3.1	1.4			10	NW		0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.42	721.9	29.88	759.0	43.3	6.3	100	SW			1		10			0	0	Foggy	The Observatory.
Zurich	28.24	717.2	29.91	759.7	43.7	6.5	87	NW			1		8			0	0	Cloudy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —4.5 mm; Thermometer, —0.5 cent.; Relative Humidity, +23 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.05	763.2	41.2	5.1	84	NNW	2	1.0			10		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.03	762.7	65.8	18.8		W			1		0						
Valona			30.01	762.3	60.8	16.0		W			1		5						
Varna			29.92	760.0	41.0	5.0		N			2		10			Blan	Blank		
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.94	760.4	61.3	16.3	83	NE			2		10n		SW	2.49	63.2	Raining	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.14	765.5	29.7	— 1.3	74	NW	1	0.4			8			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.23	767.8	27	— 2.8		NE	6	2.7		0	28		NE	0	0	Fair	W. R. Bigg.
*Chatham, N. B			30.09	764.3	30	— 1.1	83	N	13	5.8			10s		N	0.01	0.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.98	761.5	37	2.8	94	N	8	3.6			10n			0.030	0.76	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario			30.16	766.1	29.7	— 1.3	85	NE			2	8k	0			0	0	Fair	James Smith, M. A.
Dalhousie, N. B			30.17	767.3	26	— 3.3	88	NW			1					0.19	4.8	Clear, bright	H. A. Johnson.
Esquimault, B. C			29.88	758.9	48.8	9.3	100	SW					10			0.13	3.3	Raining	W. H. Bevis.
Fredericton, N. B			30.14	765.5	32.0	0.0	73	NW	7	3.1			10s			0	0	Threatening	Prof. Harrison.
*Fort Garry, Manitoba			30.17	766.3	7	—13.9	100	NE	14	6.3			10n			0.260	6.60	Heavy snow	James Stewart.
Goderich, Ontario			30.22	767.6	30.7	— 0.7	92	Calm			0	4k	3s	W		0	0	Clearing	H. J. Strang, M. A.
Granton, Ontario	29.03	737.1	30.19	766.8	29	— 1.7	89	NE			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			29.92	760.0	39	3.9	88	N	13	5.8			8n		N	Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.18	766.6	28	— 2.2	83	NE	11	4.9		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.80	756.9	40.8	4.9	100	NE	6	2.7			10n			0.36	7.6	Overcast	C. H. Rigby.
*Montreal, Quebec			30.20	767.1	28	— 2.2	75	NE	12	5.4		0	2s			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.21	767.3	26	— 3.3	83	N	3	1.3		0	2s		N	0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.28	769.1	20	— 6.7	85	E	8	3.6		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.15	765.8	31	— 0.6	89	N	7	3.1		10k	0	NE		0.09	2.3	Fair	H. Morgan.
Port Hastings, N. S			29.90	759.4	38.4	3.6		NW	12	5.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.17	766.3	30	— 1.1	91	N	4	1.8			10ks		NE	0.18	4.6	Cloudy	M. Payne.
*Quebec, Quebec			30.23	767.8	26	— 3.3	75	N	14	6.3		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B			30.11	764.8	33	0.6	89	N	9	4.0			10n			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			30.19	766.8	28	— 2.2	77	Calm	0	0		5k	0			0	0	Fair	K. Stewart.
Stayner, Ontario			30.19	766.8	23	— 5.0	88	Calm	0	0		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.17	766.3	27.6	— 2.4	92	NW	3	1.3			10s			0.03	0.8	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			29.86	758.4	40	4.4	95	N	14	6.3			10n			0.18	4.6	Cloudy	T. C. Hill.
*Toronto, Ontario			30.18	766.6	30	— 1.1	89	N	9	4.0		0	0			Inap.	Inap.	Clear	Magnetic Observatory.
Woodstock, Ontario			30.19	766.8	27.7	— 2.4	90	Calm	0	0		7ck		S		0.15	3.8	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.87	758.7	40.5	4.7	100	NE	4	1.8			10n			0.12	3.0	Light rain	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.09	764.3	31	— 0.6	100	N	1	0.4			10n			0.14	3.6	Heavy snow	
Alpena, Mich.			30.25	768.3	25	— 3.9	75	NW	6	2.7		2c	0	NW		0	0	Fair	
Atlantic City, N. J.			29.90	759.4	52	11.1	93	E	16	7.2			10n		E	0.36	9.1	Light rain	
Augusta, Ga.			30.04	763.0	58	14.4	82	S	3	1.3		10cs	0	W		0	0	Cloudy	
Baltimore, Md.			29.93	760.2	48	8.9	92	NE	4	1.8			10n		E	0.25	6.3	Light rain	
Barnegat, N. J.			29.92	760.0	51	10.6	98	E	13	5.8			10n		E	0.50	12.7	Light rain	
Bismarck, Dakota	28.10	713.7	29.87	758.7	10	—12.2	79	N	3	1.3		0	8s			0	0	Fair	
Boston, Mass.			30.09	764.3	38	3.3	71	N	10	4.5			10s		NE	0.02	0.5	Cloudy	
Breckenridge, Minn.			29.86	758.4	21	— 6.1	85	SE	24	10.7		10cs	0	SE		0	0	Cloudy	
Buffalo, N. Y.			30.08	764.0	33	0.6	89	NE	7	3.1			10s			0.18	4.6	Cloudy	
Burlington, Vt.			30.17	766.3	30	— 1.1	68	N	1	0.4		2c	5s			0	0	Cloudy	
Cairo, Ill.			30.31	769.9	36	2.2	80	N	10	4.5			10s			0.19	4.8	Cloudy	
Cape Hatteras, N. C.			29.91	759.7	60	15.6	76	W	4	1.8		5ck	Sm'e	NW		0	0	Fair	
Cape Henry, Va.			29.89	759.2	58	14.4	82	SW	9	4.0			10s		SW	Inap.	Inap.	Cloudy	
Cape Lookout, N. C.			30.00	762.0	63	17.2	78	W	20	8.9		0	5s			0	0	Fair	
Cape May, N. J.			29.88	758.9	56	13.3	87	E	10	4.5			Fog			0.23	5.8	Foggy	
Charleston, S. C.			30.06	763.5	59	15.0	81	SW	7	3.1		5c	2cs	W		0	0	Fair	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	47	8.3	24	W	20	8.9		5c	0			0	0	Fair	
Chicago, Ill.			30.22	767.6	35	1.7	70	NW	1	0.4		5k	5s	W		0.39	9.9	Cloudy	
Cincinnati, Ohio			30.13	765.3	40	4.4	82	NW	8	3.6			10s		N	0.50	12.7	Threatening	
Cleveland, Ohio			30.12	765.0	40	4.4	91	N	14	6.3			10n		N	0.47	11.9	Light rain	
Corsicana, Tex.			30.34	770.6	28	— 2.2	88	N	8	3.6			10s			0	0	Cloudy	
Davenport, Iowa			30.30	769.6	28	— 2.2	88	SW	1	0.4		1cs	Haze			Inap.	Inap.	Fair	
Denison, Tex.			30.38	771.6	26	— 3.3	88	NE	4	1.8			10s			0	0	Cloudy	
Denver, Col.	24.77	629.2	29.99	761.7	37	2.8	46	S	6	2.7		0	0			0	0	Clear	
Detroit, Mich.			30.17	766.3	35	1.7	70	NW	4	1.8			10s			0.53	13.5	Cloudy	
Dodge City, Kan.	27.48	698.0	29.92	760.0	21	— 6.1	70	N	2	0.9		0	0			0	0	Clear	
Dubuque, Iowa			30.24	768.1	25	— 3.9	75	SW	1	0.4		2c	Haze			0	0	Fair	
Duluth, Minn.			30.08	764.0	27	— 2.8	77	SW	1	0.4			10s			0	0	Cloudy	
Eastport, Me.			30.08	764.0	33	0.6	89	N	15	6.7			10s		N	0	0	Threatening	
Erie, Pa.			30.07	763.8	38	3.3	90	E	12	5.4			10ks		NE	0.78	19.8	Cloudy	
Escanaba, Mich.			30.21	767.3	25	— 3.9	75	W	4	1.8			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			30.30	769.6	29	— 1.7	88	NW	1	0.4			10s			0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.04	737.6	30.26	768.6	18	— 7.8	39	N	4	1.8		5cs	0	W		0	0	Fair	
Fort Sully, Dakota	28.29	718.6	30.05	763.3	21	— 6.1	85	SE	4	1.8			10s			0	0	Cloudy	
Florence, Arizona	28.54	724.9	30.06	763.5	55	12.8		NE				0	0			0	0	Clear	
Galveston, Tex.			30.29	769.4	40	4.4	82	N	20	8.9			10s		SW	0.81	20.6	Cloudy	
Grand Haven, Mich.			30.23	767.8	26	— 3.3	88	NE	3	1.3		1c	2s	NW		0	0	Fair	
Indianapolis, Ind.			30.23	767.8	35	1.7	80	N	3	1.3		0	8s		NE	0.38	9.7	Clearing	
Indianola, Tex.			30.30	769.6	37	2.8	100	N	18	8.0			10n			0.35	8.9	Light rain	
Jacksonville, Fla.			30.14	765.5	57	13.9	81	SW	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa			30.26	768.6	26	— 3.3	100	Calm	0	0			Fog			0.16	4.1	Foggy	
Key West, Fla.			30.08	764.0	67	19.4	90	NE	10	4.5		5ck	5ks		N	0	0	Threatening	
Kittyhawk, N. C.			29.96	761.0	53	11.7	93	SW	6	2.7			10s			0	0	Cloudy	
Knoxville, Tenn.			30.14	765.5	46	7.8	69	NW	8	3.6			10ks		NW	0.02	0.5	Cloudy	
La Crosse, Wis.			30.20	767.1	28	— 2.2	77	S	10	4.5			10s		S	0	0	Cloudy	
Leavenworth, Kan.			30.29	769.4	14	—10.0	81	S	2	0.9		0	0			0	0	Clear	
Louisville, Ky.			30.22	767.6	39	3.9	91	NW	12	5.4			10s		NW	0.32	8.1	Cloudy	
Lynchburg, Va.			29.88	758.9	54	12.2	100	Calm	0	0			Fog			0.01	0.3	Foggy	
Malone, N. Y.			30.15	765.8	28	— 2.2	78	NE	5	2.2			10s		NE	0.10	2.5	Cloudy	
Marquette, Mich.			30.17	766.3	27	— 2.8	77	W	12	5.4		0	0			0	0	Clear	
Memphis, Tenn.			30.29	769.4	38	3.3	80	N	8	3.6			10s		NW	0.06	1.5	Cloudy	
Milwaukee, Wis.			30.27	768.8	32	0.0	69	W	6	2.7			10ks		W	0	0	Cloudy	
Mobile, Ala.			30.16	766.1	57	13.9	87	N	8	3.6			10s		N	0	0	Cloudy	
Montgomery, Ala.			30.16	766.1	53	11.7	86	NW	7	3.1			10s		NW	0	0	Cloudy	
Morgantown, W. Va.	28.94	735.1	30.00	762.0	43	6.1	91	NW	18	8.0			10n		NW	0.33	8.4	Light rain	
Mt. Washington, N. H.	23.64	600.4	30.00	762.0	16	— 8.9	83	NW	10	4.5		5c	10s	NW	NW	0	0	Cloudy	
Nashville, Tenn.			30.22	767.6	42	5.6	83	NW	6	2.7			10s		NW	0.06	1.5	Cloudy	
New Haven, Conn.			30.02	762.5	39	3.9	100	NE	16	7.2			10n,fp		NE	0.10	2.5	Light rain	
New London, Conn.			30.05	763.3	42	5.6	100	NE	6	2.7			10n			0.15	3.8	Light rain	
New Orleans, La.			30.16	766.1	56	13.3	75	N	10	4.5		5k	5s	N	N	0	0	Cloudy	
Newport, R. I.			30.04	763.0	42	5.6	91	NE	8	3.6			10n		NE	0.06	1.5	Light rain	
New York, N. Y.			29.97	761.2	44	6.7	92	NE	20	8.9			10n		NE	0.17	4.3	Light rain	
Norfolk, Va.			29.91	759.7	57	13.9	81	S	6	2.7			10s			Inap.	Inap.	Cloudy	
North Platte, Neb.	27.01	686.0	29.68	753.9	24	— 4.4	86	SW	4	1.8		10cs	0	W		0	0	Cloudy	
Omaha, Neb.	29.00	736.6	30.15	765.8	22	— 5.6	85	S	6	2.7		2c	0	W		0	0	Clear	
Oswego, N. Y.			30.11	764.8	38.3	3.5	90	NE	3	1.3			10s		NE	0.05	1.3	Cloudy	
Pembina, Dakota			30.05	763.3	12	—11.1	100	NE	12	5.4			10n			0.12	3.0	Light snow	
Philadelphia, Pa.			29.93	760.2	44	6.7	100	E	18	8.0			10s		E	0.28	7.1	Cloudy	
Pike's Peak, Col.	17.79	451.8	30.00	762.0	19	— 7.2	54	NW	20	8.9		1cs	0			0	0	Clear	
Pittsburgh, Pa.			29.97	761.2	41	5.0	91	NW	11	4.9			10s		NW	0.46	11.7	Cloudy	
Port Huron, Mich.			30.16	766.1	35	1.7	90	E	2	0.9			10s		NE	0.07	1.8	Cloudy	
Portland, Me.			30.12	765.0	36	2.2	61	NE	9	4.0			10ks			0	0	Cloudy	
Portland, Oregon			30.05	763.3	50	10.0	93	SE	1	0.4		0	0			1.93	49.0	Clear	
Punta Rassa, Fla.			30.14	765.5	65.5	18.6	89	NE	7	3.1		8ck	0	SE		0	0	Fair	
Rochester, N. Y.			30.07	763.8	36	2.2	90	E	4	1.8			10s		E	0.23	5.8	Cloudy	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	38	3.3	63	NW	2	0.9		0	0			0	0	Clear	
Sandy Hook, N. J.			29.91	759.7	45	7.2	100	NE	17	7.6			10n		NE	0.22	5.6	Light rain	
San Diego, Cal.			30.05	763.3	52	11.1	27	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.16	766.1	55	12.8	87	N	1	0.4			10s			0	0	Cloudy	
Santa Fé, N. M.	23.32	592.3	29.86	758.4	26	— 3.3	76	N	8	3.6		0	0			0	0	Clear	
Savannah, Ga.			30.10	764.5	59	15.0	76	W	4	1.8		8k	Sm'e			0	0	Cloudy	
Shreveport, La.			30.37	771.4	37	2.8	81	N	4	1.8			10s			0	0	Cloudy	
Smithville, N. C.			30.01	762.2	61	16.1	83	SW	8	3.6		8c,k	0	W		0	0	Cloudy	
Springfield, Mass.			30.06	763.5	39	3.9	90	NE	4	1.8			10n			0.15	3.8	Light rain	
St. Louis, Mo.			30.30	769.6	32	0.0	89	N	4	1.8			10s			0.06	1.5	Cloudy	
St. Marks, Fla.			30.12	765.0	51	10.6	96	Calm	0	0		0	5ks		NE	0	0	Fair	
St. Paul, Minn.			30.08	764.0	25	— 3.9	88	SE	6	2.7			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.11	764.8	40	4.4	73	NE	12	5.4			10s		NE	0	0	Cloudy	
Toledo, Ohio			30.16	766.1	36	2.2	80	NW	10	4.5			10s			0.39	9.9	Cloudy	
Tucson, Arizona	27.61	701.3	30.16	766.1	44	6.7		SE				0	0			0	0	Clear	
Tybee Island, Ga.			30.06	763.5	55	12.8	93	SW	5	2.2		5ck	Sm'e	SW		0	0	Fair	
Vicksburg, Miss.			30.30	769.6	41	5.0	91	N	4	1.8			10s		N	0.15	3.8	Cloudy	
Virginia City, M. T.	24.16	613.6	29.64	752.8	37	2.8	80	N	9	4.0			8ks			0.02	0.5	Cloudy	
Washington, D. C.			29.92	760.0	48	8.9	100	NE	6	2.7			Fog			0.24	6.1	Foggy	
Wilmington, N. C.			30.00	762.0	57	13.9	75	SW	7	3.1		8cs	0	W		0	0	Fair	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.07	763.8	45	7.2	85	NE	3	1.3			10n		NE	Inap.	Inap.	Light rain	
Yankton, Dakota	28.65	727.7	30.01	762.2	23	— 5.0	73	S	6	2.7		0	0			0	0	Clear	
Yuma, Arizona			30.08	764.0	50	10.0		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	76	24.4	82	Calm	0	0		2c	2s			0.03	0.8		James Gall.
Navassa, W. I.					79	26.1		NE			2					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.14	689.3	29.92	760.0	66	18.9	83									0.26	6.6	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			29.95	760.7	82	27.8	82	E			3	3k	5k	E		0.240	6.10	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.02	762.5			85.1	29.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8			64.0	17.8	87	W			1	1cs	2ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.25	768.3	—24.0	—31.1		W	18	8.0		0	0			0.01	0.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	74.5	23.0		NE			1					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Hyannis, Mass.			30.01	762.2	45	7.2	92	NE	6	2.7			10ks		NE			Threatening	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,802.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 16, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
N'mours			30.07	763.7	71.2	21.8	63	Calm			0		4			0	0	Fair	Charnot.
Algiers			30.01	762.3	71.6	22.0	55	W			1		9			0.098	2.5	Hidden	Peter.
La Calle			29.98	761.4	70.7	21.5	75	ENE			2		3			0	0	Fair	Fleury.
Tunis			30.01	762.2	72.1	22.3	56	E			2		7			0	0	Cloudy	Jacques.
Max			30.02	762.4															
Saida			30.12	765.1	58.6	14.8	76	NNW			1		7			0.157	4.0	Cloudy	Millot.'
Tebessa			30.02	762.5	75.2	24.0		SW			3		3			0	0	Fair	Bourgeois.
Geriville			30.08	763.9	61.0	16.1	70	SSE			2		2			0	0	Clear	Lemaillot.
Laghouat			30.08	764.0	71.6	22.0	40	SW			2		1			0	0	Clear	Guyot.
Biskra			29.96	760.9	78.8	26.0	30	NE			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
A'ram			30.01	762.2	41.0	5.0	89	Calm			0		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.10	764.6	35.6	2.0	89	NE			2		10			0	0		Dr. Wierzbiski.
Eperies			30.11	764.9	36.1	2.3	84	Calm			0		0			0.016	0.40		Julius Mikolik.
Gratz	28.73	729.7	30.03	762.7	34.7	1.5	91	SW			2		10			0.020	0.5		Andreas Rospini.
Hermannstadt	28.65	727.7	30.15	765.8	32.4	0.2	78	SE			2		0			0	0		Prof. Reissenberger.
Kremsmünster	28.48	723.5	29.88	758.9	33.4	0.8	92	E			2		10			0	0		Prof. C. Wagner.
Lemberg			30.16	766.1	33.8	1.0	94	SE			1		9			0.002	0.05		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.95	760.6	58.5	14.7	90	ESE			1		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			30.08	763.9	34.5	1.4	74	Calm			0		10			0	0		Karl Stancel.
Trie te			29.97	761.2	52.5	11.4	100	Calm			0		10			0.189	4.8	Rain and fog	Prof. V. Farolfi.
Vienna			30.21	767.2	35.1	1.7	94	SSE			2		10			0.024	0.6	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.60	751.7	59.7	15.4	79	S			2	..0	0			0.02	0.60		Royal Observatory

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 4 hours. Inches.	Rain-fall or melted snow in the past 4 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.54	750.3	47.4	8.6		ENE	18	8.0						0	0	Foggy	William Boswell.
Ardrossan			29.36	745.7	50	10.0		NE			4		9					Raining	William McNeil.
Armagh, Observatory			29.30	744.2	47.9	8.8		NNE	10	4.5			10					Rain & fog	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.28	743.7	48.9	9.4		NNW			2		10					Raining	J. Dreyer.
Bradford			29.37	746.0	53.9	12.2		S			4		10			0.27	6.9	Drizzling	J. McLandsborough.
Bridgetown, (Barbados)			29.92	760.0	84.5	29.2		E			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.44	747.8	58.8	14.9		S			1		7					*D. clouds	H. Todd. [H.C.
Cardington			29.42	747.3	58.6	14.8		S			1		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.48	748.8	57.2	14.0		SW			1		8					Hazy	Capt. Fellowes, R. E.
Dartmoor	7.80	707.4	29.32	747.7	51.0	10.6		S			6		10					Raining	R. F. Power.
Davos Platz, (Switzerland)	24.69	627.1			48.1	8.9	69	SW			1		8			0.02	0.61	*D. clouds	Francis Redford, M. A.
Donaghadee			29.30	744.2	51	10.6		ENE			4		10					Raining	J. Mac Gowan.
Dover			29.51	749.5	55	12.8		S			3		2					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.32	744.7	56.6	13.7		SE	6.4	2.9			10					Showery	Thomas Mackereth.
Falmouth, Observatory			29.16	740.7	55.3	12.9		S			5		10					Rain & fog	The Staff.
Fort Napier, (Natal)	7.80	706.1	30.03	762.7	70.9	21.6		NE			3		6					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.83	757.7	83.0	28.3		N			2		5					*D. clouds	
Galway, Queen's College			29.29	744.0	51	10.6		S			2		7					Showery	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.91	759.7	66.5	19.2		NW			3		4					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.38	746.2	48.3	9.1		NE			2		10					Raining	Lewis Stuart.
Great Yarmouth			29.51	749.5	52	11.1		S			3		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.46	748.3	61.3	16.3		SSW			2		2			8		*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.33	745.0	58.5	14.7		SE			5		0					Blue sky	Dr. S. F. Hoskins.
Helston			29.16	740.7	56	13.3		S			4		10n			0.56	14.2		M. P. Moyle.
Holyhead			29.21	741.9	53	11.7		E			3		10					Gloomy	John Tilston.
Kew, Observatory			29.44	747.8	59.4	15.2		S	20	8.9			4					*D. clouds	The Staff.
Kingstown			29.22	742.2	52	11.1		ENE			4		10					Hazy	George Mitchell.
Leicester Museum			29.40	746.7	57.0	13.9		SE			1		6					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	72.4	22.4		SE			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.51	749.5	47	8.3		ESE			1							Hazy	W. D. Penny.
Nassau, (Bahamas)			30.09	764.3	73.0	22.8		NE			3		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.40	746.7	56.2	13.4		S			3		10k,d		S	0.27	7.00	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.34	745.2	53.8	12.1		SSE			2		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.38	746.2	58	14.4		S			3		10					Gloomy	J. Lucas.
Plymouth			29.20	741.7	55.2	12.9		S			6		10					Raining	John Merrifield.
Roche's Point			29.25	742.9	50	10.0		N			4		10					Raining	W. Kennedy.
Saint Ann's Head			29.14	740.1	54	12.2		SE			3		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.38	746.2	58.6	14.8		SSW			6		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.60	751.8	48.3	9.1		SE	1	0.4			10					Foggy	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.01	762.2	45.0	7.2		NE			2		9					Raining	Sergt. W. H. Lyne.
Sheffield			29.36	745.7	54.8	12.7		SE			2		9			0.02	0.58	Drizzling	W. F. Cooper.
Silloth Rectory			29.32	744.7	53.8	12.1	88	SE			4		5			0.15	3.81	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.34	745.2	51.2	10.7		SE			2		10					Drizzling	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.51	749.5	48	8.9		ENE			2		10					Overcast	John Smith.
Stratfield Turgiss			29.41	747.0	59.2	15.1		S			3		2c					Blue sky	Rev. Charles H. Griffith
Thurso			29.57	751.1	47	8.3		Calm			0		10					Foggy	John Trotter.
Truro, Royal Institution			29.18	741.1	57	13.9		S			7		10					Raining	W. Newcombe.
Valencia, Observatory			29.35	745.0	51.1	10.6		N	7	3.1			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					50	10.0		E			4		10			0.10	2.5		Henry Mercer.
Cape Good Hope, Obs'y			29.81	757.2	93.2	34.0	28	SE	11	4.9		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.93	760.2	65.5	18.6	88	S			3		7kn			0.15	3.8		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.44	747.8	47.9	8.8		E			3		10n			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				WSW	3.4	1.5						0	0		C. Meldrum.
Melbourne, Observatory			29.89	759.2	55.1	12.8	93	SSW	18	8.0			10			2.58	65.5	Raining	R. L. J. Ellery.
Monach Light-house, (Hebrides)			29.40	746.7	51	10.6		NE			4		0	NE		0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.09	754.1	46	7.8		S			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot to Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José

DANISH SERIES.

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

Copenhagen			29.97	761.1	41.9	5.5	91	SSE			6		10						
Fanöe			29.82	757.4	41.4	5.2	98	SSE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.82	757.5	41.9	5.5	79	NE			6		8						
Thorshavn, (Faröe)			29.61	752.2	47.8	8.8	96	Calm			0		10					Misty	
Vestervig			29.84	758.0	38.7	3.6	100	SE			4		0					Misty	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.58	751.2	53.6	12.0	81	SW			3		8k		SW	0.402	10.2	Very cloudy	Normal School.
Amiens			29.56	750.9	64.4	18.0	69	S			2		0			0.083	2.1	Clear	Normal School.
Avignon			29.73	755.1	70.2	21.2	49	S			6		5		S	0.031	0.8	Cloudy	Normal School.
Bar-sur-Seine			29.65	753.0	59.0	15.0	83	S			2		8		S	0.177	4.5	Light rain	C. Saillard.
Beaumette, (near Angers)			29.50	749.4	58.8	14.9	80	S	4.3	1.9					S	0.118	3.0		Beaumette Observ'tory.
Beauvais			29.59	751.5	59.5	15.3	75	S			1		2		S	0.16	4.	Slightly cl'dy	Normal School.
Besançon			29.71	754.6	57.9	14.4	86	E			2		2		SW	0.47	12.	Slightly cl'dy	Normal School.
Bourg en Bresse			29.79	756.6	63.1	17.3	96	N			2		5n		N	0.047	1.2	Cloudy	Normal School.
Bourges			29.63	752.5	56.3	13.5	100	SW			2		8		W	0.213	5.4	Very cloudy	Normal School.
Brest			29.25	743.0	55.9	13.3	90	SW			7		10		SW	0.492	12.50	Raining	Naval Observatory.
Carcassonne			29.61	752.0	59.0	15	74	E			4		8		W	0	.0	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.54	750.4	59.2	15.1	90				2		5			0.606	15.4	Cloudy	Normal School.
Châlons-sur-Marne			29.64	752.8	63.3	17.4	68	SSE			2		5ck		N	0.043	1.1	Cloudy	Normal School.
Clermont			29.58	751.2	67.8	19.9	46	SW			3		8		SW	0.016	0.4		Puy de Dome Obs'y.
Commercy			29.72	754.9	55.2	12.9	90	S			4		5kn		S	0.244	6.2	Raining	Normal School.
Commune de Gréasque*			29.84	758.0	67.5	19.7	43	SE			4		8		SE	0	0		M. Kina.
Grenoble			29.81	757.2	57.4	14.1	90	NE			2		5kn		NE	0	0	Cloudy	Normal School.
La Roche-sur-Yon					61.2	16.2	81	S			1		5		NE	0.055	1.4	Partly cl'dy.	Normal School.
Le Mans			29.54	750.3	58.5	14.7	84	S			2		5		S	0.324	8.25	Cloudy	Normal School.
Lons-Le-Saulnier			29.67	753.7	62.8	17.1	63	W			1		2		SW	0.35	9.	Raining	Normal School.
Lorient			29.44	747.7	60.4	15.8	77	SSW			5		8		SW	0.264	6.7	Very cloudy	Naval Observatory.
Mâcon			29.78	756.4	60.8	16	91	Calm			0		0			0	0	Clear	Normal School.
Metz			29.79	756.7	50.9	10.5	94	NE			1		10			0.295	7.5		M. Schuster.
Mirecourt			29.70	754.4	51.3	10.7	80	SSE					5		NNW	0	0	Partly cl'dy.	Normal School.
Nîmes			29.71	754.7	66.4	19.1	81	SW			4		2		S	0.532	13.5	Slightly cl'dy	Normal School.
Orleans			29.56	750.8	58.3	14.6	93	SSW			2		5		SE	0.283	7.2	Cloudy	Normal School.
Paris, Observatory			29.60	751.7	61.3	16.3	72	S			2		8k		S	0.187	4.74	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.84	757.8	61.7	16.5		S			4		10		S	0.157	4.0	Covered	Normal School.
Rochefort, Observatory			29.54	750.4	64.4	18.0	60	S			5		2		NE	0.49[illegible]	12.5	¾ covered	Naval Observatory.
Rouen			29.54	750.2	62.2	16.8	66	SSE			2		2		S	0.169	4.3	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.42	721.8	29.48	748.8	53.6	12		W			2		10			0	0	Covered	Normal School.
Villefranche			29.74	755.5	63.5	17.5	81	SSW			2		8		SE	0.04	1.	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.80	756.8	81.0	27.2													L'Abbé Marchési.
Marseilles			29.75	755.6	68.0	20.0	64	SE			3		10			0.047	1.20	Very cloudy	Marseilles Observatory.
Mont-Louis	24.57	624.0	29.89	759.1	44.8	7.1	82	SSW	33.6	15.00			5		SSW	0.425	10.8		—. Falguère.
Montsouris, Paris			29.59	751.6	61.9	16.6	71	SSE			2		7		SSW	0.173	4.4		Montsouris Observatory
Perpignan			29.59	751.5	72.3	22.4	30	SW	16.8	7.50			5		SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.94	531.8			29.7	— 1.3		SSW			3		10			Blank	Blank		M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.20	563.9			33.8	1.0		SSW			3		8			0.043	1.1		General de Nansouty.
Saint Maur, (near Paris)			29.60	751.7	61.7	16.5	71	S			2		5			0.110	2.8	Cloudy	E. Renou.
Toulouse			29.67	753.5	63.3	17.4	70	W			1		10			0	0	Cloudy	Toulouse Observatory.
Tours			29.56	750.8	58.6	14.8	64	SW			2		6		WSW	0.327	8.3		C. Marquet.
Versailles, (near Paris)			29.60	751.7	62.6	17.0	72	SW			1		7			0.206	5.22	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.02	762.5	54.0	12.2	100	ENE	7.4	3.33			10			1.138	28.9		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; th rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.81	757.1	38.7	3.7	87	SSE			2		10			0	0	Smoke-haze.	Prof. T. Hoh.
Berlin			29.93	760.1	43.7	6.5	82	SE			2		10			0	0		Prof. Arndt.
Breslau			30.01	762.3	43.3	6.3	83	ESE			5		10			0	0		Royal University Obs'y.
Carlsruhe			29.78	756.4	46.0	7.8	86	N			1		9			0.079	2.0		A. Senz.
Cassel			29.79	756.7	46.4	8.0	83	SW			2		8	SE		0	0		Dr. H. Möhl.
Emden			29.80	756.8	47.3	8.5	88	ESE			1		10			0.035	0.9		Prof. Prestel.
Frankfort on the Main			29.82	757.5	41.0	5.0	75	E			1		10			Inap.	Inap.		Physical Society.
Friedrichshafen			29.83	757.7	44.2	6.8	75	ENE			3		4			0	0		M. Wilhelm.
Hamburg			29.80	757.0	44.2	6.8	94	SE			4		10			0.004	0.1	Foggy	Captain F. Hegemann.
Kiel			29.82	757.5	44.6	7.0	89	ESE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.21	767.4	32.9	0.5	86	SE			2		8			Inap.	Inap.		Prof. E. Luther.
Köslin			30.09	764.3	34.7	1.5		S			4		4			0.378	9.6		H. Müller.
Leipsic			29.87	758.6	44.6	7.0	77	SE			3		8			0	0		Prof. Bruhns.
Memel			30.24	768.2	30.7	— 0.7	88	SSE			2		10ks			0	0	Smoke-haze.	Reinbrecht & Skalweit.
Münster			29.63	752.6	52.0	11.1	85	NE			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.18	766.5	34.2	1.2	91	S			3		10			0.016	0.4	Smoke-haze.	A Lothe.
Posen			30.07	763.7	39.2	4.0	83	SE			5		10						Dr. Magener.
Strassburg, (in Alsace)			29.80	757.0	43.5	6.4	89	NE			1		10	NW		0.094	2.4		Dr. Schur.
Stuttgart			29.80	756.8	44.1	6.7	83	W			1		6			0.051	1.3		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.67	753.5	50.5	10.3	89	NE			2		5			0.142	3.6		Prof. Flesch.
Weissenburg, (Bavaria,)	28.34	719.9	29.91	759.6	34.5	1.4	89	NE	4	2			10			0	0	Light fog	Dr. von Bebber.
Wustrow, Naval School			29.98	761.6	41.2	5.1	88	SE			4		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 24°, 45′, W. 17°, 52′.			30.10	764.6	75.9	24.4	69	NE			3		2		NE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.97	761.2	61.5	16.4		SW										Very cloudy	

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

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			29.74	760.4	49.3	9.6	91						10			0.055	1.4	Raining	Prof. Giovanni Clodig
Padua			29.93	760.3	51.3	10.7	81	NNE	5.6	2.5			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.95	760.6	51.1	10.6	81	NE	0	0			10			0	0		Alm. Da Schio.
Verona			29.97	761.2	57.6	14.2	67	E			2		10			0.425	10.8	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.97	761.2	45.5	7.6	91	Calm			0		10			0.303	7.7	Raining	Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			29.96	761.0	47.3	8.5	93	NE			1		10			0.07	2.0	Raining	Prof. Gio. Cantoni.
Moncalieri			29.98	761.6	46.0	7.8	96	NNW	0.7	0.3			10			0.28	7.1	Raining	Prof. P. F. Denza.
Mondovi	28.02	711.9	29.97	761.3	44.2	6.8	99	NW			2		10			0.346	8.8	Raining	Prof. C. Bruno.
Porto Maurizio			29.90	759.5	62.8	17.1	73	E			2		9	SW		0.08	2.1	Raining	Prof. L. Vassallo.
Genoa			29.88	759.0	52.9	11.6	81	N	4.4	2.2			10	SE		1.79	45.6	Raining	Prof. Garibaldi,
Piacenza			29.97	761.1	47.3	8.5	87	N	0.7	0.3			10			0.118	3.0	Raining	Dott. G. Manzi.
Parma			29.97	761.1	49.3	9.6	68	E			2		10			0.04	1.1	Raining	Prof. P. Pigorini.
Bologna			29.96	761.0	49.3	9.6	49	W			1		10			0	0		Prof. A. Palagi.
Florence			29.95	760.6	54.5	12.5	91	N			2		10			0.008	0.2	Dense fog	Cav. F. Meucci.
Leghorn			29.89	759.3	58.6	14.8	89	E	6.1	2.8			10			0	0		Prof. P. Monte.
Siena	28.71	729.1	29.93	760.3	54.9	12.7	85	ESE	0	0			10	SW		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.94	760.5	51.3	10.7	88	NE	25.6	11.4			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.95	760.6	56.5	13.6	80	SE			4		1			0	0		Prof. F. De—Bosis.
Grosseto			29.93	760.2	63.0	17.2	78	SE			2		10	S		0	0		Avv. P. Ponticelli.
Rome			29.93	760.1	63.7	17.6	73	NNW	1.3	0.6			10	W		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.97	761.3	67.6	19.8	64	SW			2		3	SW		0	0		Prof. L. Palmieri.
Lecce			30.00	762.0	57.6	14.2	55	ENE	6.6	3.1			10	N		0	0		Prof. C. De—Giorgi.
Cosenza			30.01	762.3	59.0	15.0	72	SE	1.8	0.8			2			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.6	64.4	18.0	76	N			2		9			0	0		Prof. F. Cafiero.
Palermo			29.87	758.7	69.1	20.6	56	NE	3.[illegible]	1.4			9			0	0		Prof. G. Cacciatore.
Caltanissetta	28.00	711.1	29.95	760.7	63.5	17.5	74	SSE			1		6	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.97	761.3	64.4	18.0	70	W	1.3	0.6			5	SW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

Flushing			29.61	752.1	56.1	13.4		S			2								
Groningen			29.64	752.9	46.6	8.1		E			2								
Helder			29.63	752.6	50.0	10.0		SE			2								
Utrecht			29.61	752.0	54.0	12.2	83	SSE			3		5			0	0	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level

NORWEGIAN SERIES.

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

Bergen			29.81	757.1	41.0	5.0	97	Calm	0	0			10			0.177	4.5		
Brönö			29.89	759.1	35.6	2.0	93	Calm	0	0			10			0	0		
Christiania			30.03	762.8	30.9	− 0.6	96	ENE	0	0			10			0.062	1.6	Light fog	
Tromsö			29.96	761.0	27.7	− 2.4	79	NE	13	6			10			0.09	2.3		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.93	760.3	61.2	16.2	73	S	4.9	2 2			6			0	0		Dr. J. A. Sampaio.
Campo Major			29.77	756.1	54.5	12.5	86	SSW	9.8	4.4			10	SW		0.[illegible]83	7.2	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.09	764.2	69.4	20.8	58	S	8.1	1.4			6			0	0		Capt. D. A. de Cunha.
Lisbon			29.82	757.3	61.3	16.3	69	WNW	15.0	6.7			8			0.551	14.0		The Observatory.
Ponta Delgada, (Azores)			29.99	761.7	65.5	18.6	59	SSW	8.1	3.61			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.15	765.8	35.6	2.0	85	SE	11	5			10						Astronomical Obs.
Wilna			30.30	769.7	31.8	— 0.1	87	Calm	0	0			10						Astronomical Obs.
Dorpat			30.29	769.3	25.7	— 3.5	94	WSW	7	3			10						Physical Cabinet.
St. Petersburg			30.20	767.1	24.6	— 4.1	98	NNW	7	3			10						Central Physical Obs.
Kuopio			30.08	763.9	24.4	— 4.2	100	WSW	7	3			10						Ch. Forsten.
Kieff			30.21	767.3	33.6	0.9	85	NE	2	1			10						Physical Cabinet.
Nikolaiev			30.11	764.9	38.3	3.5	82	NNE	18	8			8						Kurdakof.
Kertch			30.04	762.9	43.3	6.3	94	ENE	11	5			10						Lagorio.
Moscow			30.21	767.3	30.4	— 0.9	86	SSW	4	2			10						Meteorological Obs.
Lugan			29.98	761.6	38.3	3.5	93	NNE	16	7			10			Blank	Blank		Meteorological Obs.
Archangel			29.96	761.0	26.6	— 3.0	94	Calm	0	0			10						Ogorodnikof.
Tiflis	28.52	724.4	29.93	760.3	55.0	12.8	81	Calm	0	0			10						Physical Observatory.
Astrakhan			30.08	763.9	42.6	5.9	63	ESE	13	6			9						Sebastianof.
Kasan			30.21	767.4	23.0	— 5.0	90	S	7	3			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.34	745.1	30.34	770.5	28.9	— 1.7	74	Calm	0	0			4						Meteorogical Obs.
Nukuss			30.27	768.9	46.4	8.0	31	NE	9	4			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.53	775.5	23.9	— 4.5	98	SW	13	6			10						Meteorological Obs.
Yeniseisk			30.04	763.1	— 7.8	—22.1	83	SE	16	7			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.14	765.5	40.5	4.7	50	W	9	4			1						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.16	766.0	19.2	— 7.1	69	Calm	0	0			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.77	756.2	56.1	13.4	67	SW	12.0	5.34		0	6			0.126	3.2	Cloudy	Royal Observatory.
San Fernando			29.91	759.6	65.7	18.7	73	WSW	17.9	8.0		0	8		WSW	0.016	0.4		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.87	758.6	32.0	0.0	89	SW			2		10			0	0		
Umea			29.93	760.1	32.4	0.2	100	SW			4		10					Snowing	
Hernosand			29.97	761.3	31.6	— 0.2	90	SSW			2		10			0	0		
Stockholm			30.17	766.2	36.7	2.6	89	S			2		10			0	0		
Wisby			30.17	766.3	38.5	3.6	87	SSE			6		10			0	0		
SUB-SERIES.																			
Upsala			30.07	763.7	36.3	2.4	91	S	11.4	5.1			10		W	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.36	720.3	29.81	757.1	46.4	8.0	100	SW			1		10			0.186	4.7	Foggy	The Observatory.
Zurich	28.16	715.2	29.82	757.5	46.0	7.8	86	NW			1		2			0.016	0.4	Clear	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —6.1 mm; Thermometer, +1.3 cent.; Relative Humidity, +23 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			30.05	763.2	45.0	7.2	73	N	7	3.0			8		N	0.835	21.2		
Fao, (Persian Gulf)																			
Salonica			30.06	763.4	58.6	14.8		SE			1		10						
Yalona			29.99	761.8	63.3	17.4		W			1		5						
Varna			30.00	762.0	37.4	3.0		NE			3		5						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.99	761.8	67.3	19.6	57	WSW			3		3ks		SW	0.31	7.9	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			30.26	768.6	29.5	— 1.4	77	N	3	1.3			5			0	0		Hon. J. Ferguson
Brockville, Ontario			30.41	772.4	22	— 5.6		Calm	0	0		2c	0			0	0	Fair	W. R. Bigg.
*Chatham, N. B			30.24	768.1	25	— 3.9	93	NW	10	4.5		8c	2ks	N	N	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			30.14	765.5	33	0.6	91	N	18	8.0			10n			0.13	3.30	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario			30.32	770.1	29.7	— 1.3	85	NE			1	0	0			0	0	Bright	James Smith, M. A.
Dalhousie, N. B			30.33	770.4				W			1					0	0		H. A. Johnson.
Esquimault, B. C			29.64	752.8	45.3	7.4	100	W					10			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			30.28	769.1	26.0	— 3.3	75	N	4	1.8		0	1s			0	0	Fine	Prof. Harrison.
*Fort Garry, Manitoba			30.18	766.6	12	—11.1	94	NE	1	0.4			10n			0.06	0.20	Cloudy	James Stewart.
Goderich, Ontario			30.28	769.1	36.0	2.2	85	S			2	10k			SW	0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	29.10	739.1	30.26	768.6	32	0.0	90	S			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			30.07	763.8	35	1.7	84	N	13	5.8			5ks		N	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																0	0		E. Weedon.
*Kingston, Ontario			30.36	771.1	29	— 1.7	99	Calm	0	0		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.96	761.0	37.8	3.2	98	NE	8	3.6			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			30.34	770.6	26	— 3.3	85	NE	10	4.5		0	0			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.35	770.9	26	— 3.3	81	Calm	0	0		0	2s		E	0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.28	769.1	32	0.0	79	E	4	1.8		5k	5ks	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.29	769.4	35	1.7	80	N	4	1.8		10k	0	W		0	0	Cloudy	H. Morgan.
Port Hastings, N. S			30.02	762.5	38.4	3.6		NW	18	8.0						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.29	769.4	34	1.1	88	NW	4	1.8			10n		SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.36	771.1	27	— 2.8	76	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B			30.24	768.1	28	— 2.2	88	N	8	3.6		8ck	0			0	0	Fine	G. Murdoch, C. E.
*Saugeen, Ontario			30.24	768.1	33	0.6	80	SE	3	1.3			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.30	769.6	30	— 1.1	98	Calm	0	0			10ks			0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.94	735.1	30.28	769.1	32.0	0.0	89	Calm	0	0			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			30.01	762.2	37	2.8	86	N	15	6.7			10n		N	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.33	770.4	33	0.6	82	NW	3	1.3			10ks		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.32	770.1	32.7	0.4	88	Calm	0	0			10s			Inap.	Inap.	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.87	758.7	38.0	3.3	90	N	6	2.7			10n			0.01	0.3	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.27	768.8	31	— 0.6	89	Calm	0	0		10k	0	NW		0.03	0.8	Cloudy	
Alpena, Mich.			30.21	767.3	34	1.1	79	SW	4	1.8			10s		SW	0	0	Cloudy	
Atlantic City, N. J.			30.26	768.6	41	5.0	73	N	14	6.3			10s		NW	0.26	6.6	Cloudy	
Augusta, Ga.			30.18	766.6	46	7.8	84	NW	3	1.3		0	Haze			0	0	Clear	
Baltimore, Md.			30.30	769.6	45	7.2	68	NE	4	1.8			10s		E	0.05	1.3	Cloudy	
Barnegat, N. J.			30.25	768.3	41	5.0	73	N	15	6.7		10k	2s	NW	N	0.68	17.3	Clearing	
Bismarck, Dakota	28.24	717.3	30.02	762.5	11	—11.7	79	NE	4	1.8		0	2s			Inap.	Inap.	Fair	
Boston, Mass.			30.24	768.1	32	0.0	69	N	8	3.6		5cs	Haze	W		0.02	0.5	Fair	
Breckenridge, Minn.			30.09	764.3	19	— 7.2	84	NW	8	3.6			10s		NW	0	0	Cloudy	
Buffalo, N. Y.			30.28	769.1	36	2.2	70	Calm	0	0			10s			0.07	1.8	Cloudy, fog.	
Burlington, Vt.			30.33	770.4	28	— 2.2	67	N	2	0.9		2k	0			0	0	Fair	
Cairo, Ill.			30.23	767.8	39	3.9	81	SE	3	1.3			10s			0	0	Cloudy	
Cape Hatteras, N. C.			30.09	764.3	55	12.8	73	NE	16	7.2			10s		NE	0	0	Cloudy	
Cape Henry, Va.			30.21	767.3	48	8.9	92	N	11	4.9			10s		NE	0	0	Cloudy	
Cape Lookout, N. C.			30.17	766.3	53	11.7	79	NE	20	8.9		0	5ks		NE	0	0	Fair	
Cape May, N. J.			30.26	768.6	41	5.0	83	N	8	3.6			10s		N	0.02	0.5	Cloudy	
Charleston, S. C.			30.13	765.3	57	13.9	81	NE	6	2.7			10s		E	0	0	Cloudy	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	34	1.1	61	NW	12	5.4		0	0			0	0	Clear	
Chicago, Ill.			30.18	766.6	38	3.3	71	S	3	1.3			10s			0	0	Cloudy	
Cincinnati, Ohio			30.19	766.8	43	6.1	67	E	4	1.8			10s			0.02	0.5	Cloudy	
Cleveland, Ohio			30.30	769.6	38	3.3	80	SE	4	1.8			10s		SE	0.01	0.3	Cloudy	
Corsicana, Tex.			30.16	766.1	40	4.4	82	E	1	0.4		2cs	5s		W	0.03	0.8	Cloudy	
Davenport, Iowa			30.18	766.6	32	0.0	79	SW	12	5.4			10s			0	0	Cloudy	
Denison, Tex.			30.17	766.3	37	2.8	90	SE	2	0.9			10s			0.28	7.1	Cloudy	
Denver, Col.	24.73	628.1	29.95	760.7	38	3.3	71	S	9	4.0		0	0			0	0	Clear	
Detroit, Mich.			30.27	768.8	33	0.6	79	W	1	0.4			10s			0	0	Cloudy	
Dodge City, Kan.	27.33	694.2	29.73	755.1	25	— 3.9	75	SW	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa			30.16	766.1	30	— 1.1	89	S	5	2.2			10s			0	0	Cloudy	
Duluth, Minn.			30.04	763.0	31	— 0.6	79	N	4	1.8			10s		SW	0.10	2.5	Cloudy	
Eastport, Me.			30.20	767.1	30	— 1.1	78	NE	14	6.3		5c	8s		NE	0	0	Cloudy	
Erie, Pa.			30.28	769.1	39	3.9	91	SE	10	4.5			10s			0	0	Cloudy	
Escanaba, Mich.			30.11	764.8	31	— 0.6	79	SW	4	1.8			10s		SW	0	0	Cloudy	
Fort Gibson, Indian Ter.			30.13	765.3	37	2.8	90	Calm	0	0			10s			0.02	0.5	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.84	732.5	30.00	762.0	30	— 1.1	41	SE	6	2.7		5c	0			0	0	Fair	
Fort Sully, Dakota	28.28	718.3	30.02	762.5	27	— 2.8	88	NE	3	1.3			10s			Inap.	Inap.	Cloudy	
Florence, Arizona	28.59	726.2	30.15	765.8	45	7.2		NE				0	0			0	0	Clear	
Galveston, Tex.			30.19	766.8	47	8.3	92	N	10	4.5			10s		N	0.05	1.3	Cloudy	
Grand Haven, Mich.			30.19	766.8	36	2.2	75	SE	10	4.5			10s		SW	0	0	Cloudy	
Indianapolis, Ind.			30.23	767.8	39	3.9	81	SE	1	0.4			10s.am			0	0	Threatening	
Indianola, Tex.			30.16	766.1	45	7.2	83	N	8	3.6			10n			0.24	6.1	Light rain	
Jacksonville, Fla.			30.12	765.0	63	17.2	78	Calm	0	0		10k	0	SW		0	0	Cloudy	
Keokuk, Iowa			30.16	766.1	33	0.6	79	Calm	0	0			10s		SW	0	0	Cloudy	
Key West, Fla.			30.07	763.8	70	21.1	90	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.20	767.1	53	11.7	79	NE	27	12.1			10ks		NE	0	0	Cloudy	
Knoxville, Tenn.			30.29	767.6	41	5.0	83	N	10	4.5		2ck	0	NW		0	0	Fair	
La Crosse, Wis.			30.10	764.5	34	1.1	69	S	9	4.0			10s		S	0	0	Cloudy	
Leavenworth, Kan.			30.13	765.3	30	— 1.1	89	S	12	5.4			10s			0	0	Cloudy	
Louisville, Ky.			30.28	767.8	41	5.0	83	SE	4	1.8			10s			0	0	Cloudy	
Lynchburg, Va.			30.29	769.4	36	2.2	90	Calm	0	0			Fog			0	0	Foggy	
Malone, N. Y.			30.33	770.4	25	— 3.9	88	NE	3	1.3		0	0			0	0	Clear	
Marquette, Mich.			30.09	764.3	31	— 0.6	79	SW	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			30.23	767.8	40	4.4	83	NE	4	1.8			10s			0.03	0.8	Cloudy	
Milwaukee, Wis.			30.20	767.1	29	— 1.7	89	S	10	4.5		10s	Fog			0	0	Foggy	
Mobile, Ala.			30.18	766.6	49	9.4	85	NE	4	1.8		5c	5s	SW		0	0	Cloudy	
Montgomery, Ala.			30.21	767.3	44	6.7	84	N	3	1.3		5ck	Haze	W		0	0	Fair	
Morgantown, W. Va.	29.18	741.1	30.28	769.1	30	3.9	81	NW	2	0.9			10s		NW	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.82	605.0	30.18	766.6	19	— 7.2	84	NE	8	3.6		0	0			0	0	Clear	
Nashville, Tenn.			30.19	766.8	44	6.7	75	E	4	1.8			10s			0	0	Cloudy	
New Haven, Conn.			30.26	768.6	36	2.2	73	NE	12	5.4		Haze	0			0.35	8.9	Clear	
New London, Conn.			30.25	768.3	39	3.9	83	N	9	4.0		0	2s			0.23	5.8	Fair	
New Orleans, La.			30.14	765.5	57	13.9	75	Calm	0	0			10s			0	0	Cloudy	
Newport, R. I.			30.26	768.6	36	2.2	71	N	8	3.6		0	1ks		N	0.21	5.3	Clear	
New York, N. Y.			30.28	769.1	41	5.0	74	NW	7	3.1		5k	5ks	NW	NW	0.37	9.4	Cloudy	
Norfolk, Va.			30.24	768.1	47	8.3	92	NE	8	3.6			10n			Inap.	Inap.	Light rain	
North Platte, Neb.	27.05	687.1	29.66	753.4	35	1.7	80	NW	3	1.3			10ks		NW	0	0	Cloudy	
Omaha, Neb.	28.87	733.3	30.00	762.0	27	— 2.8	88	S	8	3.6		0	1s		S	0	0	Clear	
Oswego, N. Y.			30.32	770.1	33.8	1.0	75	E	4	1.8		Haze	1ks		N	0	0	Clear	
Pembina, Dakota			30.17	766.3	9	—12.8	89	NW	8	3.6			10s			Inap.	Inap.	Cloudy	
Philadelphia, Pa.			30.30	769.6	40	4.4	81	E	10	4.5			10s			0.26	6.6	Cloudy	
Pike's Peak, Col.	17.68	449.1	29.89	759.2	10	—12.2	58	W	8	3.6		1cs	0			0	0	Clear	
Pittsburgh, Pa.			30.28	769.1	39	3.9	81	NW	2	0.9			10s		NE	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.28	769.1	32	0.0	79	SW	5	2.2			10s		SW	0	0	Cloudy	
Portland, Me.			30.25	768.3	32	0.0	69	NW	8	3.6		0	0			0	0	Clear	
Portland, Oregon			29.94	752.8	49	9.4	93	S	1	0.4			10n			0.67	17.0	Heavy rain	
Punta Rassa, Fla.			30.13	765.3	65.0	18.3	83	NE	8	3.6		8k	0	NE		0	0	Fair	
Rochester, N. Y.			30.30	769.6	30	— 1.1	89	SW	4	1.8		5k	Fog	W	W	0.02	0.5	Fair	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	40	4.4	82	E	2	0.9		5cs	1s			Inap.	Inap.	Fair	
Sandy Hook, N. J.			30.24	768.1	41	5.0	66	NE	12	5.4			10ks		NE	0.23	5.8	Cloudy	
San Diego, Cal.			30.03	762.7	53	11.7	93	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.06	763.5	58	14.4	90	S	2	0.9			10s			0.02	0.5	Cloudy	
Santa Fé, N. M.	23.18	588.8	29.72	754.9	32	0.0	79	N	12	5.4		2k	0	W		0	0	Clear	
Savannah, Ga.			30.15	765.8	53	11.7	68	N	4	1.8		10cs	0			0	0	Cloudy	
Shreveport, La.			30.24	768.1	43	6.1	92	E	2	0.9			10s			Inap.	Inap.	Cloudy	
Smithville, N. C.			30.18	766.6	50	10.0	77	NE	8	3.6			10ks		NE	0	0	Cloudy	
Springfield, Mass.			30.27	768.8	33	0.0	69	N	4	1.8		1cs	1s			0.03	0.8	Fair	
St. Louis, Mo.			30.22	767.6	36	2.2	90	SW	5	2.2			10s			Inap.	Inap.	Cloudy	
St. Marks, Fla.			30.14	765.5	57	13.9	87	N	4	1.8		2ck	5s	W	N	0	0	Fair	
St. Paul, Minn.			30.00	762.0	33	0.6	89	SE	6	2.7			10n			0.03	0.8	Light rain	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.24	768.1	37	2.8	62	NE	16	7.2		2ck	5s	NW	NW	0	0	Clearing	
Toledo, Ohio			30.26	768.6	35	1.7	90	Calm	0	0			10n			Inap.	Inap.	Light rain	
Tucson, Arizona	27.60	701.0	30.16	766.1	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.11	764.8	52	11.1	79	NW	10	4.5		0	0			0	0	Clear	
Vicksburg, Miss.			30.22	767.6	44.0	6.9	90	NE	1	0.4			10s.am		NE	Inap.	Inap.	Cloudy	
Virginia City, M. T.	24.11	612.4	29.59	751.6	29	— 1.7	78	Calm	0	0			10ks		W	0.01	0.3	Cloudy	
Washington, D. C.			30.30	769.6	43	6.1	83	NE	5	2.2			10s		NE	Inap.	Inap.	Cloudy	
Wilmington, N. C.			30.18	766.6	49	9.4	77	NE	7	3.1		8ck	0	W		0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.23	767.8	41	5.0	63	N	4	1.8			8s		NW	0.21	5.3	Cloudy	
Yankton, Dakota	28.7	728.2	30.02	762.5	28	— 2.2	82	Calm	0	0			10s		W	0	0	Cloudy	
Yuma, Arizona			30.02	762.5	55	12.8		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	77	25.0	86	Calm	0	0		2c	2n		NE	0.46	11.7		James Gall.
Navassa, W. I.					80	26.7		NE			1					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.12	688.8	29.90	759.4	66	18.9	90	N	1.0	0.4		0	8s			0.26	6.6	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A.			29.93	760.2	83	28.3	79	E			2	4k	4k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.0	762.6			83.3	28.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.8	18.2	81	NE			2	3cs	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.14	765.5	3.0	—16.1	87	SW	11	4.9			9s			0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	74	23.3		NE			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Hyannis, Mass.			30.15	765.8	40	4.4	82	NNE	9	4.0			10s		NE			Overcast	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg't,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 17, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.30	769.7	70.7	21.5	65	NNW			1		1			0	0	Clear	Charnot.
Algiers			30.26	768.6	60.8	16.0	85	W			1		10			0.732	18.6	Hidden	Peter.
La Calle			30.17	766.2	66.2	19.0	73	NW			3		7			0.039	1.0	Cloudy	Fleury.
Tunis			30.14	765.5	69.3	20.7	66	NW			3		8			0.169	4.3	Cloudy	Jacques.
Sfax			30.17	766.3															
Saïda			30.32	770.1	57.9	14.4	57	NW			2		2			0	0	Clear	Millot.
Tebessa			30.16	766.0	75.0	23.9		W			2		3			0	0	Fair	Bourgeois.
Geriville			30.27	768.8	54.7	12.6	50	NW			1		0			0	0	Clear	Lemalliot.
Laghouat			30.26	768.5	62.6	17.0	46	NW			4		0			0	0	Clear	Guyot.
Biskra			30.13	765.2	74.3	23.5	35	NW			5		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.04	763.0	45.3	7.4	88	SW			2		8			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.10	764.6	38.1	3.4	90	NE			1		10			0	0		Dr. Wierzbiski.
Eperies			30.14	765.5	38.1	3.4	80	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.76	730.6	30.06	763.4	38.3	3.5	88	SW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.68	728.5	30.19	766.7	27.7	— 2.4	92	SW			1		1			0	0	Foggy	Prof. Reissenberger.
Kremsmünster	28.67	728.2	30.07	763.7	34.5	1.4	93	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.15	765.8	28.9	— 1.7	96	SE			2		4			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.99	761.7	59.9	15.5	80	SE			2		108			0	0		I.R.Hydrographic Of'ce
Szegedin			30.10	764.6	39.2	4.0	59	E			3		10			0	0		Karl Stancel.
Trieste			30.01	762.3	57.0	13.9	97	Calm			0		10			0.681	17.3	Raining	Prof. V. Farolfi.
Vienna			30.09	764.2	34.9	1.6	100	SE			1		10			0.028	0.7	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.89	759.1	54.5	12.5	87	WSW			4		10k		WSW	0.028	0.70		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 4 hours. Inches.	Rain-fall or melted snow in the past 4 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.64	752.8	49.2	9.6		SE	21	9.4			10			0.296	7.37	Foggy	William Boswell.
Ardrossan			29.78	753.9	51	10.6		SSW			3		1					Blue sky	William McNeil.
Armagh, Observatory			29.56	753.4	51.3	10.7		SSW	16	7.2			0					Blue sky	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.67	753.6	53.4	11.9		SSW			2		4					*D. clouds	J. Dreyer.
Bradford			29.80	756.9	52.0	11.1		W			1		2			0.05	0.5	Blue sky	J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	83.0	28.3		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.86	758.4	55.0	12.8		WSW			1		5					*D. clouds	H. Todd. [H.C.
Cardington			29.84	757.9	53.6	12.0		W			1		2					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.90	759.4	53.7	12.1		SW			1		2					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.47	723.1	29.97	761.2	53.0	11.7		W			1		10					Showery	R. F. Power.
Davos Platz, (Switzerland)	24.87	630.9			40.2	4.6	92	N			1		8			0.01	0.25	*D. clouds	Francis Redford, M. A.
Donaghadee			29.78	753.9	50	10.0		W			3		3					*D. clouds	J. Mac Gowan.
Dover			29.88	758.9	55	12.8		WSW			3		4					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.77	756.1	53.7	12.1		SW	1.6	0.7			4					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.90	759.4	54.9	12.7		SW			4		4					*D. clouds	The Staff.
Fort Napier, (Natal)	7.64	794.0	29.87	758.7	82.8	28.2		E			2		9					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.82	757.4	85.0	29.4		E			2		5					*D. clouds	
Galway, Queen's College			29.47	748.5	52	11.1		S			3		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.27	768.8	67.0	19.4		NW			3		2					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.55	753.1	50.1	10.1		SW			2		1					Blue sky	Lewis Stuart.
Great Yarmouth			29.82	757.4	52	11.1		W			2		3					Hazy	G. T. Watson.
Greenwich, Royal Obs'y			29.89	759.2	53.7	12.1		WSW			1		3					*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.96	761.0	55.5	13.1		SW			3		5					*D. clouds	Dr. S. F. Hoskins.
Helston			29.90	759.4	57	13.9		SW			4		3c			0.25	5.8		M. P. Moyle.
Holyhead			29.75	755.6	54	12.2		SW			4		4					*D. clouds	John Tilston.
Kew, Observatory			29.89	759.2	54.6	12.6		W	12	5.4			3					*D. clouds	The Staff.
Kingstown			29.71	754.6	53	11.7		SSW			3		1					Blue sky	George Mitchell.
Leicester Museum			29.85	758.2	53.9	12.2		SW			2		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.94	760.5	71.4	21.9		SE			2		10k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.59	751.6	55	12.8		ESE			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	73.5	23.1		NE			4		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.84	757.9	53.2	13.4		SW			3		3k		W	0	0	Blue sky	F. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.82	757.4	54.8	12.7		SW			3		3					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.86	758.4	55	12.8		SW			1		6					*D. clouds	J. Lucas.
Plymouth			29.89	759.2	55.3	12.9		SW			3		7					*D. clouds	John Merrifield.
Roche's Point			29.70	754.4	52	11.1		SW			4		5					Showery	W. Kennedy.
Saint Ann's Head			29.79	756.7	54	12.2		SW			4		5					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.97	761.2	56.2	13.4		WSW			4		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.64	752.8	49.5	9.7		SE	30	13.4			10					Drizzling	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.4	768.1	46.6	8.1		NNE			1		3					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.78	756.4	52.9	11.6		WSW			2		3			0	0	Blue sky	W. F. Cooper.
Silloth Rectory			29.72	754.9	53.8	12.1	74	S			3		0			0.13	3.30	Blue sky	Rev. Francis Redford.
Stonyhurst, Observatory			29.76	755.9	51.2	10.7		W					6					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis, (Hebr.)			29.53	750.0	50	10.0		S			2		8					*D. clouds	John Smith.
Strathfield Turgiss			29.83	757.7	56.5	13.6		W			1		2					Blue sky	Rev. Charles H. Griffith.
Thurso			29.58	751.3	50	10.0		SE			5		10					Raining	John Trotter.
Truro, Royal Institution			29.91	759.7	58	14.4		SW			4		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.64	752.8	54.0	12.2		SW	33	14.8			5					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					51	10.6		SW			4		0			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.80	756.9	84.5	29.2	43	WNW	12	5.4		4	4						The Staff, for L. J. Stone.
Hobart Town, (Tasmania)			29.92	760.0	66.0	18.9	83	N			1		0			1.0	25.4		Francis Allott, F.R.A.S.
Leith, Restdrig Park			29.69	754.1	51.8	11.0		SW			2		10k			0.20	5.1	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.09	764.3				ESE	22.5	10.0						0.09	0.5		C. Meldrum.
Melbourne, Observatory			29.76	755.9	60.0	15.6	99	SE	9	4.0			10			0.30	7.6	Threatening	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)			29.56	750.8	52	11.1		S			4	5	0	S		0.4	10.2		J. Youngclause.
North Unst, (Shetland Is.)			29.77	756.1	45	7.8		SE			7		10			Sun	Sun		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.91	782.2	39.2	4.0	93	SE			6		10						
Fanö			29.92	759.9	41.0	5.0	95	SE			4		10					Raining	
Godthaab, (Greenland)																			
Styckisholm, (Iceland)			29.83	757.6	34.0	3.9	85	E					0						
Thorshavn, (Féroe)			29.71	754.5	47.1	8.4	93	ESE			4		9					Misty	
Vestervig			29.94	760.5	39.6	4.2	100	E			?		1						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.17	766.2	53.6	12.0	78	SW			4		8k		SW	0	0	Very cloudy	Normal School.
Amiens			29.93	760.1	57.2	14.0	86	NW			3		8		NW	0	0	Very cloudy	Normal School.
Avignon			30.03	762.8	63.5	17.5	61	N			1		0			0.610	15.5	Very clear...	Normal School.
Bar-sur-Seine			30.00	762.0	52.5	11.4	93	SW			1		10		WSW	0.181	4.6	Raining	C. Saillard.
Beaumette, (near Angers)			30.02	762.5	54.7	12.6	72	W	8.1	3.6					W	0.059	1.5		Beaumette Observ'tory.
Beauvais			29.98	761.4	56.7	13.7	72	W			2		5		W	0.012	0.30	Cloudy	Normal School.
Besançon			30.02	762.6	58.1	14.5	73	SE			2		5		SW	0.35	9.	Cloudy	Normal School.
Bourg en Bresse			30.13	765.3	59.0	15	66	NE			2		5k		W	0.815	20.7	Cloudy	Normal School.
Bourges			30.06	763.5	54.7	12.6	93	W			2		5		W	0.504	12.8	Cloudy	Normal School.
Brest			29.91	759.7	59.9	15.5	72	SW			3		2		SW	0.502	12.75	Squally	Naval Observatory.
Carcassonne			30.10	764.6	57.6	14.2	86	W			4		8		E	0.20	0.5	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.94	760.4	62.8	17.1	80	NW			4		7			0.091	2.3		Normal School.
Châlons-sur-Marne			29.97	761.3	53.4	11.9	95	SW			2		10n		E	0.165	4.2	Light rain	Normal School.
Clermont			30.04	763.0	54.3	12.4	72	W			3		10		W	0.213	5.4		Puy de Dome Obs'y.
Commercy			29.98	761.4	52.9	11.6	85	WNW			4		5ck		WNW	0.049	1.25	Partly cl'dy	Normal School.
Commune de Gréasque*			30.04	763.1	62.1	16.7	63	NW			2		5		NW	0.047	1.2		M. Kina.
Grenoble			30.05	763.3	55.8	13.2	82	ENE			1		2k		SE	0.532	13.5	Slightly cl'dy	Normal School.
La Roche-sur-Yon					56.8	13.8	76	SW			2		5		E	0.331	8.4	Cloudy	Normal School.
Le Mans			30.02	762.4	54.5	12.5	76	SW			2		5		W	0.002	0.05	Cloudy	Normal School.
Lons-Le-Saulnier			30.02	762.4	58.8	14.9	68	SW			1		2		W	0.173	4.4	Raining	Normal School.
Lorient			30.04	763.1	58.3	14.6	73	WSW			3		5		SW	0.008	0.2	Cloudy	Naval Observatory.
Mâcon			29.76	756.0	62.2	16.8	86	Calm			0		0			0.835	21.2	Clear	Normal School.
Metz			30.05	763.3	51.1	10.6	90	SW			2		9		SW	0.205	5.2		M. Schuster.
Mirecourt			29.98	761.6	55.9	13.3	79	SSW					5		NNE	0.12	3.	Cloudy	Normal School.
Nismes			29.84	757.8	63.0	17.2	47	W			2		0			0	0	Clear	Normal School.
Orleans			29.96	761.0	58.1	14.5	80	WSW			2		5		E	0.094	2.4	Cloudy	Normal School.
Paris, Observatory			29.99	761.7	56.3	13.5	75	WNW			2	..e	..k	SE	NW	0.071	1.79	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			30.02	762.6	54.5	12.5		SE			2		2		SE	0.268	6.8	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.10	764.5	61.5	16.4	73	W			3		8		E	0.020	0.5	¾ covered	Naval Observatory.
Rouen			30.10	764.5	56.1	13.4	69	SSW			2		5		SW	0	0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.98	736.1	30.06	763.4	57.2	14		W			4		5		E	0	0	Cloudy	Normal School.
Villefranche			30.10	764.4	61.7	16.5	82	ESE			1		8		W	0.63	16.	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.80	756.8	80.6	27													L'Abbé Marchési.
Marseilles			30.00	762.0	63.9	17.7	71	WNW			2		3			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.90	632.4	30.27	768.8	46.8	8.2	73	SSW	11.2	5.00			8		W	0	0		—. Falguère.
Montsouris, Paris			29.97	761.3	56.7	13.7	73	WNW			3		7		WNW	0.079	2.0		Montsouris Observatory
Perpignan			30.08	764.1	63.0	17.2	62	N	20.5	9.17			2		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.25	539.7			26.6	— 3.0		NNW			3		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.54	572.4			29.3	— 1.5		NNW			2		10			0.098	2.5	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.99	761.8	56.3	13.5	72	WNW			1		10			0.028	0.7	Cloudy	E. Renou.
Toulouse			30.17	766.4	56.5	13.6	82	NW			2		10			0.094	2.4	Cloudy	Toulouse Observatory.
Tours			30.04	762.9	53.8	12.1	65	WNW			2		6		W	0.043	1.1		C. Marquet.
Versailles, (near Paris)			30.00	762.0	56.5	13.6	78	NW			2		7			0.093	2.36	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.21	767.3	50.9	10.5	86	NW	10.2	4.58			10			0.209	5.3		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,306 meters, or 7,562.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.92	759.9	39.2	4.0	85	SE			2		10			0.039	1.0	Smoke-haze.	Prof. T. Hoh.
Berlin			29.97	761.1	44.8	7.1	84	SE			1		10			0	0		Prof. Arndt.
Breslau			30.02	762.6	44.6	7.0	79	S			2		10			0	0		Royal University Obs'y.
Carlsruhe			30.01	762.3	51.4	10.8	87	SW			1		10			0.134	3.4		A. Senz.
Cassel			29.96	760.9	45.7	7.6	88	SW			4		9	SSE		0	0		Dr. H. Möhl.
Emden			29.92	760.0	45.7	7.6	96	S			1		10			0.035	0.9		Prof. Prestel.
Frankfort on the Main			30.01	762.3	43.5	6.4	80	SW			1		10			0.039	1.0	Foggy	Physical Society.
Friedrichshafen			30.08	764.0	47.8	8.8	89	WSW			3		10			0	0		M. Wilhelm.
Hamburg			29.91	759.7	41.2	5.1	97	SE			2		10			0	0	Foggy	Captain F. Hegemann.
Kiel			29.91	759.6	42.1	5.6	90	ESE			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.15	765.8	32.0	0.0	85	SE			5		10			Inap.	Inap.		Prof. E. Luther.
Köslin			30.04	763.0	34.9	1.6		SE			4		4			0	0		H. Müller.
Leipsic			29.98	761.4	50.9	10.5	75	SSW			2		7	WSW		0	0		Prof. Bruhns.
Memel			30.18	766.5	32.4	0.2	85	SE			2		10ks			0	0	Smoke-haze.	Reinbrecht & Skalweit.
Münster			29.84	758.0	53.2	11.8	94	SW			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.11	764.7	34.7	1.5	89	SSE			2		10			0	0		A Lothe.
Posen			30.00	761.9	43.9	6.6	82	SE			4		10						Dr. Magener.
Strassburg, (in Alsace)			30.02	762.5	53.4	11.9	92	SW			1		9	SW		0.322	8.2		Dr. Schur.
Stuttgart			29.98	761.6	53.6	12.0	85	E			1		8			0.008	0.2	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.91	759.6	53.6	12.0	91	SW			4		10			0.268	6.8		Prof. Flesch.
Weissenburg, (Bavaria,)	28.51	724.1	30.06	763.5	39.6	4.2	87	SE	4	2			10	SSE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.00	762.0	39.9	4.4	88	SSE			3		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 23°, 1′, W. 19°, 38′.			30.15	765.7	78.6	25.9	70	E			5		3		E				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.24	768.2	56.5	13.6		E										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			29.99	761.7	54.3	12.4	96	Calm					10			0.331	8.4	Raining	Prof. Giovanni Cloding.
Padua			29.97	761.2	52.2	11.2	97	N	0	0			10			0.827	21.0	Raining	Prof. Dott. Lorenzoni.
Vicenza									6.9	3.1						0.650	16.5	Raining	Alm. Da Schio.
Verona			30.05	763.2	59.2	15.1	68	NE			1		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.02	762.6	52.7	11.5	81	S			6		4			0.230	6.0	Raining	Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.04	763.1	49.1	9.5	89	SW			1		10			0.157	4.0	Raining	Prof. Gio. Cantoni.
Moncalieri			30.06	763.5	51.3	10.7	84	ENE	0.7	0.3			8	NW		0.091	2.3	Raining	Prof. P. F. Denza.
Mondovi	28.10	713.8	30.06	763.5	49.6	9.8	81	N			2		7	NW		0	0		Prof. C. Bruno.
Porto Maurizio			30.02	762.5	60.1	15.6	70	NW			2		4	W		0.661	16.8	Showery	Prof. L. Vassallo
Genoa			29.97	761.3	54.3	12.4	67	N	3.8	1.7			10	NW		0.799	20.3	Raining	Prof. Garibaldi.
Piacenza			30.04	763.0	49.5	9.7	88	NW	9.4	4.2			10			0.635	16.1	Raining	Dott. G. Manzi.
Parma			30.04	763.0	49.5	9.7	94	W			4		10			0.626	15.9	Raining	Prof. P. Pigorini.
Bologna			30.05	763.2	49.1	9.5	66	W			1		10			1.496	38.0	Raining	Prof. A. Palagi.
Florence			29.97	761.1	55.4	13.0	91	SE			2		10	SW		0.400	10.3	Raining	Cav. F. Meucci.
Leghorn			29.96	761.0	57.7	14.3	80	NE	4.3	1.9			10	SSW		1.236	31.4	Showery	Prof. P. Monte.
Siena	28.74	730.0	29.97	761.2	52.2	11.2	99	SSW	0	0			10	S		0.429	10.9	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.01	762.2	50.9	10.5	99	W	15.4	6.9			10	W		0.197	5.0	Raining	Prof. Luigi Guidi.
Ancona			30.01	762.3	53.2	11.8	93	W			4		10			0.406	10.3	Raining	Prof. F. De— Bosis.
Grosseto			29.98	761.5	57.2	14.0	88	ESE			2		6	SE		0.126	3.2	Raining	Avv. P. Ponticelli.
Rome			29.97	761.1	61.7	16.5	92	S	6.3	2.8			10	SSE		0.185	4.7	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.02	762.6	63.7	17.6	86	SE			2		10	SW		0.157	4.0	Raining	Prof. L. Palmieri.
Lecce			30.09	764.3	60.8	16.0	85	S	15.4	6.9			8			0.598	15.2	Raining	Prof. C. De—Giorgi.
Cosenza			30.07	763.6	59.0	15.0	76	SW	3.8	1.7			10			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.92	760.0	65.1	18.4	75	SE			2		5			0.197	5.0	Raining	Prof. F. Cafiero.
Palermo			29.96	761.0	67.5	19.7	77	NE	4.3	1.9			9			0.280	7.1	Showery	Prof. G. Cacciatore.
Caltanissetta	28.04	712.3	30.00	761.9	61.7	16.5	73	SSE			1		8	W		0.047	1.2	Raining	Prof. Antonio Alol.
Sub-Series.																			
Naples, S. R.			30.02	762.6	60.3	15.7	90	SW	3.8	1.7			10	SW		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

Flushing			29.91	759.8	52.2	11.2		W			3								
Groningen			29.77	756.2	46.0	7.8		SE			2								
Helder			29.80	757.0	50.5	10.3		SSW			4								
Utrecht			29.81	757.2	53.6	12.0	83	SW			4		8			0.039	1.0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.33	760.3	43.2	6.2	97	Calm	0	0			10			0.118	3.0	Raining	
Bröno			30.38	771.7	30.7	— 0.7	77	E	18	8			2			0	0		
Christiania			30.26	768.5	34.7	1.5	83	NE	8.7	3.9			10			0	0		
Tromsö			30.54	775.6	23.7	— 4.6	77	SW	4	2			10			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.93	760.3	64.4	18.0	92	SW	9.8	4.4			10			0.394	10.0	Raining	Dr. J. A. Sampaio.
Campo Major			30.27	768.8	58.3	14.6	10	WSW	6.9	3.1			9	WSW		0.071	1.8		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.24	768.1	66.7	19.3	54	E	6.3	2.8			9			0	0		Capt. D. A. de Cunha.
Lisbon			30.28	769.0	63.3	17.4	56	WSW	9.8	4.4			8	NW		0.008	0.2		The Observatory.
Ponta Delgada, (Azores)			30.02	762.5	65.5	18.6	94	SSW	14.9	6.67			10			0.53	13.5	Light rain	

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.10	764.5	34.9	1.6	80	SE	11	5			1						Astronomical Obs.
Wilna			30.21	767.2	33.3	0.7	87	Calm	0	0			10						Astronomical Obs.
Dorpat			30.17	766.4	31.3	— 0.4	99	NW	7	3			10					Snowing	Physical Cabinet.
St. Petersburg			30.12	765.0	24.4	— 4.2	71	N	18	8			10						Central Physical Obs.
Kuopio			30.30	769.6	12.4	—10.9	100	NNW	18	8			3						Ch. Forsten.
Kieff			30.20	767.0	29.5	— 1.4	82	NNW	7	3			10						Physical Cabinet.
Nikolaiev			30.18	766.6	37.9	3.3	82	N	9	4			8						Kurdakof.
Kertch			30.00	762.1	40.3	4.6	79	NNW	11	5			10					Raining	Lagorio.
Moscow			30.13	765.2	24.8	— 4.0	95	S	9	4			10						Meteorological Obs.
Lugan			29.89	759.2	37.0	2.8	84	NNE	11	5			10						Meteorological Obs.
Archangel			29.84	757.8	20.1	— 6.6	84	N	22	10			9						Ogorodnikof.
Tiflis	28.39	721.2	29.80	757.0	54.9	12.7	78	E	4	2			9						Physical Observatory.
Astrakhan			29.87	758.8	41.0	5.0	75	E	9	4			7						Sebastianof.
Kasan			29.99	761.8	28.8	— 1.8	88	W	4	2			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.95	735.2	29.93	760.3	28.6	— 1.9	72	SW	9	4			10						Meteorogical Obs.
Nukuss			29.98	761.6	38.8	3.8	51	NE	4	2			9						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.26	768.5	22.5	— 5.3	85	SW	9	4			1						Meteorological Obs.
Yeniseisk			29.67	753.7	9.5	—12.5	93	SE	4	2			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.28	769.2	32.5	0.3	20	NNW	25	11			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.84	757.9	32.7	0.4	85	Calm	0	0			5						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.21	767.2	58.6	14.8	71	SW	9.7	4.34		0	5			0.031	0.8	Cloudy	Royal Observatory.
San Fernando			30.31	769.9	63.0	17.2	70	WNW	0	0		1	5	W	W	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.56	776.3	3.9	—15.6	44	N			4		0			0	0		
Umea			30.60	777.3	14.4	— 9.8	87	N			2		1			0.256	6.5		
Hernosand			30.56	776.2	20.5	— 6.4	82	N			2		2			0.067	1.7		
Stockholm			30.27	768.9	32.0	0.0	78	NNE			6		10			0	0		
Wisby			30.17	766.2	38.1	3.4	93	ENE					10			0	0		
Sub-Series.																			
Upsala			30.34	770.6	32.4	0.2	72	NE	17.9	8.0			10			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.61	726.8	30.04	763.0	54.3	12.4	71	Calm			0		8			0.394	10.0	Covered	The Observatory.
Zurich	28.41	721.5	30.05	763.2	52.7	11.5	79	SE			1		2			0.016	0.4	Clear	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +0.4 mm; Thermometer, +5.9 cent.; Relative Humidity, —6 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.27	768.9	45.1	7.3	71	N	9	4.0			4		N	0	0		
Fao, (Persian Gulf)			30.20	767.0	75.7	24.3		S			1		0						
Salonica			30.28	769.2	57.9	14.4		E			1		10						
Valona			30.09	764.3	65.8	18.8		SW			1		10						
Varna			30.12	765.0	41.0	5.0		SW			2		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.97	761.2	59.9	15.5	89	Calm			0		10n		SW	1.55	39.4	Raining	Prof. C. V. A. Van Dyck

NOTE.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.41	772.4	25.7	— 3.5	81	NE	2	0.9			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.33	770.4	32	0.0		E	1	0.4			10s		E	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			30.38	771.6	23	— 5.0	93	NW	6	2.7		5c	2ks	N	N	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			30.33	770.4	31	— 0.6	89	N	15	6.7			10s			0.025	0.63	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.27	768.8	31.7	— 0.2	87	E			1		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B			30.41	772.4	19	— 7.2	92	W			1					0	0	Fine	H. A. Johnson.
Esquimault, B. C			30.06	763.5	39.1	3.9	100	W					10			0.76	19.3	Cloudy	W. H. Bevis.
Fredericton, N. B			30.43	772.9	27.0	— 2.8	88	E	6	2.7		10cs	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.10	764.5	18	— 7.8	100	E	12	5.4			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			30.21	767.3	36.9	2.7	91	Calm			0	10k		NE		0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	29.05	737.3	30.16	766.1	35	1.7	90	Calm			0		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			30.28	769.1	31	— 0.6	78	N	16	7.2			8ks		N	0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.28	769.1	33	0.6	89	NE	1	0.4		8cs	0			0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S			30.14	765.5	34.0	1.1	100	NE	6	2.7		9k		NE		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			30.31	769.9	29	— 1.7	87	NE	8	3.6		5k	5ks	NE		0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.31	769.9	32	0.0	84	E	6	2.7		5k	5s	NE	NE	0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.23	767.8	36	2.2	85	E	7	3.1		5k	5ks	SE	SE	0.03	0.8	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.19	766.8	38	3.3	91	N	7	3.1		10k	0	NW		0	0	Cloudy	H. Morgan.
Port Hastings, N. S			30.19	766.8	34.5	1.4		N	10	4.5						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.18	766.6	38	3.3	80	E	6	2.7			10n		SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.37	771.4	26	— 3.3	100	NE	26	11.6			10n		NE	Inap.	Inap.	Light snow	Capt. Ashe, R. N.
St. John, N. B			30.42	772.7	25	— 3.9	94	N	3	1.3		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.19	766.8	36	2.2	85	Calm	0	0			10ks			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.21	767.3	35	1.7	96	Calm	0	0			10ks		SE	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.85	732.8	30.18	766.6	34.8	1.6	91	SE	3	1.3			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			30.19	766.8	33	0.6	91	N	15	6.7			10n		N	0.03	0.8	Cloudy	T. C. Hill.
*Toronto, Ontario			30.21	767.3	34	1.1	87	N	5	2.2		5	5s	W	N	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.21	767.3	35.8	2.1	92	Calm	0	0			10s			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.91	759.7	37.0	2.8	100	N	8	3.6			10n			0.58	14.7	Raining	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.31	769.9	32	0.0	89	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			30.19	766.8	32	0.0	79	NE	1	0.4			10s		NE	0.01	0.3	Cloudy	
Atlantic City, N. J.			30.28	769.1	44	6.7	84	NE	12	5.4		5k	2s	S	SW	0	0	Cloudy	
Augusta, Ga.			30.18	766.6	50	10.0	93	NE	2	0.9			10n		NE	0.33	8.4	Light rain	
Baltimore, Md.			30.29	769.4	44	6.7	67	NE	5	2.2			10s			0	0	Cloudy	
Barnegat, N. J.			30.28	769.1	47	8.3	61	E	14	6.3			10s		S	0	0	Fair	
Bismarck, Dakota	28.00	711.2	29.68	753.9	28	— 2.2	88	NE	3	1.3			10n			0.07	1.8	Light rain	
Boston, Mass.			30.36	771.1	32	0.0	79	NW	8	3.6			10s		W	0	0	Cloudy	
Breckenridge, Minn.			29.95	760.7	31	— 0.6	89	SE	16	7.2			10s		S	0	0	Cloudy	
Buffalo, N. Y.			30.17	766.3	35	1.7	80	SE	4	1.8			10s			0.01	0.3	Cloudy, fog.	
Burlington, Vt.			30.28	769.1	36	2.2	70	S	5	2.2		2c	5s			0	0	Cloudy	
Cairo, Ill.			30.09	764.3	41	5.0	91	Calm	0	0			Fog			0.01	0.3	Foggy	
Cape Hatteras, N. C.			30.11	764.8	54	12.2	79	NE	16	7.2			10s		NE	0	0	Cloudy	
Cape Henry, Va.			30.22	767.6	47	8.3	85	NE	12	5.4			10s		NE	0	0	Cloudy	
Cape Lookout, N. C.			30.17	766.3	50	10.0	93	NE	22	9.8			10s		NE	0.07	1.8	Cloudy	
Cape May, N. J.			30.24	768.1	43	6.1	83	NE	12	5.4			10s			0	0	Cloudy	
Charleston, S. C.			30.15	765.8	54	12.2	86	N	9	4.0			10s		W	0	0	Cloudy	
Cheyenne, Wyoming	23.80	604.5	29.74	755.4	39	3.9	37	W	20	8.9		0	1s			0	0	Clear	
Chicago, Ill.			30.10	764.5	41	5.0	65	S	1	0.4			10s			0	0	Cloudy	
Cincinnati, Ohio			30.05	763.3	43	6.1	75	NE	3	1.3			10s		W	0	0	Cloudy	
Cleveland, Ohio			30.16	766.1	39	3.9	63	SE	3	1.3			10s		SE	0	0	Cloudy	
Corsicana, Tex.			30.01	762.2	44	6.7	92	SE	6	2.7			Fog			0	0	Foggy	
Davenport, Iowa			30.11	764.8	35	1.7	80	SE	2	0.7			10s			0	0	Cloudy	
Denison, Tex.			29.99	761.7	44	6.7	92	SE	9	4.0			10s			0	0	Cloudy	
Denver, Col.	24.61	625.1	29.83	757.7	44	6.7	51	W	20	8.9		0	5s		W	0	0	Fair	
Detroit, Mich.			30.14	765.5	35	1.7	80	S	2	0.9			10s			0	0	Cloudy	
Dodge City, Kan.	27.23	691.6	29.58	751.3	30	— 1.1	78	SW	2	0.9		2c	0	W		0	0	Clear	
Dubuque, Iowa			30.11	764.8	33	0.6	79	SE	2	0.9			10s			0	0	Cloudy	
Duluth, Minn.			30.09	764.3	37	2.8	80	E	10	4.5			10s		E	0	0	Cloudy	
Eastport, Me.			30.36	771.1	32	0.0	79	NE	14	6.3		8c	Haze	NW		0	0	Fair	
Erie, Pa.			30.16	766.1	38	3.3	90	S	8	3.6			10s			0	0	Cloudy	
Escanaba, Mich.			30.16	766.1	32	0.0	79	N	8	3.6			10s		N	0.09	2.3	Cloudy	
Fort Gibson, Indian Ter.			29.98	761.5	41	5.0	91	S	6	2.7			10s		S	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.69	728.7	29.82	757.4	39	3.9	71	S	6	2.7			Fog			0	0	Foggy	
Fort Sully, Dakota	28.06	712.7	29.74	755.4	32	0.0	90	SE	4	1.8			10s			0	0	Cloudy	
Florence, Arizona	28.59	723.9	30.06	763.5	45	7.2		W				0	0			0	0	Clear	
Galveston, Tex.			30.06	763.5	52	11.1	100	NE	8	3.6			Fog			0.16	4.1	Foggy	
Grand Haven, Mich.			30.14	765.5	36	2.2	80	SE	6	2.7			10s			0	0	Cloudy	
Indianapolis, Ind.			30.08	764.0	40	4.4	82	NE	1	0.4			10s, fp			Inap.	Inap.	Cloudy	
Indianola, Tex.			30.03	762.7	55	12.8	93	NE	5	2.2			10s		S	0	0	Cloudy	
Jacksonville, Fla.			30.09	764.3	63	17.2	88	N	4	1.8		10k	0	S		0	0	Cloudy	
Keokuk, Iowa			30.06	763.5	35	1.7	90	SE	6	2.7			10s		SE	0	0	Cloudy	
Key West, Fla.			30.04	763.0	70	21.1	90	NE	6	2.7		2ck	0			0	0	Clear	
Kittyhawk, N. C.			30.22	767.6	52	11.1	86	N	24	10.7			10s		N	0	0	Threatening	
Knoxville, Tenn.			30.12	765.0	46	7.8	92	NE	4	1.8			10n		W	0.21	5.3	Light rain	
La Crosse, Wis.			30.09	764.3	36	2.2	70	S	5	2.2			10s			0	0	Cloudy	
Leavenworth, Kan.			30.00	762.0	30	— 1.1	89	S	2	0.9			Fog			0	0	Foggy	
Louisville, Ky.			30.08	764.0	42	5.6	91	NE	3	1.3			10n			Inap.	Inap.	Light rain	
Lynchburg, Va.			30.23	767.8	45	7.2	85	E	2	0.9			10s			0	0	Cloudy	
Malone, N. Y.			30.26	768.6	32	0.0	79	SW	6	2.7		8ck	0	NW		0	0	Cloudy	
Marquette, Mich.			30.15	765.8	37	2.8	80	NE	12	5.4			10s		NE	0	0	Cloudy	
Memphis, Tenn.			30.16	764.5	44	6.7	92	N	2	0.9			10s			0.02	0.5	Cloudy	
Milwaukee, Wis.			30.15	765.8	35	1.7	80	W	3	1.3		10s	Fog			0	0	Cloudy	
Mobile, Ala.			30.05	763.3	59	15.0	94	N	2	0.9			10s			1.03	26.2	Cloudy	
Montgomery, Ala.			30.08	764.0	54.5	12.5	96	SE	4	1.8			10n			0.63	16.0	Light rain	
Morgantown, W. Va.	29.05	737.6	30.14	765.5	33	0.6	89	Calm	0	0		10c	Fog	SW		0	0	Cloudy	
Mt. Washington, N. H.	3.87	606.3	30.23	767.8	22	— 5.6	85	W	10	4.5		10s	0	W		0.04	1.0	Cloudy	
Nashville, Tenn.			30.06	763.5	47	8.3	92	SW	1	0.4			10s			0	0	Cloudy	
New Haven, Conn.			30.32	770.1	33	0.6	69	NE	5	2.2		5k	Haze	NE		0	0	Fair	
New London, Conn.			30.34	770.6	34	1.1	79	N	6	2.7		5c	5k	W	E	0	0	Cloudy	
New Orleans, La.			30.02	762.5	61	16.1	94	N	6	2.7			Fog			0.44	11.2	Foggy	
Newport, R. I.			30.35	770.9	38	3.3	80	N	6	2.7			10ks		N	0	0	Cloudy	
New York, N. Y.			30.31	769.9	41	5.0	73	NE	14	6.3			10s			0	0	Cloudy	
Norfolk, Va.			30.24	768.1	47	8.3	70	NE	4	1.8		10k	0	S		Inap.	Inap.	Cloudy	
North Platte, Neb.	26.85	682.0	29.46	748.3	31	— 0.6	89	E	3	1.3			10ks		E	0	0	Cloudy	
Omaha, Neb.	28.8[illegible]	732.0	29.94	760.5	31	— 0.6	89	SE	5	2.2		Haze	Haze			0	0	Hazy	
Oswego, N. Y.			30.24	768.1	38.[illegible]	3.[illegible]	75	SE	6	2.7		5k	5s	NW	W	0	0	Cloudy	
Pembina, Dakota			29.98	761.5	28	— 2.[illegible]	88	E	9	4.0			10s			Inap.	Inap.	Cloudy	
Philadelphia, Pa.			30.31	769.9	38	3.[illegible]	81	E	12	5.4			10s		E	0	0	Cloudy	
Pike's Peak, Col.	17.56	446.0	29.77	756.1	10	—12.2	100	NW	28	12.5			Fog			0	0	Foggy	
Pittsburgh, Pa.			30.14	765.5	35.[illegible]	1.9	90	NE	2	0.9			Fog			0	0	Foggy	
Port Huron, Mich.			30.17	766.3	36	2.2	90	Calm	0	0			10s,sm			0	0	Smoky	
Portland, Me.			30.37	771.4	35	1.7	61	N	4	1.8			10ks			0	0	Cloudy	
Portland, Oregon			30.04	763.0	48	8.9	85	Calm	0	0			10s			0.40	10.2	Cloudy	
Punta Rassa, Fla.			30.08	764.0	65.5	18.6	86	NE	8	3.6		5c	0	SW		0	0	Fair	
Rochester, N. Y.			30.20	767.1	37.[illegible]	2.8	71	S	6	2.7		8c	Sm'o	W		0	0	Fair	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	47	8.3	48	NW	14	6.3		0	5s			0.07	1.8	Fair	
Sandy Hook, N. J.			30.28	769.1	43	6.1	75	NE	18	8.0			10ks		NE	0	0	Cloudy	
San Diego, Cal.			30.04	763.0	49	9.4	93	N	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.13	765.3	55	12.8	87	Calm	0	0			10s			0.17	4.3	Cloudy	
Santa Fé, N. M.	23.15	588.0	29.69	754.1	30	— 1.1	69	Calm	0	0		0	0			0	0	Clear	
Savannah, Ga.			30.02	762.5	54	12.2	86	NE	6	2.7			10ks		E	0	0	Cloudy	
Shreveport, La.			30.13	765.3	46	7.8	92	NE	2	0.9			10s			Inap.	Inap.	Cloudy	
Smithville, N. C.			30.14	765.5	49	9.4	85	N	10	4.5			10s		NE	0	0	Cloudy	
Springfield, Mass.			30.36	770.9	33.5	0.8	79	N	4	1.8			10s			0	0	Cloudy	
St. Louis, Mo.			30.08	764.0	40	4.4	91	NE	1	0.4			10n			0.01	0.3	Light rain	
St. Marks, Fla.			30.06	763.5	61	16.1	94	E	5	2.2		8cs	2s	SW	E	0	0	Cloudy	
St. Paul, Minn.			30.03	762.7	32	0.0	89	SE	8	3.6			10s			0.15	3.8	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.36	771.1	39	3.9	91	NW	12	5.4			10s		E	0	0	Cloudy	
Toledo, Ohio			30.1[illegible]	765.0	38	3.3	90	NE	5	2.2			10s			Inap.	Inap.	Smoky	
Tucson, Arizona	27.62	701.5	30.16	766.1	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.10	764.5	55	12.8	93	NE	17	7.6			10s		NE	0	0	Cloudy	
Vicksburg, Miss.			30.10	764.5	49	9.4	100	N	4	1.8			10n,sn		N	0.02	0.5	Light rain	
Virginia City, M. T.	24.20	614.7	29.68	753.9	30	— 1.1	68	SW	8	3.6		0	1ks		W	Inap.	Inap.	Clear	
Washington, D. C.			30.39	769.4	42	5.6	75	E	8	3.6			10s		SE	Inap.	Inap.	Cloudy	
Wilmington, N. C.			30.17	766.3	48	8.9	77	NE	8	3.6			10s			0	0	Cloudy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.36	771.1	43	6.1	75	N	3	1.3			10s		SE	0	0	Cloudy	
Yankton, Dakota	28.61	726.7	29.96	761.0	24	— 4.4	87	E	4	1.8			10s			0	0	Cloudy	
Yuma, Arizona			30.05	763.3	53	11.7		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.10	764.5	77	25.0	82	Calm	0	0		5c	2s		NE	0	0		James Gall.
Navassa, W. I.					78	25.6		NE			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	67	19.4	94	NNE	1.0	0.4		5c	5k	NNE		1.52	38.6	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A.			29.95	760.7	80	26.7	82	E			1	5k	7ks	E		0.02	0.51	¾ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.8			81.0	27.2		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			65.0	18.3	83	NW			2	0	2ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.48	774.2	—20.0	—28.9		W	8	3.6		0	0			0.01	0.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74	23.3		NE			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Hyannis, Mass.					30.27	768.8	44	6.7	84	NE	5	2.2			10ks		E			Overcast	Capt. James Jorgensen
Steamer Berlin, N. 36°, 57′, W. 75°, 43′.	E ¼ N	9.5			30.20	767.1	50.0	10.0		N			4		..k			Short sea		Overcast	Capt. C. Rohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the co-operating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 18, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.36	771.2	68.4	20.2	67	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.35	770.9	66.2	19.0	72	NW			1		4			0	0	Fair	Peter.
La Calle			30.26	768.6	65.3	18.5	72	NNW			3		4			0.118	3.0	Fair	Fleury.
Tunis			30.17	766.4	66.7	19.3	54	NW			5		6			0	0	Fair	Jacques.
Stax			30.24	768.2															
Saida			30.37	771.4	64.8	18.2	36	SSW			1		2			0	0	Clear	Millot.
Tebessa			30.24	768.1	52.7	11.5		W			2		2			0	0	Clear	Bourgeois.
Geriville			30.32	770.0	57.4	14.1	41	NW			2		0			0	0	Clear	Lemaillot.
Laghouat			30.31	769.9	63.0	17.2	41	NE			1		0			0	0	Clear	Guyot.
Biskra			30.28	769.0	72.1	22.3	28	NW			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.18	766.5	41.4	5.2	82	NE			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.23	767.8	37.8	3.2	97	W			2		10			0.020	0.5		Dr. Wierzbiski.
Eperies			30.14	765.5	37.8	3.2	93	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.91	734.2	30.21	767.2	39.4	4.1	92	S			2		10			0.118	3.0		Andreas Rospini.
Hermannstadt	28.61	726.6	30.08	764.0	36.9	2.7	72	SSW			1		9			0	0		Prof. Reissenberger.
Kremsmünster	28.84	732.5	30.15	765.7	41.0	5.0	97	Calm			0		10			0.728	18.5		Prof. C. Wagner.
Lemberg			30.19	766.7	30.2	— 1.0	90	NE			2		8			Inap.	Inap.		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.00	762.1	55.4	13.0	67	ENE			2		10s			1.083	27.50		I.R.Hydrographic Of'ce
Szegedin			30.11	764.7	39.7	4.3	82	E			3		10			0	0		Karl Stancel.
Trieste			30.07	763.8	51.6	10.9	67	ENE			1		7			0	0	Partly cov'd	Prof. V. Farolfi.
Vienna			30.21	767.3	41.4	5.2	92	W			1		10			0.051	1.3	Raining	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.19	766.7	52.5	11.4	80	SSE			2	2c	1k	NW	SW	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.90	759.4	48.9	9.3		SSE	16	7.2			6			0.020	0.51	Misty	William Boswell.
Ardrossan			29.82	757.4	52	11.1		ESE			2		5					*D. clouds	William McNeil.
Armagh, Observatory			29.77	756.1	51.2	10.7		S	9	4.0			10					Overcast	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.73	755.1	53.2	11.8		SSW			1		10					Overcast	J. Dreyer.
Bradford			29.92	760.0	51.1	10.6		SE			2		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	85.2	29.6		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A. [H.C.
Cambridge, Observatory			30.02	762.5	54.0	12.2		S			1		10					Overcast	H. Todd.
Cardington			30.00	762.0	53.4	11.9		S			1		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.03	762.7	52.6	11.4		Calm			0		10					Raining	Capt. Fellowes, R. E.
Dartmoor	28.42	721.9	29.92	760.0	53.0	11.7		S			4		10					Rain & fog	R. E. Power.
Davos Platz, (Switzerland)	24.99	634.7			37.6	3.1	95	N			1		10			0	0	Overcast	Francis Redford, M. A.
Donaghadee			29.76	755.9	51	10.6		SW			2		10					Overcast	J. Mac Gowan.
Dover			30.08	764.0	53	11.7		SW			3		7					¾ clouded	J. Costello.
Eccles, (near Manchester)			29.88	758.9	53.2	11.8		SE	1.0	0.4			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.87	758.7	56.8	13.8		SSW			4		10					Foggy	The Staff.
Fort Napier, (Natal)	27.09	703.3	29.93	760.2	86.6	30.3		SE			2		9					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.93	760.2	85.0	29.4		N			1		3					*D. clouds	
Galway, Queen's College			29.55	750.6	52	11.1		SW			1		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.32	770.1	64.9	18.3		NE			1		0					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.80	756.9	52.9	11.6		SE			1		7					*D. clouds	Lewis Stuart.
Great Yarmouth			30.07	763.8	51	10.6		S			3		5					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.04	763.0	53.0	11.7		SSE			1		10			Black	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.95	760.7	57	13.9		SSW			5		10					Raining	Dr. S. E. Hoskins.
Helston			29.84	757.9	57	13.9		SW			4		10n			0.36	9.1		M. P. Moyle.
Holyhead			29.74	755.4	54	12.2		SSE			4		10					Raining	John Tilston.
Kew, Observatory			30.02	762.5	53.4	11.9		S	10	4.5			10					Raining	The Staff.
Kingstown			29.76	755.9	53	11.7		SE			2		10					Raining	George Mitchell.
Leicester Museum			29.98	761.5	53.2	11.8		S			3		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.04	763.0	67.4	19.7		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn																			W. D. Penny.
Nassau, (Bahamas)			30.04	763.0	74.6	23.7		NE			2		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.95	760.7	54.2	12.3		SSE			3		10d		S	0.055	1.40	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.93	760.2	51.1	10.6		SE			3		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.95	760.7	53	11.7		SE			1		10					Raining	J. Lucas.
Plymouth			29.88	758.9	55.5	13.1		SW			2		10					Rain & fog	John Merrifield.
Roche's Point			29.77	756.1	55	12.8		SSW			2		8					Foggy	W. Kennedy.
Saint Ann's Head			29.78	756.4	55	12.8		SW			2		10					Misty	John C. Walker.
Saint Helier, (Jersey)			29.98	761.5	56.6	13.7		SW			5		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.85	758.2	47.9	8.8		SE	19	8.5			5					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.09	764.3	52.6	11.4		S			1		1					Blue sky	Sergt. W. H. Lyne.
Sheffield			29.91	759.7	53.0	11.7		SSW			2		10			0.150	3.80	Drizzling	W. F. Cooper.
Silloth Rectory			29.83	757.7	54.6	12.6	89	S			1		5			0.220	5.59	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.89	759.2	51.9	11.1		SE					10					Raining	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.69	754.1	51	10.6		S			5		2					Blue sky	John Smith.
Stratfield Turgiss			30.00	762.0	53.6	12.0		S			1		10					Raining	Rev. Charles H. Griffith
Thurso			29.80	756.9	50	10.0		S			2		6					*D. clouds	John Trotter.
Truro, Royal Institution			29.88	758.9	57	13.9		SW			6		10					Raining	W. Newcombe.
Valencia, Observatory			29.73	755.1	54.0	12.2		S	17	7.6			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					53	11.7		SW			4		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.12	765.0	81.1	27.3	52	ESE	6	2.7		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.62	752.3	69	20.6	88	Calm			0		10n			0.02	0.5	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.86	758.4	54.0	12.2		SW			2		8k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.09	764.3				ESE	20.2	9.0						0	0		C. Meldrum.
Melbourne, Observatory			29.53	750.0	66.6	19.2	95	ENE	3	1.3			10			0.05	1.3	Showery	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.64	752.8	52	11.1		S			4	5	3	S		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.95	760.7	46	7.8		S			8		10			Blank	Blank		Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Heller, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:20 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the Minister of Foreign Affairs.

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

San José																		

DANISH SERIES.

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

Copenhagen			30.30	769.5	39.4	4.1	79	SSE			4		10					
Fanöe			30.21	767.3	39.7	4.3	100	E			4		10					Raining
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			29.76	755.8	38.7	3.7	80	Calm			0		2					
Thorshavn, (Faröe)			29.77	756.2	47.8	8.8	92	SSE			2		7					Misty
Vestervig			30.28	769.2	36.0	2.2	96	ESE			6		10					

Note.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.91	759.8	53.6	12.0	97	W			2		10			0.063	1.6	Covered	Normal School.
Amiens			30.16	766.0	55.4	13.0	81	WSW.			3		5		W	0	0	Cloudy	Normal School.
Avignon			30.18	766.6	58.6	14.8	50	NNW			6		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.28	769.0	50.4	10.2	91	W			1		8ck		WSW	0.492	12.5	Very cloudy	C. Saillard.
Beaumette, (near Angers)			30.15	765.7	55.6	13.1	98	SW	17.9	8.0			10		SW	0.327	8.3	Raining	Beaumette Observ'tory.
Beauvais			30.21	767.3	51.8	10.7	82	S			1		10		WSW	0	0	Covered	Normal School.
Besançon			30.32	770.1	50.0	10	86	ENE			2		2		N	0.322	8.2	Slightly cl'dy	Normal School.
Bourg en Bresse			30.38	771.6	50.9	10.5	90	E			2		5k		S	0.012	0.3	Cloudy	Normal School.
Bourges			30.25	768.4	53.6	12	93	S			2		8		S	0.020	0.5	Very cloudy	Normal School.
Brest			29.91	759.8	57.7	14.3	95	SW			4		10		SW	0.384	9.75	Rain & fog	Naval Observatory.
Carcassonne			30.29	769.3	57.2	14	65	W			2		1		E	0.138	3.5	Clear	Normal School.
Caen																			Normal School.
Chartres			30.11	764.7	48.9	9.4	95	SW			4		10			0	0	Covered	Normal School.
Châlons-sur-Marne			30.24	768.1	47.3	8.5	94	SSE			3		10			0.150	3.8	Light fog	Normal School.
Clermont			30.28	769.2	55.0	12.8	59	E			1		5		W	0	0		Puy de Dome Obs'y.
Commercy			30.29	769.4	46.6	8.1	91	W			2		10			0.136	3.45	Covered	Normal School.
Commune de Gréasque*			30.16	766.0	59.2	15.1	45	N			2		0			0	0		M. Kina.
Grenoble			30.32	770.0	51.6	10.9	86	NW			6		2k		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					55.8	13.2	98	S			4		10			0.051	1.3	Covered	Normal School.
Le Mans			30.18	766.5	52.3	11.3	95	SSE			4		8		SE	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.31	769.8	50.7	10.4	90	NNW			3		5		NNW	0	0	Cloudy	Normal School.
Lorient			30.05	763.2	58.6	14.8	93	SW			5		10			0.508	12.9	Raining	Naval Observatory.
Mâcon			30.41	772.4	51.6	10.9	90	Calm			0		0			0.106	2.7	Clear	Normal School.
Metz			30.36	771.1	46.8	8.2	88	ESE			1		10			0.280	7.1		M. Schuster.
Mirecourt			30.29	769.4	49.6	9.8	89	SW					10			0	0	Covered	Normal School.
Nismes			30.16	766.1	65.5	18.6	44	NE			2		0			0	0	Clear	Normal School.
Orleans			30.19	766.9	51.8	11	85	S			2					0	0	Foggy	Normal School.
Paris, Observatory			30.22	767.6	48.7	9.3	97	ESE			2		10			0.019	0.48	Misty	National Observatory.
Parthenay																			Normal School.
Privas			30.26	768.7	56.3	13.5		N			2		2		N	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.23	767.9	59.0	15.0	85	SW			3		10		E	0.787	20.0	Covered	Naval Observatory.
Rouen			29.98	761.5	54.0	12.2	81	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	29.17	741.0	30.25	768.4	59.0	15		S			2		0			0	0	Clear	Normal School.
Villefranche			30.25	768.4	56.3	13.5	77	NNE			1		5			0.177	4.5	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.82	757.3	81.0	27.2													L'Abbé Marchési.
Marseilles			30.12	765.1	62.1	16.7	70	NW			4		0			0	0		Marseilles Observatory.
Mont-Louis	25.05	636.2	30.46	773.6	45.5	7.5	63	NNW	5.6	2.50			2		W	0	0		—. Falguère.
Montsouris, Paris			30.21	767.2	48.7	9.3	97	SSE			2		10		S	0.028	0.7		Montsouris Observatory
Perpignan			29.85	758.3	63.0	17.2	49	N	13.0	5.83			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.38	543.0			30.2	— 1.0		N			2		3					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.3			38.3	3.5		N			2		3			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.22	767.5	50.0	10.0	93	SSE			1		10			0.130	3.3	Very cloudy	E. Renou.
Toulouse			30.36	771.1	53.2	11.8	82	WSW			1		6			0	0	Misty	Toulouse Observatory.
Tours			30.17	766.2	58.5	14.7	86	S			2		9		W	0.035	0.9		C. Marquet.
Versailles, (near Paris)			30.21	767.3	52.2	11.2	85	SW			1		10			0.014	0.36	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.38	771.6	38.1	3.4	80	Calm	0	0			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.15	765.8	42.8	6.0	91	SE			2		10			0	0	Foggy	Prof. T. Hoh.
Berlin			30.21	767.3	49.5	9.7	90	SE			1		10			0	0		Prof. Arndt.
Breslau			30.24	768.0	42.8	6.0	100	N			2		10					Raining	Royal University Obs'y.
Carlsruhe			30.27	768.9	49.6	9.8	98	W			1		10			0.724	18.4		A. Senz.
Cassel			30.30	769.6	46.8	8.2	93	SE			1		3	NW		0	0		Dr. H. Möhl.
Emden			30.28	769.0	43.3	6.3	100	SW			1		10			0.035	0.9		Prof. Prestel.
Frankfort on the Main			30.29	769.4	47.8	8.5	81	E			1		10			0	0	Foggy	Physical Society.
Friedrichshafen			30.30	769.5	50.0	10.0	92	SSW			2		5			0	0		M. Wilhelm.
Hamburg			30.22	767.5	46.6	8.1	100	WSW			1		10			0.126	3.2	Foggy	Captain F. Hegemann.
Kiel			30.20	767.0	42.1	5.6	92	E			3		10			0.165	4.2		Prof. G. Karsten.
Königsberg, (Prussia.)			30.46	773.7	24.8	— 4.0	89	E			5		7			0	0		Prof. E. Luther.
Köslin			30.33	770.4	33.4	0.8		E			4		4			0	0		H. Müller.
Leipsic			30.25	768.4	49.3	9.6	92	SW			2		9	SW		0	0	Foggy	Prof. Bruhns.
Memel			30.50	774.7	25.3	— 3.7	69	E			4		6cs			0	0		Reinbrecht & Skalweit.
Münster			30.20	767.1	50.9	10.5	90	SW			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.40	772.2	32.9	0.5	89	SE			3		10			0	0		A Lothe.
Posen			30.30	769.5	35.6	2.0	100	SE			2		10						Dr. Magener.
Strassburg, (in Alsace)			30.29	769.4	52.9	11.6	77	Calm			0		10			0	0		Dr. Schur.
Stuttgart			30.24	768.1	49.5	9.7	91	W			1		10			0.091	2.3	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.20	767.1	48.2	9.0	84	S			1		1			0.138	3.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.72	729.4	30.26	768.6	45.1	7.3	98	Calm	0	0			10			0.043	1.1	Dense fog	Dr. von Bebber.
Wustrow, Naval School			30.26	768.6	37.6	3.1	96	ESE			2		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 21°, 17′, W. 21°, 26′.			30.19	766.9	79.9	26.6	81	ENE			4		3	WSW	ENE			Smoke-haze.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.05	763.2	59.5	15.3		S										Very cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.03	762.7	53.8	12.1	84	Calm	0	0			6			0.110	2.8	Raining	Prof. Giovanni Clodio.
Padua			30.03	762.8	55.8	13.2	88	SSE	6.2	2.8			10	E		0.339	8.6	Raining	Prof. Dott. Lorenzoni.
Vicenza																0.134	3.4	Raining	Alm. Da Schio.
Verona			30.02	762.6	59.4	15.2	78	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.10	764.5	53.2	11.8	75	Calm			0		0			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.13	765.4	49.3	9.6	88	W			4		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.13	765.4	45.1	7.3	99	ESE	4.9	2.2			10			0	0		Prof. P. F. Denza.
Mondovi	28.19	715.9	30.14	765.6	54.3	12.4	50	N			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			30.11	764.7	59.9	15.5	74	ENE			2		0			0	0		Prof. L. Vassallo.
Genoa			30.06	763.4	61.5	16.4	49	N	0.7	0.3			0			0	0		Prof. Garibaldi.
Piacenza			30.13	765.2	49.1	9.5	89	NW	6.[illegible]	2.8			10			0	0		Dott. G. Manzi.
Parma			30.11	764.9	51.8	11.0	91	W			2		9			0.01	0.3	Light rain	Prof. P. Pigorini.
Bologna			30.12	765.1	51.6	10.9	65	W			6		10			0.94	24.0	Raining	Prof. A. Palagi.
Florence			30.06	763.4	57.2	14.0	77	NE			4		10	NE		0.009	0.2	Light rain	Cav. F. Meucci.
Leghorn			30.03	762.8	59.5	15.3	72	NE	0.7	0.3			9	NE		0	0		Prof. P. Monte.
Siena	28.78	731.0	30.01	762.2	53.4	11.9	80	NNW	3.8	1.7			10	N		0.01	0.3	Light rain	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.04	762.9	53.8	12.1	88	NNE	23.0	10.3			10	NE		0.01	0.4	Light rain	Prof. Luigi Guidi.
Ancona			30.00	762.1	55.0	12.8	77	N			2		10			0.500	12.7	Raining	Prof. F. De— Bosis.
Grosseto			30.01	762.3	60.4	15.8	70	N			2		6	SE		0	0		Avv. P. Ponticelli.
Rome			29.95	760.6	60.6	15.9	73	N	9.8	4.4			6			0.220	5.6	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.94	760.4	65.5	18.6	82	SE			2		8	NE		0.749	19.0	Raining	Prof. L. Palmieri.
Lecce			29.91	759.8	57.7	14.3	93	WNW	6.[illegible]	2.8			9			1.740	44.2		Prof. C. De—Giorgi.
Cosenza			29.97	761.2	61.0	16.1	75	SW	0.7	0.3			10			0.73	18.6	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.8	64.4	18.0	82						2			0.126	3.2	Raining	Prof. F. Cafiero.
Palermo			29.98	761.5	64.2	17.9	58	W	5.[illegible]	2.5			7	NE		0.15	3.9	Raining	Prof. G. Cacciatore.
Caltanissetta	28.05	712.4	30.00	762.0	60.8	16.0	56	W			4		6	SE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.94	760.5	59.0	15.0	87	WNW	1.8	0.6			7	NW		0.957	24.3		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.20	767.0	52.2	11.2		S			2								
Groningen			30.15	765.9	43.5	6.4		S			2								
Helder			30.17	766.3	47.8	8.8		SSW			2								
Utrecht			30.15	765.8	46.9	8.3	95	SW			1		10			0	0	Dull, hazy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.23	767.7	39.2	4.0	77	Calm	0	0			10			0	0		
Brönö			30.31	769.8	33.1	0.6	68	E	11	5			7			0	0		
Christiania			30.56	776.2	25.9	— 3.4	72	NE	4.5	2.0			10			0	0		
Tromsö			30.32	770.0	15.3	— 9.3	84	E	4	2			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.28	769.0	65.8	18.8	94	SW	10.5	4.7			9			0.327	8.3		Dr. J. A. Sampaio.
Campo Major			30.38	771.6	62.8	17.1	68	SE	2.5	1.1			4			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.31	769.9	67.8	19.9	73	ENE	6.9	3 1			9			0.020	0.5		Capt. D. A. de Cunha.
Lisbon			30.43	772.8	61.7	16.5	78	SSE	3.8	1.7			8	WNW		0	0		The Observatory.
Ponta Delgada, (Azores)			30.19	766.7	65.8	18.8	94	SSE	8.1	3.61			10			0.394	10.0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.32	770.1	30.9	— 0.6	94	E	11	5			10						Astronomical Obs.
Wilna			30.50	774.6	23.4	— 4.8	61	NE	4	2			4						Astronomical Obs.
Dorpat			30.62	777.8	17.4	— 8.1	80	NW	4	2			0						Physical Cabinet.
St. Petersburg			30.54	775.8	10.0	—12.2	84	N	11	5			1						Central Physical Obs.
Kuopio			30.61	777.6	3.2	—16.0	90	NW	7	3			0						Ch. Forsten.
Kieff			30.19	766.7	26.8	— 2.9	81	N	11	5			10						Physical Cabinet.
Nikolaiev			30.15	765.8	32.5	0.3	76	N	13	6			9						Kurdakof
Kertch			30.08	764.0	32.2	0.1	98	NW	11	5			10						Lagorio.
Moscow			30.14	765.5	15.3	— 9.3	81	NNE	18	8			6						Meteorological Obs.
Lugan			29.83	757.6	29.8	— 1.2	80	NW	11	5			10			Blank	Blank		Meteorological Obs.
Archangel			30.19	766.9	19.4	— 7.0	94	N	9	4			10						Ogorodnikof.
Tiflis	28.21	716.4	29.63	752.5	46.4	8.0	65	N	46	20			10						Physical Observatory.
Astrakhan			29.66	753.3	44.2	6.8	94	W	4	2			10			Blank	Blank		Sebastianof.
Kasan			29.53	750.0	24.8	— 4.0	93	NNW	9	4			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.55	725.1	29.52	749.8	29.7	— 1.3	73	SW	2	1			10						Meteorological Obs.
Nukuss			29.71	754.6	48.9	9.4	30	ENE	9	4			8						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.97	761.2	18.9	— 7.3	84	S	0	0			0						Meteorological Obs.
Yeniseisk			29.57	751.0	21.4	— 5.9	90	WSW	4	2			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.22	767.6	37.9	3.3	58	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.80	756.8	19.6	— 6.9	68	NW	20	9			10			Blank	Blank		
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.39	772.0	55.2	12.9	75	SW	4.5	2.00		2	0	NW		0	0	Light clouds	Royal Observatory.
San Fernando			30.38	771.6	62.2	16.8	67	NNE	14.5	6.5		0	3		N	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.64	778.2	—10.8	—23.8	82	N			2		10			0	0	Foggy	
Umea			30.66	778.8	10.8	—11.8	100	N			2		10			0	0		
Hernosand			30.63	778.1	25.2	— 3.8	73	S			2		10			0	0		
Stockholm			30.58	776.8	27.9	— 2.3	85	E			4		9			0	0		
Wisby			30.66	776.1	32.0	0.0	81	SE			6		10			0.020	0.5		
SUB-SERIES.																			
Upsala			30.61	777.5	23.2	— 4.9	78	NE	3.6	1.6			7		SE	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.83	732.3	30.26	768.7	52.2	11.2	76	N			1		8			0.024	0.6	Covered	The Observatory.
Zurich	28.63	727.2	30.28	769.1	50.0	10.0	81	W			1		8			0.047	1.2	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +5.8 mm; Thermometer, +4.8 cent.; Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.15	765.7	48.6	9.2	63	SE	4	2.0			0			0	0		
Fao, (Persian Gulf)			30.12	765.0	57.2	14.0		S			1		10						
Salonica			30.07	763.6	56.7	13.7		E			1		10						
Valona			29.90	759.5	56.8	13.8		NW			1		10					Raining	
Varna			30.08	764.0	46.4	8.0		Calm			0		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.08	764.0	65.7	18.7	55	NW			2		1k		SW	0.06	1.5	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The orginals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.43	772.9	26.7	— 2.9	76	Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.38	771.6	31	— 0.6		E	4	1.8			10s		E	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			30.40	772.1	27	— 2.8	87	N	6	2.7		2k	8ks	N	N	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.37	771.4	31	— 0.6	93	N	13	5.8			8ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.32	770.1	31.7	— 0.2	91	E			3	10k	0			0	0	Dull	James Smith, M. A.
Dalhousie, N. B			30.46	773.7	23	— 5.0	96	NW			1					0	0	Fine	H. A. Johnson.
Esquimault, B. C			29.61	752.1	47.8	8.8	100	NE					10			0.45	11.4	Rainy	W. H. Bevis.
Fredericton, N. B			30.46	773.7	29.4	— 1.4	96	NE	2	0.9		10cs	0			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.26	768.6	10	—12.2	96	N	14	6.3			10n			0.816	20.57	Light snow	James Stewart.
Goderich, Ontario			30.14	765.5	39.3	4.1	80	Calm			0		10n			Inap.	Inap.	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.98	736.1	30.12	765.0	37	2.8	90	E			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			30.35	770.9	30	— 1.1	88	N	8	3.6			5ks		N	0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.34	770.6	35	1.7	98	NE	4	1.8			10s		NE	0.01	0.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			30.21	767.3	33.8	1.0	98	N	6	2.7		9k		N		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			30.40	772.1	29	— 1.7	94	NE	9	4.0		2k	Haz	N	N	0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.36	771.1	30	— 1.1	89	NE	4	1.8		5ck	2s	W	W	0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.23	767.8	36	2.2	76	E	11	4.9		2k	5ks	SE	SE	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.15	765.8	40	4.4	91	NE	4	1.8		0	Haz			0	0	Hazy	H. Morgan.
Port Hastings, N. S			30.25	768.3	32.2	0.1		N	2	0.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.13	765.3	41	5.0	90	E	10	4.5			10n		E	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.45	773.4	28	— 2.2	77	NE	7	3.1			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.45	773.4	27	— 2.8	88	N	1	0.4		7k	0			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			30.13	765.3	38	3.3	70	E	4	1.8			10s			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.19	766.8	37	2.8	91	SE	6	2.7			10n		SE	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.81	731.8	30.13	765.3	36.3	2.4	94	SE	5	2.2			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			30.25	768.3	33	0.6	78	N	15	6.7			10s		N	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario			30.19	766.8	41	5.0	83	E	6	2.7			10n		SW	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.16	766.1	38.2	3.4	93	E	18	8.0			10s			0.02	0.5	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.89	759.2	37.0	2.8	100	N	8	3.6			10n			0.08	2.0	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.36	771.1	37	2.8	80	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			30.13	765.3	39	3.9	81	E	6	2.7			10s		E	0	0	Cloudy	
Atlantic City, N. J.			30.22	767.6	52	11.1	86	E	16	7.2			10s		E	0.01	0.3	Threatening	
Augusta, Ga.			30.16	766.1	52	11.1	93	SE	3	1.3			10s			0.21	5.3	Cloudy	
Baltimore, Md.			30.22	767.6	48	8.9	92	NE	8	3.6			10n		E	0.07	1.8	Light rain	
Barnegat, N. J.			30.24	768.1	51	10.6	93	E	12	5.4			10s			0.01	0.3	Cloudy	
Bismarck, Dakota	28.52	724.4	30.40	772.1	— 4	—20.0	67	NW	9	4.0		0	0			0.31	7.9	Clear	
Boston, Mass.			30.38	771.6	40	4.4	73	NE	2	0.9		10s	Fog	E		0	0	Cloudy	
Breckenridge, Minn.			30.10	764.5	15	— 9.4	83	NW	24	10.7			10s		N	0.01	0.3	Cloudy	
Buffalo, N. Y.			30.15	765.8	42	5.6	74	E	3	1.3			10s			0	0	Cloudy	
Burlington, Vt.			30.38	771.6	28	— 2.2	67	SE	1	0.4		2c	2s			0	0	Fair	
Cairo, Ill.			30.08	764.0	44	6.7	84	SW	3	1.3			10s			0	0	Cloudy	
Cape Hatteras, N. C.			29.97	761.2	54	12.2	100	N	19	8.5			10n			0.93	23.6	Light mist	
Cape Henry, Va.			30.12	765.0	51	10.6	93	N	14	6.3			10s		N	0.15	3.8	Cloudy	
Cape Lookout, N. C.			30.10	764.5	51	10.6	93	N	18	8.0			10s			0.34	8.6	Cloudy	
Cape May, N. J.			30.18	766.6	54	12.2	86	E	12	5.4			10s			0.08	2.0	Threatening	
Charleston, S. C.			30.15	765.8	51	10.6	78	N	8	3.6		Haze	5s			Inap.	Inap.	Hazy	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	28	— 2.2	48	W	8	3.6		0	0			0	0	Clear	
Chicago, Ill.			29.98	761.5	43	6.1	75	SE	4	1.8			10s			0	0	Cloudy	
Cincinnati, Ohio			29.98	761.5	48	8.9	85	SE	2	0.9			10n		W	0.02	0.5	Light rain	
Cleveland, Ohio			30.07	763.8	42.5	5.8	100	SE	4	1.8			10n			0.04	1.0	Light rain	
Corsicana, Tex.			30.16	766.1	48	8.9	92	N	12	5.4			10s			0.05	1.3	Cloudy	
Davenport, Iowa			30.00	762.0	38	3.3	80	SW	8	3.6			10n			0.01	0.3	Light rain	
Denison, Tex.			30.23	767.8	46	7.8	85	NW	9	4.0			10s		N	0.19	4.8	Cloudy	
Denver, Col.	24.96	634.0	30.18	766.6	22	— 5.6	72	S	2	0.9		0	0			0	0	Clear	
Detroit, Mich.			30.04	763.0	41	5.0	91	E	4	1.8			10s			0	0	Cloudy	
Dodge City, Kan.	27.66	702.6	30.11	764.8	27	— 2.8	77	NW	8	3.6		0	0			0.01	0.3	Clear	
Dubuque, Iowa			29.97	761.2	34	1.1	90	SW	1	0.4			10n			Inap.	Inap.	Light snow	
Duluth, Minn.			29.99	761.7	34	1.1	79	SE	4	1.8			10n		E	0.07	1.8	Light snow	
Eastport, Me.			30.41	772.4	33	0.6	79	N	5	2.2			10s			0	0	Cloudy	
Erie, Pa.			30.09	764.3	45	7.2	76	S	16	7.2			10s			0	0	Cloudy	
Escanaba, Mich.			30.06	763.5	39	3.9	91	SE	10	4.5			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			30.16	766.1	41	5.0	91	N	12	5.4			10s		N	0.02	0.5	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.04	737.6	30.20	767.1	40	4.4	63	N	18	8.0		0	0			0	0	Clear	
Fort Sully, Dakota	28.62	726.9	30.48	774.2	7	—13.9	77	NW	14	6.3		0	0			0.01	0.3	Clear	
Florence, Arizona	28.63	727.2	30.20	767.1	46	7.8		Calm				0	0			0	0	Clear	
Galveston, Tex.			30.08	764.0	60	15.6	97	E	3	1.3		0	1s			0	0	Clear	
Grand Haven, Mich.			30.01	762.2	38	3.3	81	E	6	2.7			10s			0	0	Cloudy	
Indianapolis, Ind.			30.01	762.2	45	7.2	92	Calm	0	0			10n			0.03	0.8	Light rain	
Indianola, Tex.			30.09	764.3	56	13.3	87	NE	4	1.8		0	5s		S	0	0	Fair	
Jacksonville, Fla.			30.10	764.5	59	15.0	87	N	3	1.3		0	0			0	0	Clear	
Keokuk, Iowa			30.01	762.2	35	1.7	90	W	6	2.7			10s		W	0	0	Threatening	
Key West, Fla.			30.04	763.0	70	21.1	90	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.10	764.5	51	10.6	100	N	23	10.3			10n		N	0.79	20.1	Light rain	
Knoxville, Tenn.			30.08	764.0	49	9.4	93	NE	1	0.4			10n			0.29	7.4	Misting	
La Crosse, Wis.			29.94	760.5	37	2.8	80	S	4	1.8			10n		S	0.03	0.8	Light snow	
Leavenworth, Kan.			30.22	767.6	26	— 3.3	77	NW	16	7.2		0	0			0	0	Clear	
Louisville, Ky.			30.03	762.7	46	7.8	85	SW	2	0.9			10s			0.01	0.3	Cloudy	
Lynchburg, Va.			30.20	767.1	45	7.2	88	Calm	0	0			10s			0.02	0.5	Cloudy	
Malone, N. Y.			30.34	770.6	29	— 1.7	78	Calm	0	0		5ck	0			0	0	Fair	
Marquette, Mich.			30.08	764.0	40	4.4	82	E	2	0.9			10s			0	0	Threatening	
Memphis, Tenn.			30.08	764.0	48	8.9	85	Calm	0	0			10s			0	0	Cloudy	
Milwaukee, Wis.			30.01	762.2	39	3.9	72	S	5	2.2			Fog			0	0	Foggy	
Mobile, Ala.			30.06	763.5	61	16.1	100	NW	8	3.6			10n		NW	1.54	39.1	Light rain	
Montgomery, Ala.			30.05	763.3	59	15.0	100	E	5	2.2			10n			0.17	4.3	Light rain	
Morgantown, W. Va.	29.03	737.3	30.10	764.5	44	6.7	84	SE	2	0.9			10s		SE	0.09	2.3	Cloudy	
Mt. Washington, N. H.	23.94	608.1	30.30	769.6	21	— 6.1	57	NW	6	2.7		0	0			0	0	Clear	
Nashville, Tenn.			30.05	763.3	48	8.9	92	NW	2	0.9			10s		NW	0.01	0.3	Cloudy	
New Haven, Conn.			30.35	770.9	45	7.2	67	NE	10	4.5			10s		NE	0	0	Cloudy	
New London, Conn.			30.36	771.1	43	6.1	83	NE	9	4.0			10s			0	0	Cloudy	
New Orleans, La.			30.03	762.7	61	16.1	100	N	2	0.9			Fog			0.15	3.8	Dense fog	
Newport, R. I.			30.38	771.6	44	6.7	75	NE	6	2.7			10ks		NE	0	0	Threatening	
New York, N. Y.			30.30	769.6	46	7.8	84	NE	17	7.6			10s		SE	Inap.	Inap.	Threatening	
Norfolk, Va.			30.14	765.5	47.5	8.6	96	N	8	3.6		10s	Fog			0.11	2.8	Cloudy	
North Platte, Neb.	27.29	693.2	30.11	764.8	12	—11.1	100	NW	7	3.1		0	0			0	0	Clear	
Omaha, Neb.	29.06	738.1	30.22	767.6	20	— 6.7	85	NW	6	2.7		0	5s		NW	0	0	Fair	
Oswego, N. Y.			30.26	768.6	43	6.1	71	SE	8	3.6			10s		S	0	0	Cloudy	
Pembina, Dakota			30.26	768.6	3	—16.1	86	NW	21	9.4			10s		NW	0.12	3.0	Cloudy	
Philadelphia, Pa.			30.26	768.6	45	7.2	92	E	13	5.8			10s		E	0.01	0.3	Cloudy	
Pike's Peak, Col.	17.82	452.6	30.03	762.7	16	— 8.9	67	W	30	13.4		0	0			0	0	Clear	
Pittsburgh, Pa.			30.09	764.3	45	7.2	76	E	4	1.8		5ck	2ks	W		0	0	Fair	
Port Huron, Mich.			30.06	763.5	39	3.9	91	E	5	2.2			10s		S	0	0	Cloudy	
Portland, Me.			30.41	772.4	35	1.7	80	Calm	0	0		5c	Haze			0	0	Fair	
Portland, Oregon			29.79	756.7	58	14.4	88	S	16	7.2			10n			0.86	21.8	Light rain	
Punta Rassa, Fla.			30.07	763.8	67.5	19.7	90	NE	10	4.5		2k	0	SW		0	0	Fair	
Rochester, N. Y.			30.20	767.1	42	5.6	83	SE	8	3.6			10s		SW	0	0	Cloudy	
Salt Lake City, Utah	25.90	657.8	30.23	767.8	35	1.7	70	SE	4	1.8		0	0			0	0	Clear	
Sandy Hook, N. J.			30.24	768.1	47	8.3	92	NE	28	12.5			10n		NE	0.01	0.3	Light rain	
San Diego, Cal.			30.04	763.0	48	8.9	100	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.15	765.8	54	12.2	93	NW	4	1.8			10s			0	0	Cloudy	
Santa Fé, N. M.	23.46	595.9	30.00	762.0	27	— 2.8	77	SE	2	0.9		0	0			0	0	Clear	
Savannah, Ga.			30.14	765.5	53	11.7	86	NE	6	2.7			10s			0	0	Cloudy	
Shreveport, La.			30.16	766.1	50	10.0	93	NE	2	0.9			10s		SE	0.18	4.6	Cloudy	
Smithville, N. C.			30.14	765.5	46	7.8	92	N	6	2.7			10s			0.01	0.3	Cloudy	
Springfield, Mass.			30.34	770.6	39	3.9	81	N	4	1.8			10s			0	0	Cloudy	
St. Louis, Mo.			30.04	763.0	44	6.7	75	Calm	0	0			10s			0.02	0.5	Cloudy	
St. Marks, Fla.			30.09	764.3	59	15.0	94	SE	3	1.3			10s			0	0	Cloudy	
St. Paul, Minn.			30.14	765.5	54	12.2	86	N	15	6.7			10s		NE	0.03	0.8	Cloudy	
St. Paul's Island, Alaska			29.94	760.5	25	— 3.9	88	W	1	0.4			10s						
Thatcher's Island, Mass.																			
Toledo, Ohio			30.39	771.9	43	6.1	67	N	8	3.6		2ck	8s	S	S	0	0	Cloudy	
Tucson, Arizona			30.03	762.7	42	5.6	83	NE	4	1.8		Haze	Haze			0	0	Hazy	
Tybee Island, Ga.	27.74	704.6	30.29	769.4	37	2.8		S				0	0			0	0	Clear	
Vicksburg, Miss.			30.14	765.5	54	12.2	86	N	15	6.7			10s		NE	0	0	Cloudy	
Virginia City, M. T.			30.12	765.0	53.5	11.9	96	NW	7	3.1			10s, f			0.06	1.5	Cloudy	
Washington, D. C.	24.38	619.2	29.86	758.4	25	— 3.9	75	SE	1	0.4		2k	0	W		0	0	Fair	
Wilmington, N. C.			30.21	767.3	46	7.8	100	NE	8	3.6			10n, f		NE	0.08	2.0	Light rain	
			30.15	765.8	46	7.8	92	N	8	3.6			10s			0.02	0.5	Cloudy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.39	771.9	42	5.6	75	E	4	1.8			10s			0	0	Cloudy	
Yankton, Dakota	28.90	734.0	30.31	769.9	14	—10.0	82	NW	20	8.9			10s		NW	0.03	0.8	Cloudy	
Yuma, Arizona			30.16	766.1	54	12.2		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.09	764.3	77	25.0	76	Calm	0	0		2c	2s			0	0		James Gall.
Navassa, W. I.					79	26.1		NE		2						0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.17	690.1	29.95	760.7	68	20.0	90	NE	1.0	0.4		2c	0	NE		0	0	Fine, Clear	C. Partridge.
Paramaribo, D. Guiana, S.A			29.97	761.2	83	28.3	79	E		2		6ks	7ks	E		0	0	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.6			85.1	29.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.18	639.6			67.0	19.4	78	Calm			0	1cs	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.63	778.0	— 5.0	—20.6	82	S	3	1.3			10n			Inap.	Inap.		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	74.5	23.6		NE			5					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Hyannis, Mass.			30.34	770.6	40	4.4	91	NE	7	3.1		0	5ks		NE			Cloudy	Capt. James Jorgensen.
Steamer Berlin, N. 37°, 13′, W. 71°, 59′.	E½N	6	30.10	764.5	62.4	16.9		SSE			6		d			Rough		Raining	Capt. C. Fohle.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 19, 1876.

7:35 A. M. WASHINGTON mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
7:7 A. M. SAN JOSE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.28	769.0	64.8	18.2	70	Calm			0		1			0	0	Clear	Charnot.
Algiers			30.22	767.6	64.4	18.0	80	NW			1		7			0	0	Cloudy	Peter.
La Calle			30.14	765.5	66.2	19.0	61	NW			3		3			0.236	6.0	Fair	Fleury.
Tunis			30.06	763.5	65.1	18.4	57	NW			5		5			0.020	0.5	Fair	Jacques.
Sfax			30.16	766.0															
Saida			30.30	769.5	59.0	15.0	49	N			1		1			0	0	Clear	Millot.
Tebessa			30.17	766.3	51.8	11.0		W			3		6			0	0	Fair	Bourgeois.
Geriville			30.28	769.0	57.4	14.1	43	NNE			2		0			0	0	Clear	Lemaillot.
Laghouat			30.25	768.4	61.7	16.5	40	N			2		0			0	0	Clear	Guyot.
Biskra			30.22	767.5	72.5	22.5	27	NW			2		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.08	764.1	45.7	7.6	86	Calm			0		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.27	768.8	25.9	— 3.4	98	NE			3		10			0.008	0.2		Dr. Wierzbiski.
Eperies			30.19	766.8	35.6	2.0	75	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.82	731.9	30.11	764.8	41.5	5.3	92	S			1		10			0.039	1.0		Andreas Rospini.
Hermannstadt	28.69	728.8	30.19	766.9	32.0	0.0	89	ESE			3		10			0	0		Prof. Reissenberger.
Kremsmünster	28.67	728.2	30.04	763.1	41.7	5.4	97	E			3		10			0	0		Prof. C. Wagner.
Lemberg			30.35	771.0	20.8	— 6.2	95	NE			2		2			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.99	761.7	57.6	14.2	53	ENE			3		2ks			0	0		I.R. Hydrographic Of'ce
Szegedin			30.14	765.5	40.1	4.5	73	SE			4		10			0	0		Karl Stancel.
Trieste			30.04	762.9	54.1	12.3	62	E			2		9			0	0	Partly cov'd	Prof. V. Farolfi.
Vienna			30.12	765.0	39.7	4.3	85	NE			1		10			0.031	0.8		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.78	756.4	54.3	12.4	91	SW			2	0	4k		SW	0.201	5.10		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.51	749.5	49.0	9.4		SSW	5	2.2			2			0.855	21.7	Blue sky	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.60	751.8	49.0	9.4		SSW	19	8.5									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.73	755.1	51.5	10.8		W			2-3		10					Overcast	J. Dreyer.
Bradford																0.25	6.3		J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	84.0	28.9		NE			3		7					Overcast	Sergt. J. F. Halanen, A.H.C.
Camoridge, Observatory			29.75	755.6	55.9	13.3		WSW			2		5			0.20	Blank	*D. clouds	H. Todd.
Cardington			29.77	756.1	53.4	11.9		W			1		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.78	756.4	53.2	11.8					1		3					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.40	721.3	29.91	759.7	46.4	8.0		W			2		10			0.01	Blank	Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.84	630.9			37.1	2.8	76	E			1		10			0.15	3.9	Overcast	Francis Redford, M. A.
Donaghadee			29.58	751.3	48	8.9		W			4		5					*D. clouds	J. Mac Gowan.
Dover			29.79	756.7	51	10.6		WNW			3		2					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.68	753.9	51.0	10.6		W	6.5	2.9			2					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.85	758.2	53.3	11.8		W			2		8					Overcast	The Staff.
Fort Napier, (Natal)	27.70	703.6	29.94	760.5	78.4	25.8		E			3		8					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.95	760.7	80.0	26.7		N			1		4					*D. clouds	
Galway, Queen's College			29.58	753.9	50	10.0		W			5		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.16	766.1	66.5	19.2		S			1		0					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.53	750.0	48.6	9.2		SSW			2		9					*D. clouds	Lewis Stuart.
Great Yarmouth			29.73	755.1	50	10.0		W			3		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.79	756.7	53.0	11.7		WSW			4		7			0.05	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.86	758.4	53.5	11.9		WSW			1		8					*D. clouds	Dr. S. F. Hoskins.
Helston			29.82	757.4	55	12.8		NW			4		8k			0.7	17.8		M. P. Moyle.
Holyhead			29.68	753.9	51	10.6		WSW			4		4					*D. clouds	John Tilston.
Kew, Observatory			29.79	756.7	53.4	11.9		WSW	9	4.0			7					*D. clouds	The Staff.
Kingstown			29.70	754.4	51	10.6		W			4		3					Blue sky	George Mitchell.
Leicester Museum			29.74	755.4	51.8	11.0		SW			1		1					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.75	759.7	66.6	19.2		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.50	749.3	45	7.2		Calm			0		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	74.5	23.6		NE			1		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.70	754.4	53.3	11.8		SW			4		3ck,k		W	0.13	3.4	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.73	755.1	51.1	10.6		SW			3		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.76	755.9	54	12.2		WSW			2		9					Overcast	J. Lucas.
Plymouth			29.84	757.9	52	11.1		SW			1		7					*D. clouds	John Merrifield.
Roche's Point			29.83	757.7	51	10.6		W			4		5					Cloudy	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.86	758.4	54.5	12.5		NW			1		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.50	749.3	47.4	8.6		SW	5	2.2			4					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.02	762.5	45.8	7.7		ENE			2		10					Raining	Sergt. W. H. Lyne.
Sheffield			29.68	753.9	52.5	11.4		W			1		9			0.11	2.87	Overcast	W. F. Cooper.
Silloth Rectory			29.58	751.3	48.2	9.0	89	SW			1		6			0.490	12.44	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.67	753.6	49.0	9.4		W					6					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis, (Rector)			29.45	748.0	45	7.2		WSW			1		2					Blue sky	John Smith.
Strathfield Turgiss			29.82	757.4	51.3	10.7		W			1		8					*D. clouds	Rev. Charles H. Griffith.
Thurso			29.46	748.3	47	8.3		Calm			0		5					*D. clouds	John Trotter.
Truro, Royal Institution			29.88	758.9	57	13.9		W			5		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.85	758.2	52.1	11.2		W	17	7.6			5					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					54	12.2		SW			4		0			0.15	3.8		Henry Mercer.
Cape Good Hope, Obs'y			29.97	761.2	78.0	25.6	52	S	23	10.3		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.14	740.1	69.0	20.6	94	Calm			0		10n			0.12	3.0	Raining	Francis Abbott, F.R.A.S.
Leith, Restring Park			29.54	750.3	49.3	9.6		W			2		2k			0.25	6.3	Fine	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				ESE	21.8	9.7						0	0		C. Meldrum.
Melbourne, Observatory			29.59	751.6	54.3	12.4	75	WSW	19	8.5			10			0.84	21.3	Showery	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)			29.49	749.0	49	9.4		SSE			3		10			0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.62	752.3	44	6.7		SE			8		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.09	764.2	36.7	2.6	91	SE			6		10						
Egnöe			29.95	760.8	41.0	5.0	98	ESE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.70	754.4	40.1	4.5	97	Calm			0		8						
Thorshavn, (Faröe)			29.54	750.4	45.5	7.5	89	E			6		10					Raining	
Vestervig			29.92	760.0	37.6	3.1	100	SE			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Danish symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.91	759.6	53.6	12.0	95	W			2		10			0.43	11.	Covered	Normal School.
Amiens			29.84	757.9	57.2	14.0	76	W			3		2		W	0.165	4.2	Slightly cl'dy	Normal School.
Avignon			30.08	764.0	57.2	14	65	N			1		10			0	0	Covered	Normal School.
Bar-sur-Seine			29.91	759.6	54.0	12.2	97	SW			1		10			0.469	11.9	Light rain	C. Saillard.
Beaumette, (near Angers)			29.91	759.7	56.7	13.7	100	SW	2.0	0.9			10		SW	0.933	23.7	Raining	Beaumette Observ'tory
Beauvais			29.88	758.9	54.5	12.5	73	WNW			3		5		NW	0.256	6.50	Cloudy	Normal School.
Besançon			30.00	762.1	49.1	9.5	96									0.130	3.3		Normal School.
Bourg en Bresse			30.08	764.1	47.7	8.7	88	S			2		10n		NW	0	0	Covered	Normal School.
Bourges			29.95	760.7	56.1	13.4	95	SW			2		10		SW	0.532	13.5	Covered	Normal School.
Brest			29.81	757.2	58.5	14.7	93	W			3		10		W	0.295	7.50	Rain and fog	Naval Observatory.
Carcassonne			30.11	764.9	59.0	15	85	W			2		10		E	0.059	1.5	Covered	Normal School.
Caen																			Normal School.
Chartres			29.83	757.6	57.7	14.3	99	SW			2		10			0.83	21.	Covered	Normal School.
Châlons-sur-Marne			30.07	763.8	56.1	13.4	86	SSW			2		10n		E	0.240	6.1	Covered	Normal School.
Clermont			30.00	762.1	55.4	13.0	86	W			3		10		W	0	0		Puy de Dome Obs'y.
Commercy			29.94	760.5	51.3	10.7	95	SW			2		10			0.20	5.	Covered	Normal School.
Commune de Gréasque*			30.10	764.5	58.1	14.5	52	NW			2		8		NW	0	0		M. Kina.
Grenoble			30.11	764.8	48.7	9.3	84	NE			1		8ns		NE	0	0	Very cloudy	Normal School.
La Roche-sur-Yon					58.6	14.8	98	S			4		10			0.803	20.4	Covered	Normal School.
Le Mans			29.94	760.4	58.5	14.7	86	W			2		10			0.91	23.	Covered	Normal School.
Lons-Le-Saulnier			29.97	761.2	49.8	9.9	96	SW			2		10			1.10	28.	Raining	Normal School.
Lorient			29.90	759.5	60.1	15.6	87	W			5		10			0.866	22.0	Raining	Naval Observatory.
Mâcon			30.13	765.2	47.7	8.7	92	S			1		10			0.102	2.6	Covered	Normal School.
Metz			30.00	762.0	46.6	8.1	94	SE			1		10			0.291	7.4		M. Schuster.
Mirecourt			29.97	761.2	49.6	9.8	92	SSW					10			0.098	2.5	Covered	Normal School.
Nismes			30.06	763.5	62.4	16.9	66	NE			2		2		S	0	0	Slightly cl'dy	Normal School.
Orleans			29.87	758.8	56.3	13.5	95	W			2		10		W	0.35	9.	Raining	Normal School.
Paris, Observatory			29.88	759.0	57.2	14.0	85	W			2		8k		W	0.171	4.34	Almost cov'd	National Observatory.
Parthenay																			Normal School.
Privas			30.05	763.3	51.4	10.8		NE			2		10		NE	0	0	Covered	Normal School.
Rochefort, Observatory			30.04	762.9	59.4	15.2	93	SW			5		10		E	0.551	14.0	Raining	Naval Observatory.
Rouen			29.91	759.7	55.4	13.0	73	W			2		10			0.205	5.2	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	29.18	741.2	30.27	768.8	55.4	13		W			4		10			0.12	3.	Raining	Normal School.
Villefranche			30.08	763.9	47.5	8.6	92	SE			2		10			0.12	3.	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.84	757.8	81.3	27.4													L'Abbé Marchési.
Marseilles			30.04	763.1	59.2	15.1	67	W			2		9			0.126	3.20	Rainy	Marseilles Observatory.
Mont-Louis	25.00	634.9	30.38	771.7	46.8	8.2	86	SW	7.4	3.33			10		WNW	0.059	1.5		—. Falguère.
Montsouris, Paris			29.87	758.7	57.6	14.2	85	W			2	10c		WNW		0.165	4.2		Montsouris Observatory
Perpignan			30.07	763.8	67.3	19.6	64	NW	26.1	11.67			8		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.34	542.0			32.0	0.0		SW			2		10					Rainy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.65	575.4			35.6	2.0		SW			1		10			3.418	86.7	Rainy	General de Nansouty.
Saint Maur, (near Paris)			29.87	758.8	57.6	14.2	83	WSW			1		10			0.173	4.4	Covered	E. Renou.
Toulouse			30.19	766.8	59.0	15.0	91	WSW			6		10			0.248	6.3	Covered	Toulouse Observatory.
Tours			29.87	758.8	54.9	12.7	95	WSW			2		10			1.102	28.0	Rainy	C. Marquet.
Versailles, (near Paris)			29.90	759.4	56.8	13.8	89	W			1		10			0.207	5.27	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.32	770.0	41.5	5.3	78	S	1.9	0.83			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the co-operation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.00	762.0	47.3	8.5	93	S			2		10			0	0	Foggy	Prof. T. Hoh.
Berlin			30.09	764.3	39.7	4.3	88	SE			2		10			0.205	5.2		Prof. Arndt.
Breslau			30.20	767.0	32.9	0.5	74	SE			2		10			0.043	1.1		Royal University Obs'y
Carlsruhe			29.97	761.1	43.9	6.6	98	NE			1		10			0.055	1.4		A. Senz.
Cassel			30.00	761.9	49.6	9.8	81	SE			3		8	SE		0	0		Dr. H. Möhl.
Emden			29.89	759.3	47.7	8.7	95	ESE			1		10			0.028	0.7		Prof. Prestel.
Frankfort on the Main			29.99	761.7	48.2	9.0	75	S			1		10			0.028	0.7	Rain & fog	Physical Society.
Friedrichshafen			30.04	763.1	44.4	6.9	91	ESE			2		9					Light rain	M. Wilhelm.
Hamburg			29.96	761.0	45.1	7.3	91	SE			3		10ks			0.024	0.6	Light fog	Captain F. Hegemann.
Kiel			29.94	760.4	43.9	6.6	89	SE			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.39	771.9	19.4 — 7.0		71	NE			5		2			0	0		Prof. E. Luther.
Köslin			30.24	768.0	30.6 — 0.8			SE			4		2			0	0		H. Müller.
Leipsic			30.07	763.6	44.4	6.9	100	SE			1		6			0.051	1.3		Prof. Bruhns.
Memel			30.46	773.6	21.2 — 6.0		64	SE			3		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			29.89	759.2	51.4	10.8	95	SW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.35	770.9	26.1 — 3.3		68	SSE			3		0			0	0		A Lothe.
Posen			30.24	768.2	32.7	0.4	95	SE			7		10						Dr. Magener.
Strassburg, (in Alsace)			29.98	761.4	46.9	8.3	88	Calm			0		10			0.150	3.8		Dr. Schur.
Stuttgart			29.98	761.4	47.8	8.8	83	SE			1		10			0.024	0.6	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.86	758.4	47.8	8.8	90	S			3		10			0.043	1.1		Prof. Flesch.
Weissenburg, (Bavaria,)	28.49	723.6	30.02	762.6	44.6	7.0	89	S	2	1			10	SSE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.14	765.6	36.1	2.3	95	ESE			4		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 19°, 42', W. 23°, 4'.			30.17	766.2	82.4	28.0	86	ENE			4		0						Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.84	757.9	60.1	15.6		W										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.00	761.9	54.5	12.5	62	E	1.3	0.6			5			0	0		Prof. Giovanni Clodig.
Padua			29.99	761.7	55.0	12.8	72	NW	1.8	0.8			2	W		0	0		Prof. Dott. Lorenzoni.
Vicenza																			Alm. Da Schio.
Verona			29.96	760.9	51.4	10.8	68	NE			2		6			0.079	2.0	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.02	762.6	49.6	9.8	68	Calm			0		10			0.071	1.8	Raining	Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			30.04	762.9	43.2	6.2	92	NW			1		10			0	0	Dense fog	Prof. Gio. Cantoni.
Moncalieri			30.07	763.8	47.5	8.6	87	NNE	0	0			9	SE		0	0		Prof. P. F. Denza.
Mondovi																			Prof. C. Bruno.
Porto Maurizio			30.04	763.1	60.4	15.8	69	NW			2		10			0	0		Prof. L. Vassallo.
Genoa			30.01	762.3	59.9	15.5	68	Calm	0	0			10			0	0		Prof. Garibaldi.
Piacenza			30.05	763.2	43.3	6.3	94	N	0	0			10			0	0	Dense fog	Dott. G. Manzi.
Parma			30.04	763.0	44.2	6.8	88	W			4		10			0	0	Dense fog	Prof. P. Pigorini.
Bologna			30.02	762.5	55.0	12.8	44	W			1		10			0	0		Prof. A. Palagi.
Florence			30.00	762.0	60.8	16.0	59	NNW			2		10	NW		0	0		Cav. F. Meucci.
Leghorn			30.01	762.2	60.1	15.6	60	NNE	6.3	2.8			7	NNE		0	0		Prof. P. Monte.
Siena	28.78	730.9	30.00	762.1	55.8	13.2	66	NNW	0.7	0.3			0			0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.02	762.6	54.5	12.5	82	N	23.0	10.3			2	E		0	0		Prof. Luigi Guidi.
Ancona			30.00	761.9	54.3	12.4	83	NW			6		3			0	0		Prof. F. De— Bosis.
Grosseto			30.00	761.9	61.9	16.6	49	NE			2		3	SE		0	0		Avv. P. Ponticelli.
Rome			29.93	760.2	64.0	17.8	46	N	9.8	4.4			0			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.94	760.4	62.6	17.0	53	ESE			4		5	NNE		0	0		Prof. L. Palmieri.
Lecce			29.85	758.2	58.6	14.8	93	ENE	6.6	3.1			8			0.118	3.0	Raining	Prof. C. De—Giorgi.
Cosenza			29.87	758.7	59.7	15.4	75	SW	3.	1.4			10			0.146	3.7	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.89	759.2	66.0	18.9	75						10			0	0		Prof. F. Caffero.
Palermo			29.89	759.3	60.6	15.9	69	W	1.8	0.8			10			0.697	17.7	Raining	Prof. G. Cacciatore.
Caltanissetta	27.89	708.5	29.85	758.1	56.3	13.5	69	WNW			6		7	S		0.012	0.3	Light rain	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.07	763.6	59.5	15.3	58	NNE	3.8	1.7			5	NE		0.008	0.2		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.81	757.2	51.1	10.6		W			4								
Groningen			29.74	755.4	46.6	8.1		S			4								
Helder			29.72	754.9	51.6	10.9		S			4								
Utrecht			29.74	755.4	50.4	10.2	97	S			3		10			0.311	7.9	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.88	759.0	42.1	5.6	49	Calm	0	0			8			0.189	4.8		
Brönö			30.00	762.1	33.8	1.0	79	Calm	0	0			9			0	0		
Christiania			30.19	766.7	28.4	— 2.0	88	NE	0.7	0.3			10			0	0		
Tromsö			29.97	761.1	28.8	— 1.8	84	SW	11	5			10			0.126	3.2		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.10	764.4	66.2	19.0	94	SSE	4.9	2.2			10			0	0		Dr. J. A. Sampaio.
Campo Major			30.34	770.5	63.3	17.4	67	NNW	6.3	2.8			3			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.30	769.5	68.2	20.1	76	ENE	3.8	1.7			3			0.031	0.8		Capt. D. A. de Cunha.
Lisbon			30.39	771.9	63.7	17.6	81	NE	9.8	4.4			2	N		0	0		The Observatory.
Ponta Delgada, (Azores)			30.17	766.3	65.1	18.4	96	S	7.4	3.33			10			0.358	9.1	Raining	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.37	771.4	23.4	— 4.8	69	SE	16	7			2						Astronomical Obs.
Wilna			30.53	775.5	19.8	— 6.8	71	Calm	0	0			0						Astronomical Obs.
Dorpat			30.54	775.7	10.0	—12.2	92	W	2	1			0						Physical Cabinet.
St. Petersburg			30.43	772.8	12.7	—10.7	85	NW	4	2			5						Central Physical Obs.
Kuopio			30.27	768.8	14.0	—10.0	94	W	7	3			10						Ch. Forsten.
Kieff			30.40	772.1	22.6	— 5.2	59	N	7	3			0						Physical Cabinet.
Nikolaiev			30.40	772.1	26.4	— 3.1	53	NE	22	10			0						Kurdakof
Kertch			30.28	769.2	30.0	— 1.1	73	N	11	5			8						Lagorio.
Moscow			30.20	767.0	18.7	— 7.4	81	N	18	8			10						Meteorological Obs.
Lugan			30.05	763.3	18.1	— 7.7	54	NW	25	11			5			Blank	Blank		Meteorological Obs.
Archangel			30.06	763.5	19.4	— 7.0	94	WNW	27	12			10						Ogorodnikof.
Tiflis	28.47	723.2	29.91	759.8	46.0	7.8	49	NW	22	10			4						Physical Observatory.
Astrakhan			29.86	758.4	21.7	— 5.7	77	WNW	11	5			9			Blank	Blank		Sebastianof.
Kasan			29.35	745.4	12.2	—11.0	93	N	18	8			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.27	718.0	29.25	743.0	21.9	— 5.6	93	ESE	7	3			10						Meteorogical Obs.
Nukuss			29.41	747.1	48.6	9.2	71	SW	16	7			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.02	762.6	22.1	— 5.5	80	S	4	2			0						Meteorological Obs.
Yeniseisk			29.61	752.2	23.0	— 5.0	90	SW	7	3			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.11	764.8	40.3	4.6	41	SW	9	4			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.99	761.7	8.4	—13.1	48	NW	13	6			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.34	770.6	57.4	14.1	77	S	2.2	1.00		1	1	NE		0	0	Light clouds	Royal Observatory.
San Fernando			30.32	770.1	64.2	17.9	62	NNW	2.9	1.3		1	0	NW		0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.16	766.1	16.5	— 8.6	88	W			2		10			0	0		
Umea			30.23	767.9	12.2	—11.0	93	Calm			0		0			0	0		
Hernosand			30.22	767.5	25.9	— 3.4	87	SW			4		7			0	0		
Stockholm			30.29	769.4	31.6	— 0.2	92	SSE			2		9			0	0		
Wisby			30.34	770.5	32.0	0.0	89	SSE			6		7			0	0		
SUB-SERIES.																			
Upsala			30.29	769.3	29.7	— 1.3	79	SE	6.0	2.7			10	WSW	SSW	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.63	727.1	30.08	764.1	43.5	6.4	100	NW			1		10			0.012	0.3	Raining	The Observatory.
Zurich	28.39	721.1	30.06	763.5	45.3	7.4	85	SE			1		10			0.472	12.0	Raining	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +0.6 mm; Thermometer, +0.2 cent.; Relative Humidity, +23 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			30.07	763.6	46.0	7.8	91	ENE	17	7.5			10		NE	0.205	5.2	Raining	
Fao, (Persian Gulf)																			
Salonica			29.97	761.2	61.5	16.4		SW			4		10						
Valona			29.85	758.3	63.7	17.6		SW			4		10						
Varna			30.08	764.0	33.8	1.0		NE			8		10					Snowing	
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.00	762.1	70.7	21.5	60	W			1		3ck,k		SW	0	0	*D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario			30.28	769.1	30.7	— 0.7		E	4	1.8			10s		E	0.14	3.6	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.50	774.7	22	— 5.6	92	N	2	0.9		8ck	2ks	N	N	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			30.43	772.9	31	— 0.6	98	N	3	1.3			8ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.21	767.3	37.7	3.2	94	E			1		10s			0.134	3.40	Dull	James Smith, M. A.
Dalhousie, N. B.																0	0		H. A. Johnson.
Esquimault, B. C.			29.83	757.7	47.8	8.8	92	SW					10			0.27	6.9	Rainy	W. H. Bevis.
Fredericton, N. B.			30.52	775.2	23.9	— 4.5	89	E	2	0.9		1ck	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.21	767.3	— 4	—20.0	93	S	4	1.8		Haze	2ks	S	S	0	0	Hazy	James Stewart.
Goderich, Ontario																0.038	0.97		H. J. Strang, M. A.
Granton, Ontario	28.87	733.3	29.98	761.5	44	6.7		SE			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			30.39	771.9	31	— 0.6	90	N	9	4.0			8n			0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.22	767.6	42	5.6	93	E	1	0.4			10n			0.08	2.0	Light rain	S. Woods, M. A.
Little Glace Bay, N. S.			30.32	770.1	32.0	0.0	97	N	6	2.7		7k	0	N		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.31	769.9	34	1.1	86	NE	6	2.7			10n			0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.23	767.8	36	2.2	85	NE	6	2.7			10ks		E	Inap.	Inap.	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.07	763.8	42	5.6	94	SE	16	7.2			10n		SE	0.05	1.3	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.02	762.5	46	7.8	98	NE	5	2.2			10n		NE	0.10	2.5	Light rain	H. Morgan.
Port Hastings, N. S.																0	0		Peter Grant.
Port Stanley, Ontario			29.99	761.7	47	8.3	92	E	12	5.4			10n		E	0.06	1.5	Cloudy	M. Payne.
*Quebec, Quebec			30.41	772.4	29	— 1.7	89	NE	22	9.8			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			30.50	774.7	26	— 3.3	82	N	7	3.1		4ck	0			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.99	761.7	46	7.8	88	SE	4	1.8		10k	0	S		0.05	1.3	Cloudy	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.70	729.0	30.00	762.0	43.0	6.1	96	SE	8	3.6			10s			0.09	2.41	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			30.34	770.6	32	0.0	83	N	10	4.5			10s		N	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.09	764.3	44	6.7	94	E	11	4.9			10ks		E	0.05	1.3	Light rain	Magnetic Observatory.
Woodstock, Ontario			30.03	762.7	43.4	6.3	98	E	15	6.7			10s			0.04	1.0	Raining	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.96	761.0	35.0	1.7	100	N	8	3.6			10n			0.22	5.6	Stormy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.26	768.6	39	3.9	90	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			29.98	761.5	43	6.1	91	E	2	0.9			Fog			0.11	2.8	Foggy	
Atlantic City, N. J.			29.98	761.5	52	11.1	100	E	36	16.1			10n		E	0.46	11.7	Light rain	
Augusta, Ga.			29.85	758.2	55	12.8	100	SE	2	0.9			10s			0.43	10.9	Cloudy	
Baltimore, Md.			29.97	761.2	49	9.4	93	NE	20	8.9			10n		NE	0.39	9.9	Light rain	
Barnegat, N. J.			30.03	762.7	51	10.6	97	E	39	17.4			10n		E	0.42	10.7	Light rain	
Bismarck, Dakota	28.08	713.2	29.86	758.4	3	—16.1	73	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			30.34	770.6	41	5.0	73	E	20	8.9			10s		E	0	0	Cloudy	
Breckenridge, Minn.			30.20	767.1	10	—12.2	90	S	4	1.8			10s			Inap.	Inap.	Cloudy	
Buffalo, N. Y.			30.01	762.2	45	7.2	84	E	4	1.8			10n			0.24	6.1	Light rain	
Burlington, Vt.			30.29	769.4	38	3.3	71	S	5	2.2		0	2s			0	0	Fair	
Cairo, Ill.			30.15	765.8	25	— 3.9	75	NW	10	4.5			10s		NE	0.06	1.5	Cloudy	
Cape Hatteras, N. C.			29.88	758.9	54	12.2	100	W	6	2.7			Fog			0.01	0.3	Foggy	
Cape Henry, Va.			29.86	758.4	55	12.8	100	W	6	2.7			Fog			0.39	9.9	Foggy	
Cape Lookout, N. C.			29.94	760.5	52	11.1	93	NE	8	3.6			Fog			0	0	Foggy	
Cape May, N. J.			29.88	758.9	56	13.3	86	E	36	16.1			10n			0.36	9.1	Light rain	
Charleston, S. C.			29.88	758.9	57	13.9	93	N	4	1.8			10s		W	0.90	22.9	Cloudy	
Cheyenne, Wyoming	23.99	609.3	29.93	760.2	46	7.8	24	W	16	7.2			10s			0	0	Cloudy	
Chicago, Ill.			29.98	761.5	40	4.4	82	NW	8	3.6			10s			0.14	3.6	Cloudy	
Cincinnati, Ohio			29.84	757.9	41	5.0	83	NW	7	3.1			10s		NW	0.56	14.2	Threatening	
Cleveland, Ohio			29.91	759.7	49	9.4	85	SE	9	4.0			10s		SE	0.03	0.8	Cloudy	
Corsicana, Tex.			30.26	768.6	37	2.8	80	NW	3	1.3		0	0			0	0	Clear	
Davenport, Iowa			30.12	765.0	34	1.1	69	NW	8	3.6			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			30.28	769.1	33	0.6	69	NE	5	2.2		0	0			0	0	Clear	
Denver, Col.	24.82	630.4	30.04	763.0	42	5.6	34	S	10	4.5			8s			0	0	Cloudy	
Detroit, Mich.			29.89	759.2	46	7.8	92	E	6	2.7			10s			0.05	1.3	Cloudy	
Dodge City, Kan.	27.52	699.0	29.95	760.7	25	— 3.9	75	SW	4	1.8		2c	0	W		0	0	Clear	
Dubuque, Iowa			30.11	764.8	35	1.7	90	NW	4	1.8			10s			Inap.	Inap.	Cloudy	
Duluth, Minn.			30.10	764.5	35	1.7	80	NW	4	1.8			10s			0.03	0.8	Cloudy	
Eastport, Me.			30.46	773.7	31	— 0.6	79	NE	16	7.2		8ck	0			0	0	Fair	
Erie, Pa.			29.92	760.0	48	8.9	92	SE	18	8.0			10n			0.08	2.0	Light rain	
Escanaba, Mich.			30.05	763.3	39	3.9	91	N	6	2.7			10s			0.03	0.8	Cloudy	
Fort Gibson, Indian Ter.			30.24	768.1	26	— 3.3	88	N	4	1.8		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.88	733.5	30.14	765.5	32	0.0	61	N	4	1.8		0	0			0	0	Clear	
Fort Sully, Dakota	28.1	716.5	29.96	761.0	20	— 6.7	85	SE	16	7.2		2c	0			0	0	Clear	
Florence, Arizona	28.58	725.9	30.11	764.8	53	11.7		NE				0	0			0	0	Clear	
Galveston, Tex.			30.26	768.6	50	10.0	78	N	11	4.9		0	0			0	0	Clear	
Grand Haven, Mich.			29.96	761.0	40	4.4	95	N	3	1.3			10s		NE	0.13	3.3	Cloudy	
Indianapolis, Ind.			29.94	760.5	33	0.6	89	NW	1	0.4			10n			0.25	6.3	Light rain	
Indianola, Tex.			30.30	769.6	42	5.6	91	N	3	1.3		0	0			0	0	Clear	
Jacksonville, Fla.			29.90	759.4	63	17.1	88	SE	7	3.1			10s		SW	0	0	Cloudy	
Keokuk, Iowa			30.11	764.8	30	— 1.1	78	NW	10	4.5			10s		NW	0	0	Cloudy	
Key West, Fla.			30.00	762.0	71	21.7	90	Calm	0	0		5cs	0			0	0	Fair	
Kittyhawk, N. C.			29.94	760.5	53	11.7	100	W	12	5.4			10n		W	0.53	13.5	Light rain	
Knoxville, Tenn.			29.77	756.1	47	8.3	85	S	8	3.6			10n			0.34	8.6	Heavy rain	
La Crosse, Wis.			30.11	764.8	35	1.7	100	N	5	2.2			Fog			0.02	0.5	Foggy	
Leavenworth, Kan.			30.24	768.1	26	— 3.3	88	NW	6	2.7			10s		N	0	0	Cloudy	
Louisville, Ky.			30.07	763.8	32	0.0	89	NW	10	4.5			10n			0.42	10.7	Heavy snow	
Lynchburg, Va.			29.91	759.7	50	10.0	93	NE	2	0.9			10n			0.78	19.8	Light rain	
Malone, N. Y.			30.18	766.6	42	5.6	74	S	6	2.7			8s		SW	0	0	Cloudy	
Marquette, Mich.			30.07	763.8	38	3.3	80	W	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			30.16	766.1	32	0.0	79	N	10	4.5			10s		NW	0.02	0.5	Cloudy	
Milwaukee, Wis.			30.04	763.0	38	3.3	90	NW	10	4.5		10s	Fog			0.17	4.3	Cloudy	
Mobile, Ala.			30.07	763.8	47	8.3	71	NW	8	3.6		0	0			0.33	8.4	Clear	
Montgomery, Ala.			30.00	762.0	45	7.2	80	NW	12	5.4		0	0			0.57	14.5	Clear	
Morgantown, W. Va.	28.84	732.5	29.88	758.9	49	9.4	85	E	6	2.7			10s			0.31	7.9	Threatening	
Mt. Washington, N. H.	23.92	607.6	30.28	769.1	27	— 2.8	77	Calm	0	0		0	8s		SW	0	0	Fair	
Nashville, Tenn.			30.00	762.0	31	— 0.6	100	NW	12	5.4			10n		NW	0.16	4.1	Light snow	
New Haven, Conn.			30.24	768.1	44	6.7	75	NE	20	8.9			10s		NE	0.05	1.3	Threatening	
New London, Conn.			30.28	769.1	43	6.1	75	NE	12	5.4			10s		NE	Inap.	Inap.	Cloudy	
New Orleans, La.			30.13	765.3	51.5	10.8	63	W	6	2.7		0	0			0	0	Clear	
Newport, R. I.			30.31	769.9	44	6.7	75	NE	12	5.4			10ks		NE	0	0	Threatening	
New York, N. Y.			30.16	766.1	46	7.8	69	NE	20	11.6			10s		E	0.02	0.5	Cloudy	
Norfolk, Va.			29.90	759.4	55.5	13.1	97	W	5	2.2			Fog			0.24	6.1	Light rain	
North Platte, Neb.	27.07	687.6	29.77	756.1	22	— 5.6	85	SE	5	2.2		10cs	0	W		0	0	Cloudy	
Omaha, Neb.	29.07	738.4	30.22	767.6	25	— 3.9	75	Calm	0	0			10s			0.02	0.5	Cloudy	
Oswego, N. Y.			30.14	765.5	42.7	5.8	67	SE	16	7.2			10s		S	Inap.	Inap.	Cloudy	
Pembina, Dakota			30.15	765.8	3	—16.1	86	S	6	2.7			10s			0	0	Cloudy	
Philadelphia, Pa.			30.06	763.5	47	8.3	92	E	36	16.1			10n		E	0.58	14.7	Light rain	
Pike's Peak, Col.	17.86	453.6	30.06	763.5	20	— 6.7	55	NW	31	13.9		10cs	0			0	0	Cloudy	
Pittsburgh, Pa.			29.92	760.0	47	8.3	92	E	6	2.7			10n		SE	0.21	5.3	Light rain	
Port Huron, Mich.			29.91	759.7	46	7.8	92	E	4	1.8			10s		SE	0	0	Cloudy	
Portland, Me.			30.42	772.7	34	1.1	79	N	8	3.6		5c,ck	0	E		0	0	Fair	
Portland, Oregon			30.04	763.0	52	11.1	86	S	8	3.6			10n			1.72	43.7	Light rain	
Punta Rassa, Fla.			29.98	761.5	71.0	21.7	90	S	5	2.2			10s		SW	0	0	Cloudy	
Rochester, N. Y.			30.08	764.0	43	6.1	83	SE	8	3.6			10s		SE	0.01	0.3	Cloudy	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	43	6.1	58	SW	4	1.8		5cs	0			0	0	Fair	
Sandy Hook, N. J.			30.09	764.3	47	8.3	85	NE	40	17.9			10ks		NE	0.08	2.0	Threatening	
San Diego, Cal.			30.12	765.0	50	10.0	93	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.18	766.6	54	12.2	86	W	6	2.7			Fog			0	0	Foggy	
Santa Fe, N. M.	23.38	593.8	29.92	760.0	33	0.6	50	N	10	4.5		0	0			0	0	Clear	
Savannah, Ga.			29.87	758.7	58	14.4	81	Calm	0	0		Haze	Fog			0.01	0.3	Foggy	
Shreveport, La.			30.27	768.8	38	3.3	90	NW	3	1.3		0	0			0	0	Clear	
Smithville, N. C.			29.90	759.4	57	13.9	93	NE	3	1.3			10s		SW	0	0	Threatening	
Springfield, Mass.			30.31	769.9	41.5	5.3	73	NE	4	1.8			10ks		E	0	0	Cloudy	
St. Louis, Mo.			30.14	765.5	27	— 2.8	77	NW	12	5.4			10s			0.04	1.0	Cloudy	
St. Marks, Fla.			29.95	760.7	56	13.3	93	W	1	0.4		0	Fog			0	0	Clear	
St. Paul, Minn.			30.13	765.3	27	— 2.8	77	Calm	0	0			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.38	771.6	42	5.6	75	E	16	7.2			10s		SE	0	0	Cloudy	
Toledo, Ohio			29.84	757.9	46	7.8	92	NE	7	3.1			10s		E	0.10	2.5	Cloudy	
Tucson, Arizona	27.67	702.8	30.22	767.6	42	5.6		S				0	0			0	0	Clear	
Tybee Island, Ga.			29.83	757.7	57	13.9	100	Calm	0	0		0	5ks		SW	0.04	1.0	Fair	
Vicksburg, Miss.			30.19	766.8	40	4.4	77	N	12	5.4		0	0			0	0	Clear	
Virginia City, M. T.	24.11	612.4	29.59	751.6	42	5.6	57	W	4	1.8			8ks		W	0	0	Cloudy	
Washington, D. C.			29.94	760.5	49	9.4	100	NE	14	6.3			10n		NE	0.40	10.2	Light rain	
Wilmington, N. C.			29.91	759.7	49	9.4	93	N	7	3.1			10s		SW	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.32	770.1	43	6.1	75	E	6	2.7			10s		SE	0	0	Cloudy	
Yankton, Dakota	28.86	733.0	30.24	768.1	20	— 6.7	77	E	1	0.4			10s			0.01	0.3	Cloudy	
Yuma, Arizona			30.12	765.0	56	13.3		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.08	764.0	78	25.6	82	Calm	0	0		8c	0			0	0		James Gall.
Navassa, W. I.					81	27.2		NE			2					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.15	689.6	29.93	760.2	68	20.0	90	NE	1.0	0.4		8c	0	NE		0.34	8.6	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.98	761.5	81	27.2	83	E			2	4k	5k	E		0.020	0.51		C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.7			83.3	28.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.18	639.6			67.0	19.4	86	W			1	6cs	3s			0.14	3.6	Cloudy	Thomas Herran.
York Factory, B. A.			30.46	773.7	10.0	—12.2	90	N	3	1.3			10s			0.03	0.8		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.06	763.5	74	23.3		NE			4					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Hyannis, Mass.			30.29	769.4	44	6.7	76	E	13	5.8			10ks		E	Rough		Overcast	Capt. James Jorgensen.
Steamer Berlin, N. 38°, 0′, W. 69°, 9′.	ENE ½E	6	30.14	765.5	63.5	17.5		ESE			6		,k,d			Heavy sea.		Overcast	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv^t Assg^t,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 20, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:0 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.12	765.1	69.3	20.7	37	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.05	763.3	67.6	19.8	65	WNW			1		8			0	0	Cloudy	Peter.
La Calle			29.95	760.7	65.8	18.8	63	WNW			3		6			0	0	Fair	Fleury.
Tunis			29.93	760.2	65.8	18.8	66	NW			3		9			0.012	0.3	Hidden	Jacques.
Sfax			30.03	762.7															
Saida			30.19	766.8	64.8	18.2	40	NNW			1		1			0	0	Clear	Millot.
Tebessa			30.03	762.8	61.3	16.3		SW			2		6			0	0	Fair	Bourgeois.
Geriville			30.18	766.5	56.5	13.6	39	NNW			1		0			0	0	Clear	Lemaillot.
Laghouat			30.17	766.4	64.0	17.8	40	N			1		1			0	0	Clear	Guyot.
Biskra			30.10	764.4	68.4	20.2	46	NW			3		10			0	0	Hidden	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram			29.86	758.4	34.7	1.5	94	NE			1		10			0.492	12.5	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.95	760.8	26.6	— 3.0	91	NE			3		10			0.008	0.2		Dr. Wierzbiski.
Eperies			29.96	761.0	34.9	1.6	73	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.58	726.0	29.86	758.5	33.6	0.9	92	S			3		10			0.228	5.8		Andreas Rospini.
Hermannstadt	28.49	723.7	29.98	761.5	32.4	0.2	71	S			3		4			0	0		Prof. Reissenberger.
Kremsmünster	28.34	719.7	29.71	754.7	36.5	2.5	94	NE			2		10			0.394	10.0		Prof. C. Wagner.
Lemberg			30.04	763.0	20.1	— 6.6	95	S			2		4			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.75	755.6	49.6	9.8	79	E			2		10s			0	0		I.R. Hydrographic Of'ce
Szegedin			29.93	760.3	33.4	0.8	80	S			1		10			0	0		Karl Stancel.
Trieste			29.79	756.6	47.5	8.6	76	ENE			1		10			0.051	1.3	Drizzling	Prof. V. Farolfi.
Vienna			29.85	758.1	32.0	0.0	89	SSE			3		10			0.039	1.0	Snowing	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Brussels			29.63	752.6	48.4	9.1	81	WNW			4	0	9k		NW	0.103	2.62		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.82	757.4	46.9	8.3		WNW	12	5.4			6			0	0	*D. clouds	William Boswell.
Ardrossan			29.85	758.2	51	10.6		S			2		5					*D. clouds	William McNeil.
Armagh, Observatory			29.94	760.5	48.7	9.3		NW	6	2.7			9					Overcast	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.00	762.0	49.3	9.6		WNW			1		3					*D. clouds	J. Dreyer.
Bradford			29.80	756.9	59.2	15.1		NW			4		7			0.21	5.3	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	78.2	25.7		NE			4		10					Raining	Sergt. J. F. Halanen, A. [H.C.
Cambridge, Observatory			29.73	755.1	48.0	8.9		NNW			1		7			ban	Blank	*D. clouds	H. Todd.
Cardington			29.75	755.6	46.6	8.1		N			1		9					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.74	755.4	47.0	8.3		NW			1		10					Raining	Capt. Fellowes, R. E.
Dartmoor	28.47	723.1	29.99	761.7	46.2	7.9		NW			4		10			Blank	Blank	Overcast	R. E. Power.
Davos Platz, (Switzerland)	24.57	624.1			34.5	1.4	92	NE			1		10					Snowing	Francis Redford, M. A.
Donaghadee			29.85	758.2	50	10.0		NNW			5		8					*D. clouds	J. Mac Gowan.
Dover			29.71	754.6	48	8.9		NW			4		10					Raining	J. Costello.
Eccles, (near Manchester)			29.74	755.4	51.5	10.8		N	0.8	0.4			4					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.98	761.5	52.0	11.1		NW			3		4					*D. clouds	The Staff.
Fort Napier, (Natal)	27.60	701.0	29.84	757.9	76.3	24.6		E			1		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	83.0	28.3		N			0		4					*D. clouds	
Galway, Queen's College			29.96	761.0	48	8.9		SW			1		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.10	764.5	68.7	20.4		W			4		0					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.84	757.9	49.0	9.4		NW			1		1					Blue sky	Lewis Stuart.
Great Yarmouth			29.68	753.9	48	8.9		NNW			3		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.74	755.4	47.3	8.5		WNW			1		10					Raining	The Staff, for G. B. Airy.
Guernsey			29.82	760.0	53	11.7		WNW			4		4					*D. clouds	Dr. S. F. Hoskins.
Helston			29.93	760.2	54	12.2		NW			4		3c,r			0.3	7.6		M. P. Moyle.
Holyhead			29.87	758.7	51	10.6		NNW			6		4					*D. clouds	John Tilston.
Kew, Observatory			29.75	755.6	48.7	9.3		WNW	14	6.3			10					Drizzling	The Staff.
Kingstown			29.93	760.2	49	9.4		WNW			4		5					*D. clouds	George Mitchell.
Leicester Museum			29.79	756.7	46.4	8.0		W			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.82	757.4	65.0	18.3		NW			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.82	757.4	46	7.8		NNW			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.00	762.0	73.6	23.1		SW			4		8n					Raining	Surg. Maj. Henry.
Nottingham, Observatory			29.79	756.7	47.6	8.7		NW			2		5ck,k		NNW	0.380	9.80	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.78	756.4	44.1	6.7		NNE			2		9					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.75	755.6	50	10.0		WNW			3		10					Gloomy	J. Lucas.
Plymouth			29.93	760.2	52.8	11.6		NW			2		6					*D. clouds	John Merrifield.
Roche's Point			30.01	762.2	51	10.6		NW			3		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.91	759.7	51	10.6		WNW			4		4					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.92	760.0	54.0	12.2		NNW			4		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.84	757.9	45.8	7.7		NNW	10	4.5			0					Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.93	760.2	46.8	8.2		NE			3		7					Raining	Sergt. W. H. Lyne.
Sheffield			29.76	755.9	48.8	9.3		N			1		6			0.110	2.94	Showery	W. F. Cooper.
Silloth Rectory			29.84	757.9	52.3	11.3	76	S			1		0			0	0	Blue sky	Rev. Francis Redford
Stonyhurst, Observatory			29.81	757.2	49.4	9.7		NW					5					*D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.87	758.7	48	8.9		NW			1		10					Overcast	John Smith.
Stratfield Turgiss			29.69	754.1	50.1	10.1		NW			2		8					Squally	Rev. Charles H. Griffith
Thurso			29.80	756.9	49	9.4		N			2		2					Blue sky	John Trotter.
Truro, Royal Institution			29.98	761.5	55	12.8		NW			6		5					*D. clouds	W. Newcombe.
Valencia, Observatory			30.03	762.7	50.2	10.1		NNE	3	1.3			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					50	10.0		N			7		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.76	755.9	85.2	29.6	42	SSE	10	4.5		1	2						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.54	750.3	65.5	18.6	94	Calm			0		10n			0.88	22.4		Francis Abbott, F. R. A. S.
Leith, Restaurig Park			29.86	758.4	47.2	8.4		W			2		8ck		NE	0.04	1.0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			29.99	761.7				E	14.8	6.6						0.04	1.0		C. Meldrum.
Melbourne, Observatory			29.73	755.1	54.8	12.7	71	N	12	5.4			8			0.02	0.5	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.94	760.5	50	10.0		N			4		10			0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.95	760.7	45	7.2		SE			3		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.84	757.8	30.9	— 0.6	85	SSE			6		10						
Fanöe			29.75	755.7	38.1	3.4	100	E			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.99	761.7	32.7	0.4	90	E			2		8						
Thorshavn, (Faröe)			29.91	759.8	46.4	8.0	82	NE			4		10						
Vestervig			29.81	757.2	35.6	2.0	100	E			4		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co peration of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.92	760.0	54.5	12.5	78	N			6	..c	..n		N	0	0	Very cloudy	Normal School.
Amiens			29.74	755.3	51.1	10.6	80	WNW			3		5		W	0.039	1.0	Cloudy	Normal School.
Avignon			29.88	758.9	57.7	14.3	55	N			3		0			0.224	5.7	Clear	Normal School.
Bar-sur-Seine			29.82	757.5	48.7	9.3	83	W			2		10		WNW	0.189	4.8	Raining	C. Saillard.
Beaumette, (near Angers)			30.07	763.6	53.6	12.0	85	WSW	6.5	2.9					W	0.059	1.5		Beaumette Observ'tory.
Beauvais			29.80	757.0	50.4	10.2	73	WNW			3		8		NW	0.010	0.25	Very cloudy	Normal School.
Besançon			29.87	758.7	50.0	10	81	SW			3		5		NW	1.122	28.5	Cloudy	Normal School.
Bourg en Bresse			30.02	762.6	51.3	10.7	75	S			4		8n			0.866	22.00	Very cloudy	Normal School.
Bourges			29.93	760.1	50.0	10	94	S			2		8		WNW	0.886	22.5	Very cloudy	Normal School.
Brest			29.95	760.6	55.2	12.9	72	NNW			2		6		NNW	0.138	3.50	Misty	Naval Observatory.
Carcassonne			30.00	762.0	59.0	15	73	NW			2		1		E	0.08	2.	Clear	Normal School.
Caen																			Normal School.
Chartres			29.78	756.3	51.8	11	95	SW			2		10		N	0.12	3.	Covered	Normal School.
Châlons-sur-Marne			29.77	756.2	49.3	9.6	84	WNW			2		5n			0.079	2.0	Cloudy	Normal School.
Clermont			29.95	760.7	51.3	10.7	60	NW			1		8			0.433	11.0		Puy de Dome Obs'y.
Commercy			29.79	756.6	47.1	8.4	86	W			4		8kn		W	0.035	0.9	Very cloudy	Normal School.
Commune de Gréasque*			29.84	757.8	57.7	14.3	33	NW			6		2		NW	0.177	4.5		M. Kina.
Grenoble			30.02	762.4	50.9	10.5	65	WNW			6		2kn		E	1.358	34.5	Slightly cl'dy	Normal School.
La Roche-sur-Yon					55.0	12.8	68	W			1		2		SE	0.433	11.0	Slightly cl'dy	Normal School.
Le Mans			29.92	759.9	52.7	11.5	71	W			2		5		W	0.31	8.	Cloudy	Normal School.
Lons-Le-Saulnier			29.89	759.3	50.2	10.1	74	W			2		5		W	0.201	5.10	Raining	Normal School.
Lorient			30.02	762.4	56.1	13.4	62	WNW			2		8		WNW	0	0	Very cloudy	Naval Observatory.
Mâcon			30.01	762.2	50.9	10.5	97	WNW			1		0			0.878	22.3	Clear	Normal School.
Metz			29.81	757.2	45.3	7.4	90	SW			4		9		SW	0.055	1.4		M. Schuster.
Mirecourt			29.80	756.9	48.7	9.3	86	W					5		S	0.04	1.	Cloudy	Normal School.
Nismes			29.56	758.4	62.6	17	57	NE			2		0			0	0	Clear	Normal School.
Orleans			29.84	758.0	53.2	11.8	76	W			2		5		NW	0.59	15.	Cloudy	Normal School.
Paris, Observatory			29.81	757.2	49.6	9.8	84	W			2		5ck		NW	Inap.	Inap.	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.94	760.4	55.0	12.8		SW			2		10		SW	0.244	6.2	Covered	Normal School.
Rochefort, Observatory			30.03	762.7	58.3	14.6	70	WNW			2		10		E	0	0	Covered	Naval Observatory.
Rouen			29.82	757.3	54.0	12.2	61	WNW			2		5		W	0.039	1.0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.94	735.1	30.02	762.4	57.2	14		W			2		10			0.91	23.	Raining	Normal School.
Villefranche			30.08	764.0	52.0	11.1	77	NNW			2		10		SE	0.98	25.	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.87	758.7	80.6	27													L'Abbé Marchési.
Marseilles			29.81	757.1	62.2	16.8	60	NW			4		4			0.	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.81	630.1	30.16	766.1	46.0	7.8	85	N	18.6	8.33			10		NW	0.441	11.2		—. Falguère.
Montsouris, Paris			29.80	756.9	50.2	10.1	87	WNW			2		9		WNW	0.047	1.2		Montsouris Observatory
Perpignan			29.93	760.2	64.2	17.9	67	N	13.0	5.83			8		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.20	538.6			30.2	— 1.0		NNW			8		10					Rain & snow	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.54	572.4			32.9	0.5		NNW			3		10			3.169	80.5	Rain & snow	General de Nansouty.
Saint Maur, (near Paris)			29.81	757.2	49.5	9.7	87	W			2		5			0	0		E. Renou.
Toulouse			30.07	763.6	55.8	13.2	79	WNW			2		10			0.213	5.4	Covered	Toulouse Observatory.
Tours			29.93	760.2	50.4	10.2	74	W			1		6		WNW	0.591	15.0		C. Marquet.
Versailles, (near Paris)			29.82	757.4	51.1	10.6	80	NW			2		8			0.023	0.58	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.27	768.8	43.2	6.2	88	S	1.9	0.83			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.67	753.5	43.7	6.5	88	S			2		10			0.079	2.0	Raining	Prof. T. Hoh.
Berlin			29.80	756.8	41.0	5.0	76	SE			1		8			0	0		Prof. Arndt.
Breslau			29.87	758.0	37.0	2.8	77	SE			4		7			0	0		Royal University Obs'y.
Carlsruhe			29.71	754.6	49.6	9.8	77	W			4		4			0.354	9.0	Raining	A. Senz.
Cassel			29.72	754.9	46.2	7.9	98	SSE			1		10	SE		0.102	2.6		Dr. H. Möhl.
Emden			29.72	754.8	46.4	8.0	97	S			1		10			0.169	4.3		Prof. Prestel.
Frankfort on the Main			29.68	753.8	48.9	9.4	74	SW			1		8			0.201	5.1	Foggy	Physical Society.
Friedrichshafen			29.79	756.6	46.0	7.8	89	SW			8		10			0.421	10.7	Raining	M. Wilhelm.
Hamburg			29.72	755.0	39.6	4.2	96	SE			2		10			0.476	12.1	Raining	Captain F. Hegemann.
Kiel			29.70	754.4	39.0	3.9	90	E			2		10			0.272	6.9		Prof. G. Karsten.
Königsberg, (Prussia.)			30.07	763.7	20.3	— 6.5	72	SE			5		0			0	0		Prof. E. Luther.
Köslin			29.92	759.9	32.9	0.5		SE			3		2			0	0		H. Müller.
Leipsic			29.73	755.1	45.0	7.2	76	ESE			2		7	SE		0	0		Prof. Bruhns.
Memel			30.11	764.7	22.5	— 5.3	57	SSE			4		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			29.58	751.3	46.9	8.3	83	SW			4		10			0.150	3.8		Prof. E. Heis.
Neufahrwasser			30.02	762.4	25.2	— 3.8	82	SSE			2		10			Inap.	Inap.		A Lothe.
Posen			29.91	759.8	35.6	2.0	78	SE			2		1						Dr. Magener.
Strassburg, (in Alsace)			29.76	755.8	50.0	10.0	79	Calm			0		10	W		0.154	3.9		Dr. Schur.
Stuttgart			29.71	754.7	48.6	9.2	74	W			2		8			0.213	5.4	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.63	752.7	48.2	9.0	76	SW			5		10			0.118	3.0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.17	715.5	29.68	753.8	45.1	7.3	89	Calm	0	0			10	W		0.094	2.4		Dr. von Bebber.
Wustrow, Naval School			29.89	759.3	33.1	0.6	95	SE			2		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 17°, 57′, W. 24°, 24′.			30.11	764.9	82.9	28.3	85	E			3		0						Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.87	758.7	54.9	12.7		NE										½ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.76	755.8	46.4	8.0	75	SE	3.8	1.7			10			0.048	1.1	Light rain	Prof. Giovanni Clodig.
Padua			29.72	755.0	45.9	7.7	93	NE	7.4	3.3			10	NE		0.224	5.7	Raining	Prof. Dott. Lorenzoni.
Vicenza																0.150	3.8	Raining	Alm. Da Schio.
Verona			29.75	755.6	53.6	12.0	74	E			1		10			0.177	4.5	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.75	755.6	48.9	9.4	83	S			6		4			0	0		Prof. Giuseppe Calza.
Milan																			Ab. Gio. Capelli.
Pavia			29.77	756.1	47.1	8.4	87	SW			1		10			0.126	3.2	Raining	Prof. Gio. Cantoni.
Moncalieri			29.78	756.4	49.6	9.8	89	ENE	2.5	1.1			8	N		0	0		Prof. P. F. Denza.
Mondovi	27.84	707.0	29.79	756.7	46.6	8.1	81	NNW			4		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.75	755.7	58.8	14.9	62	E			2		1			0	0		Prof. L. Vassallo
Genoa			29.73	755.1	56.8	13.8	52	NE	3.8	1.7			0			0.075	1.9		Prof. Garibaldi.
Piacenza			29.76	756.0	46.6	8.1	93	NW	1.8	0.8			10			0.110	2.8	Raining	Dott. G. Manzi.
Parma			29.77	756.2	46.2	7.9	96	W			2		10			0.087	2.2	Rain & fog	Prof. P. Pigorini.
Bologna			29.76	755.8	49.1	9.5	58	NW			1		10			0.157	4.0	Raining	Prof. A. Palagi.
Florence			29.72	755.0	56.3	13.5	78	SE			2		10	SW		0.020	0.5	Light rain	Cav. F. Meucci.
Leghorn			29.69	754.2	54.7	12.6	79	ENE	6.9	3.1			10	E		0.177	4.5	Raining	Prof. P. Monte.
Siena	28.47	723.[illegible]	29.70	754.4	50.2	10.1	87	E	0.7	0.3			10	SW		0.057	1.4	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.73	755.2	49.8	9.9	94	N	19.2	8.6			10	N		0	0		Prof. Luigi Guidi.
Ancona			29.78	756.5	53.2	11.8	76	N			2		10			0.118	3.0	Raining	Prof. F. De— Bosis.
Grosseto			29.69	754.2	53.1	11.7	91	NE			2		10	SE		0.118	3.0	Raining	Avv. P. Ponticelli.
Rome			29.66	753.3	54.3	12.4	79	NE	11.2	5.0			10	S		0.115	2.9	Raining	Profs. P. Secchi & L. Respighi
Naples, O. U.			29.70	754.4	60.1	15.6	94	SSE			4		10	S		0.252	6.4	Raining	Prof. L. Palmieri.
Lecce			29.84	757.8	58.3	14.6	78	SSW	4.9	2.2			8			0.020	0.5	Light rain	Prof. C. De—Giorgi.
Cosenza			29.83	757.4	61.0	16.1	75	NE	2.5	1.1			9			0.260	6.6	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.78	756.3	65.8	18.8	76	SE			2		3	NW		0	0		Prof. F. Cafiero.
Palermo			29.72	754.9	62.4	16.9	66	W	0.7	0.3			10			0.188	4.8	Raining	Prof. G. Cacciatore.
Caltanissetta	27.86	707.7	29.82	757.3	55.9	13.3	77	WNW			6		10	SE		0.217	5.5	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.73	755.2	56.5	13.6	76	SE	3.8	1.7			10	NE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.67	753.7	48.0	9.4		NW			3								
Groningen			29.59	751.5	47.5	8.6		SSE			2								
Helder			29.62	752.4	47.8	8.8		NW			1								
Utrecht			29.60	751.7	51.3	10.7	81	SW			1		8			0.035	0.9	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.88	758.9	40.3	4.6	90	Calm	0	0			10			0.008	0.2		
Brönö			29.82	757.3	30.6	— 0.8	81	SE	7	3			8			0	0		
Christiania			29.97	761.3	31.8	— 0.1	96	ENE	0	0			10			0.035	0.9		
Tromsö			29.59	751.5	36.3	2.4	89	SW	7	3			10			0.177	4.5		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.02	762.6	65.3	18.5	92	WSW	4.9	2.2			5			1.102	28.0		Dr. J. A. Sampaio.
Campo Major			30.18	766.6	64.0	17.8	71	ENE	1.8	0.8			1			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.21	767.2	69.6	20.9	75	E	1.3	0 6			8			0	0		Capt. D. A. de Cunha.
Lisbon			30.22	767.6	63.9	17.7	78	NE	2.5	1.1			1			0	0		The Observatory.
Ponta Delgada, (Azores)			30.08	764.1	66.9	19.4	90	SW	6.8	3.06			2			0.559	14.2		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.03	762.8	23.0	— 5.0	71	SE	11	5			3						Astronomical Obs.
Wilna			30.24	768.1	20.5	— 6.4	64	Calm	0	0			1						Astronomical Obs.
Dorpat			30.24	768.1	12.4	—10.9	82	SSW	4	2			0						Physical Cabinet.
St. Petersburg			30.13	765.2	23.7	— 4.6	93	NW	7	3			10						Central Physical Obs.
Kuopio			30.00	762.0	26.2	— 3.2	100	W	7	3			10						Ch. Forsten.
Kieff			30.21	767.3	18.7	— 7.4	67	N	4	2			0						Physical Cabinet.
Nikolaiev			30.25	768.4	25.3	— 3.7	67	NNW	7	3			0						Kurdakof
Kertch			30.21	767.4	29.1	— 1.6	94	N	7	3			10						Lagorio.
Moscow			30.04	763.0	17.6	— 8.0	77	NNW	9	4			8					Light snow.	Meteorological Obs.
Lugan			30.00	762.1	21.9	— 5.6	70	W	11	5			4			Blank	Blank		Meteorological Obs.
Archangel			30.00	762.1	20.8	— 6.2	95	Calm	0	0			10						Ogorodnikof.
Tiflis	28.61	726.6	30.07	763.7	41.0	5.0	64	Calm	0	0			10					Raining	Physical Observatory.
Astrakhan			29.95	760.8	21.6	— 5.8	69	WSW	16	7			9						Sebastianof.
Kasan			29.40	746.7	12.2	—11.0	93	N	18	8			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.22	716.7	29.22	742.3	8.8	—12.9	81	WSW	13	6			10						Meteorogical Obs.
Nukuss			30.12	765.0	30.9	— 0.6	81	W	0	0			9						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.94	760.5	28.2	— 2.1	65	Calm	0	0			10						Meteorological Obs.
Yeniseisk			29.92	759.9	18.7	— 7.4	86	S	2	1			4						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.29	769.4	35.6	2.0	73	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.72	754.8	24.4	— 4.2	70	NW	11	5			3						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306. 4 ? m., or 1,005.2 ? ft.; Tashkend, 494.2 ? m., or 1,621.3 ? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0 ? m., or 1,942.2 ? ft.; Oorga, 1,281.0 ? m., or 4,202.6 ? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.16	766.0	59.0	15.0	79	SW	3.0	1.33		2	0	NE		0.012	0.3	Light clouds	Royal Observatory.
San Fernando			30.17	766.2	65.5	18.6	71	NNW	4.5	2.0		0	1		SE	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.91	759.8	17.6	— 8.0	88	NE			2		10			0	0		
Umea			29.91	759.6	23.7	— 4.6	95	NNW			2		10			0	0		
Hernosand			29.89	759.3	29.8	— 1.2	92	SSW			2		0			0	0		
Stockholm			29.88	758.9	33.3	0.7	73	Calm			0		7			0	0		
Wisby			30.02	762.5	34.9	1.6	64	SSE			4		5			0	0		
Sub-Series.																			
Upsala			29.99	761.7	32.2	0.1	85	SE	5.1	2.3			7		SW	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.47	723.2	29.91	759.6	51.8	11.0	52	WSW			2		4			1.075	27.3	Clouds	The Observatory.
Zurich	28.18	715.7	29.84	757.9	47.1	8.4	73	W			4		10			1.358	34.5	Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —3.3 mm; Thermometer, +5.0 cent.; Relative Humidity, —25 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.04	763.1	50.0	10.0	71	ENE	19	8.5			7		NE	0	0		
Fao, (Persian Gulf)			30.20	767.0	73.4	23.0		NW			4		0						
Salonica			30.04	762.9	59.5	15.3		SE			1		10						
Valona			29.81	757.2	58.6	14.8		SW			1		10						
Varna			30.04	763.1	32.0	0.0		N			6		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.80	756.8	72.0	22.2	52	S			5		6n		NW	0.18	4.6	Threatening	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.43	772.9	26.7	— 2.9	88	Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.14	765.5	38	3.3		NE	6	2.7			10s		NE	0.21	5.3	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.42	772.7	27	— 2.8	94	Calm	0	0			10ks			0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.44	773.2	31	— 0.6	88	Calm	0	0			8ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.06	763.5	36.7	2.6	98	NE			1		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B.			30.45	773.4	24.7	— 4.1	94	W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.18	766.6	41.1	5.1	100	Calm				5ck	0			0.04	1.0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.44	773.2	28.0	— 2.2	89	E	11	4.9			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			29.78	756.4	25	— 3.9	99	S	8	3.6		5k	5n	S	S	0.070	1.78	Cloudy	James Stewart.
Goderich, Ontario			29.99	761.7	43.0	6.1	87	SE			2	10k		N		0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.84	732.5	29.96	761.0	40	4.4	91	NE			1		10n			0.09	2.3	Cloudy	James Grant.
*Halifax, N. S.			30.38	771.6	32	0.0	86	N	1	0.4			8n			0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.09	764.3	39	3.9	95	E	3	1.3			10ks		NE	0.15	3.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			30.40	772.1	35.6	2.0	76	N	3	1.3		6ck	0	N		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.18	766.6	34	1.1	97	E	6	2.7		Sm'r	Fog			0.13	3.3	Foggy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.12	765.0	36	2.2	80	E	12	5.4			10n		E	Inap.	Inap.	Threatening	J. B. Haney.
*Parry Sound, Ontario			30.05	763.3	40	4.4	96	E	9	4.0		2ck	2ks	E	E	0.01	0.3	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.93	760.2	40	4.4	91	NE	12	5.4			10n		NE	0.13	3.3	Cloudy	H. Morgan.
Port Hastings, N. S.			30.41	772.4	33.9	1.1		NE	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.95	760.7	41	5.0	95	NE	10	4.5			10n		NE	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec			30.30	769.6	31	— 0.6	89	NE	8	3.6			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			30.39	771.9	29	— 1.7	89	NE	5	2.2		10k	0			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.97	761.2	42	5.6	86	E	5	2.2			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.02	762.5	39	3.9	97	E	9	4.0			10n		E	Inap.	Inap.	Threatening	R. J. Cole.
Stratford, Ontario	28.64	727.4	29.94	760.5	39.0	3.9	90	SE	12	5.4			10s			0.01	0.48	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			30.46	773.7	35	1.7	64	Calm	0	0		8ck	2ks	E	W	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario			30.00	762.0	41	5.0	94	E	10	4.5			10n		E	0.22	5.6	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.96	761.0	39.1	3.9	96	NE	9	4.0			10s			0.03	0.8	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.28	769.1	34.0	1.1	84	NW	5	2.2		10'c	10s			0.05	1.3	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.99	761.7	40	4.4	82	NW	4	1.8			10s		E	0.69	17.5	Cloudy	
Alpena, Mich.			29.98	761.5	42	5.6	100	NE	4	1.8			Fog			0	0	Foggy	
Atlantic City, N. J.			29.59	751.6	53	11.7	100	NE	30	13.4			10n			0.97	24.6	Heavy rain	
Augusta, Ga.			29.87	758.7	40	4.4	82	W	1	0.4		0	0			0.19	4.8	Clear	
Baltimore, Md.			29.57	751.1	48	8.9	85	NE	24	10.7			10n		NE	0.77	19.6	Light rain	
Barnegat, N. J.			29.63	752.6	52	11.1	100	E	42	18.8			10n			0.99	25.1	Light rain	
Bismarck, Dakota	28.11	714.0	29.88	758.9	10	—12.2	58	NW	21	9.4		5c	2s	SE		Inap.	Inap.	Fair	
Boston, Mass.			30.04	763.0	41	5.0	100	NE	30	13.4			10n		E	0.48	12.2	Light rain	
Breckenridge, Minn.			29.72	754.9	26	— 3.3	88	SE	4	1.8			10s			0	0	Cloudy	
Buffalo, N. Y.			29.89	752.9	44	6.7	84	NE	6	2.7			10s			1.00	25.4	Cloudy	
Burlington, Vt.			30.13	765.3	37	2.8	80	E	4	1.8			10s			0.19	4.8	Cloudy	
Cairo, Ill.			30.11	764.8	31	— 0.6	79	W	1	0.4			10s			0	0	Cloudy	
Cape Hatteras, N. C.			29.53	750.0	49	9.4	85	Calm	0	0			10n			0.19	4.8	Light rain	
Cape Henry, Va.			29.57	751.1	50	10.0	79	SW	10	4.5		2k	0	SW		0.40	10.2	Clear	
Cape Lookout, N. C.			29.65	753.1	45	7.2	76	W	30	13.4			10n		W	0.57	14.5	Light rain	
Cape May, N. J.			29.52	749.8	59	15.0	94	E	24	10.7			10n			1.22	31.0	Heavy rain	
Charleston, S. C.			29.85	758.2	42	5.6	58	W	12	5.4		0	0			0	0	Clear	
Cheyenne, Wyoming	23.78	604.0	29.72	754.9	32	0.0	79	N	24	10.7			10s			Inap.	Inap.	Cloudy	
Chicago, Ill.			29.94	760.5	43	6.1	75	NW	4	1.8			10s			0	0	Cloudy	
Cincinnati, Ohio			29.84	757.9	48	8.9	77	N	11	4.9			10n		N	0.05	1.3	Light rain	
Cleveland, Ohio			29.87	758.7	44.5	6.9	88	N	10	4.5			10s		N	Inap.	Inap.	Threatening	
Corsicana, Tex.			29.98	761.5	43	6.1	75	SE	7	3.1		0	0			0	0	Clear	
Davenport, Iowa			30.00	762.0	34	1.1	89	S	8	3.6			Fog			0	0	Foggy	
Denison, Tex.			29.91	759.7	42	5.6	65	SE	9	4.0		0	0			0	0	Clear	
Denver, Col.	24.57	624.1	29.79	756.7	40	4.4	56	N	18	8.0			8s		N	0	0	Cloudy	
Detroit, Mich.			29.90	759.4	43	6.1	91	NE	8	3.6			10s			0.06	1.5	Cloudy	
Dodge City, Kan.	26.99	685.5	29.27	743.4	36	2.2	80	S	2	0.9		2c	2s	NW		0	0	Fair	
Dubuque, Iowa			29.98	761.5	31	— 0.6	89	S	4	1.8			10s			0	0	Cloudy	
Duluth, Minn.			29.86	758.4	37	2.8	80	Calm	0	0			10s			0	0	Cloudy	
Eastport, Me.			30.36	771.1	37	2.8	80	E	14	6.3			10s		E	0	0	Cloudy	
Erie, Pa.			29.86	758.4	42	5.6	83	E	14	6.3			10n			0.53	13.5	Light rain	
Escanaba, Mich.			29.94	760.5	38	3.3	100	NE	4	1.8			10s			0.02	0.5	Cloudy	
Fort Gibson, Indian Ter.			29.88	758.9	39	3.9	56	SE	8	3.6		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.56	725.4	29.68	753.9	36	2.2	61	S	6	2.7		2c	0			0	0	Fair	
Fort Sully, Dakota	28.02	711.7	29.69	754.1	35	1.7	100	NW	9	4.0			10n			0.05	1.3	Light rain	
Florence, Arizona	28.41	721.6	29.95	760.7	46	7.8		Calm				0	0			0	0	Clear	
Galveston, Tex.			30.09	764.3	52	11.1	72	SW	1	0.4		0	Sm'e		SW	0	0	Clear	
Grand Haven, Mich.			29.93	760.2	44	6.7	96	NE	3	1.3			10s		SE	0	0	Cloudy	
Indianapolis, Ind.			29.93	760.2	44	6.7	92	NW	4	1.8			10s, fg			0.03	0.8	Threatening	
Indianola, Tex.			30.06	763.5	54	12.2	86	S	5	2.2		0	0			0	0	Clear	
Jacksonville, Fla.			29.99	761.7	42	5.6	56	W	9	4.0		0	0			0	0	Clear	
Keokuk, Iowa			29.98	761.5	33	0.6	79	S	5	2.2			10s		S	0	0	Cloudy	
Key West, Fla.			30.02	762.5	70	21.1	90	N	8	3.6			10ks			0	0	Cloudy	
Kittyhawk, N. C.			29.60	751.8	46	7.8	92	NW	6	2.7		8k	0	SW		0.06	1.5	Fair	
Knoxville, Tenn.			29.99	761.7	34	1.1	90	S	10	4.5			10n		SW	0.53	13.5	Misting	
La Crosse, Wis.			29.91	759.7	37	2.8	80	S	6	2.7			10s		S	0	0	Cloudy	
Leavenworth, Kan.			29.83	757.7	30	— 1.1	79	SE	8	3.6		0	5s			0	0	Fair	
Louisville, Ky.			29.95	760.7	41	5.0	91	W	8	3.6			10s			0.08	2.0	Cloudy	
Lynchburg, Va.			29.54	750.3	44	6.7	92	SW	2	0.9			10s		SW	0.79	20.1	Cloudy	
Malone, N. Y.			30.04	763.0	41	5.0	82	SE	1	0.4			10s		S	0.58	14.7	Cloudy	
Marquette, Mich.			29.95	760.7	40	4.4	91	Calm	0	0			Fog			0	0	Foggy	
Memphis, Tenn.			30.12	765.0	29	— 1.7	100	Calm	0	0			Fog			0	0	Foggy	
Milwaukee, Wis.			29.97	761.2	40	4.4	91	NW	4	1.8		10s	Fog			0	0	Cloudy	
Mobile, Ala.			30.13	765.3	37	2.8	83	N	6	2.7		0	0			0	0	Clear	
Montgomery, Ala.			30.10	764.5	34.5	1.4	79	NW	3	1.3		0	0			0	0	Clear	
Morgantown, W. Va.	28.66	728.0	29.71	754.6	43	6.1	83	N	12	5.4			10s		N	Inap.	Inap.	Threatening	
Mt. Washington, N. H.	23.78	604.0	30.14	765.5	26	— 3.3	100	SE	20	8.9			Fog			0.16	4.1	Foggy	
Nashville, Tenn.			30.04	763.0	36	2.2	90	W	6	2.7			10s		W	0.05	1.3	Cloudy	
New Haven, Conn.			29.84	757.9	45	7.2	83	NE	20	8.9			10s		NE	0.45	14.0	Cloudy	
New London, Conn.			29.92	760.0	45	7.2	92	NE	16	7.2			10s		NE	0.25	6.3	Threatening	
New Orleans, La.			30.13	765.3	49	9.4	50	NE	5	2.2		0	Sm'e			0	0	Clear	
Newport, R. I.			29.94	760.5	45	7.2	100	NE	15	6.7			10n		NE	0.59	15.0	Light rain	
New York, N. Y.			29.70	754.4	45	7.2	92	E	32	14.3			10n		E	0.38	9.7	Light rain	
Norfolk, Va.			29.59	751.6	46	7.8	85	SW	12	5.4		2k	0	SW		0.30	7.6	Fair	
North Platte, Neb.	26.76	679.7	29.31	744.5	39	3.9	71	N	24	10.7			10ks		N	0	0	Cloudy	
Omaha, Neb.	28.62	726.9	29.72	754.9	31	— 0.6	89	S	12	5.4		2cs	0			0	0	Fair	
Oswego, N. Y.			30.01	762.2	40	4.4	91	NE	9	4.0			10n			0.54	13.7	Light rain	
Pembina, Dakota			29.75	755.6	26.0	— 3.1	88	S	6	2.7			10s			0.02	0.5	Cloudy	
Philadelphia, Pa.			29.68	753.9	47	8.3	92	E	32	14.3			10n		E	2.01	51.1	Light rain	
Pike's Peak, Col.	17.38	441.4	29.59	751.6	8	—13.3	100	SW	28	12.5			Fog			0	0	Foggy	
Pittsburgh, Pa.			29.74	755.4	44	6.7	84	NE	8	3.6			10s		NE	0.12	3.0	Cloudy	
Port Huron, Mich.			29.92	760.0	42	5.6	83	NE	13	5.8			10s			Inap.	Inap.	Cloudy	
Portland, Me.			30.22	767.6	37	2.8	90	NE	16	7.2			10s			0.01	0.3	Cloudy	
Portland, Oregon			30.20	767.1	44	6.7	84	Calm	0	0			10s			0.10	2.5	Cloudy	
Punta Rassa, Fla.			30.05	763.3	60.0	15.6	73	N	20	8.9		0	0			0	0	Clear	
Rochester, N. Y.			29.94	760.5	38	3.3	90	E	8	3.6			10n		E	0.36	9.1	Light rain	
Salt Lake City, Utah	25.70	652.8	30.03	762.7	36	2.2	90	W	12	5.4			10n			0.25	6.3	Light snow	
Sandy Hook, N. J.			29.72	754.9	47	8.3	100	NE	45	20.1			10n		NE	2.00	50.8	Light rain	
San Diego, Cal.			29.97	761.2	53	11.7	93	Calm	0	0			10s			0	0	Cloudy	
San Francisco, Cal.			30.10	764.5	53	11.7	66	N	8	3.6		0	0			0	0	Clear	
Santa Fé, N. M.	23.10	586.7	29.66	753.4	32	0.0	60	SE	5	2.2		0	0			0	0	Clear	
Savannah, Ga.			29.89	759.2	42	5.6	67	W	8	3.6		0	0			0	0	Clear	
Shreveport, La.			30.14	765.5	38	3.3	81	SE	3	1.3		0	0			0	0	Clear	
Smithville, N. C.			29.74	755.4	41	5.0	63	W	13	5.8		2k	5ks	W	W	0.71	18.0	Cloudy	
Springfield, Mass.			29.98	761.5	42.5	5.8	91	NE	12	5.4			10n		NE	0.43	10.9	Light rain	
St. Louis, Mo.			30.06	763.5	32	0.0	79	S	4	1.8			10s, sm			0	0	Cloudy	
St. Marks, Fla.			30.06	763.5	33	0.6	79	N	6	2.7		0	0			0	0	Clear	
St. Paul, Minn.			29.81	757.2	28	— 2.2	88	SE	14	6.3		0	5s		S	0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.10	764.5	43	6.1	100	NE	28	12.5			10n		NE	0.08	2.0	Light rain	
Toledo, Ohio			29.88	758.9	44	6.7	100	NE	14	6.3			Fog			0.05	1.3	Dense fog	
Tucson, Arizona	27.53	699.2	30.08	764.0	41	5.0		S				0	0			0	0	Clear	
Tybee Island, Ga.			29.88	758.9	44	6.7	67	W	14	6.3		0	0			0	0	Clear	
Vicksburg, Miss.			30.17	766.3	32	0.0	74	SE	10	4.5		0	0			0	0	Clear	
Virginia City, M. T.	24.26	616.2	29.74	755.4	22	— 5.6	79	Calm	0	0		1k	0	W		0.11	2.8	Clear	
Washington, D. C.			29.57	751.1	48	8.8	100	NE	14	6.3			10n		NE	0.79	20.1	Heavy rain	
Wilmington, N. C.			29.72	754.9	39	3.8	71	W	10	4.5			10s		W	0.24	6.1	Cloudy	

UNITED STATES SERIES.—CONTINUED.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.98	761.5	46	7.8	100	E	14	6.3			10s			0.35	8.9	Cloudy	
Yankton, Dakota	28.34	719.8	29.65	753.1	28	—2.2	82	W	8	3.6		2c	8s	W	W	0	0	Cloudy	
Yuma, Arizona			29.92	760.0	56	13.3		NE				2cs	0	N		0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	78	25.6	78	Calm	0	0		8c	2s	SE	SE	0.04	1.0		James Gall.
Navassa, W. I.					80	26.7		NE			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.18	690.4	29.96	761.0	66	18.9	94	NE	2.0	0.9		2c	5k	NE		1.20	30.5	Dull	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.01	762.2	80	26.7	87	E			2	6ks?	6ks	E		0	0		C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.07	763.8			81.3	27.4		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			62.0	16.7	84	Calm			0	2cs	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.04	763.0	14.5	—9.7	91	N	12	5.4			9s			0.04	1.0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.07	763.8	74.5	23.6		NE			2					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Hyannis, Mass.			29.95	760.7	47	8.3	100	E	23	10.3			d		E	Rough		Light rain	Capt. James Jorgensen.
Steamer Berlin, N. 38°, 40′, W. 66°, 21′.	ENE ½E	6	30.01	762.2	60.1	15.6		E			6		d			Rough		Raining	Capt. C. Pohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 21, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.05	763.2	75.0	23.9	27	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.02	762.4	67.6	19.8	72	W			1		7			0	0	Cloudy	Peter.
La Calle			29.92	759.9	66.0	18.9	72	NW			3		9			0.079	2.0	Hidden	Fleury.
Tunis			29.90	759.5	69.1	20.6	68	W			4		6			0.071	1.8	Fair	Jacques.
Sfax			29.98	761.6															
Saida			30.14	765.5	68.5	20 3	31	NW			1		1			0	0	Clear	Millot.
Tebessa			29.97	761.3	57.2	14.0		W			3		6			0	0	Fair	Bourgeois.
Geriville					59.7	15.4	25	N			3		1			0	0	Clear	Lemaillot.
Laghouat			30.11	764.8	67.6	19.8	42	W			2		0			0	0	Clear	Guyot.
Biskra			30.02	762.6	71.6	22.0	33	NW			3		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.81	757.2	32.5	0.3	96	NE			1		10			0.465	11.8	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.05	763,2	28.4	— 2.0	84	NE			2		10			0	0		Dr. Wierzbiski.
Eperies			29.95	760.7	35.6	2.0	64	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.61	726.7	29.92	760.0	32.0	0.0	90	NW			2		10			0.287	8.3		Andreas Rospini.
Hermannstadt	28.44	722.3	29.91	759.6	34.9	1.6	66	SSE			6		6			0	0		Prof. Reissenberger.
Kremsmünster	28.50	723.8	29.89	759.3	31.6	— 0.2	89	ENE			2		10			0.055	1.4		Prof. C. Wagner.
Lemberg			30.07	763.6	23.4	— 4.8	95	SE			2		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.61	752.0	42.8	6.0	57	NE			4		10s			0.347	8.82		I.R.Hydrographic Of'ce
Szegedin			29.84	758.0	39.6	4.2	77	Calm			0		10			0	0		Karl Stancel.
Trieste			29.66	753.3	39.0	3.9	62	ENE			2		10			0	0	Misty	Prof. V. Farolfi.
Vienna			29.93	760.3	33.1	0.6	85	SE			1		10			0.055	1.4		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.07	763.8	39.9	4.4	84	N			2		10		NNE	0.010	0.25	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.15	765.8	43.1	6.2		NNW	4	1.8			9			0.020	0.51	Misty	William Boswell.
Ardrossan			30.11	764.8	47	8.3		E			1		6					Misty	William McNeil.
Armagh, Observatory			30.01	762.2	49.0	9.4		SE	9	4.0			5					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.04	763.0	49.3	9.6		SE			1		6					*D. clouds	J. Dreyer.
Bradford			30.12	765.0	47.5	8.6		N			1		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	83.5	28.6		SE			3		7					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.09	764.3	48.9	9.4		NNW			1		10					Overcast	H. Todd. [H.C.
Cardington			30.10	764.5	47.6	8.7		N			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.07	763.8	47.5	8.6		Calm			0		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.66	728.0	30.19	766.8	46.4	8.0		Calm			0		0					Blue sky	R. F. Power.
Davos Platz, (Switzerland)	24.60	624.8			28.9	— 1.7	85	NE			1		10			0.008	0.21	Snowing	Francis Redford, M. A.
Donaghadee			30.10	764.5	48	8.9		SE			2		8					*D. clouds	J. Mac Gowan.
Dover			30.04	763.0	49	9.4		N			3		8					Drizzling	J. Costello.
Eccles, (near Manchester)			30.10	764.5	42.5	5.8		NW					10					Foggy	Thomas Mackereth.
Falmouth, Observatory			30.10	764.5	51.7	10.9		SE			1		3					*D. clouds	The Staff.
Fort Napier, (Natal)	27.43	699.7	29.66	753.4	85.4	29.7		E			1		2					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.82	757.4	85.0	29.4		N			2		3					*D. clouds	
Galway, Queen's College			29.99	761.7	47	8.3		S			5		10					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.00	762.0	69.6	20.9		W			3		1					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.10	764.5	45.4	7.4		NE			1		10					Gloomy	Lewis Stuart.
Great Yarmouth			30.18	764.0	47	8.3		E			2		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y			30.10	764.5	47.4	8.6		N			1		10			9mm	8mm	Foggy	The Staff, for G. B. Airy.
Guernsey			30.08	764.0	50	10.0		NNW			1		7					*D. clouds	Dr. S. F. Hoskins.
Helston			30.05	763.3	55	12.8		E			4		3c			0	0		M. P. Moyle.
Holyhead			30.09	764.3	49	9.4		SSW			1		3					*D. clouds	John Tilston.
Kew, Observatory			30.09	764.3	48.3	9.1		NNW	4	1.8			10					Misty	The Staff.
Kingstown			30.12	765.0	50	10.0		SE			3		4					*D. clouds	George Mitchell.
Leicester Museum			30.13	765.3	47.0	8.3		N			1		10					Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.76	755.9	66.2	19.0		NW			4		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.10	764.5	44	6.7		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	66.5	19.2		NW			0		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.12	765.0	48.2	9.0		NNE			1		7c, 1		NNE	0.004	0.10	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.10	764.5	44.9	7.2		N			0–1		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.09	764.3	48	8.9		N			1		10					Gloomy	J. Lucas.
Plymouth			30.10	764.5	49.2	9.6		E			3		0					Blue sky	John Merrifield.
Roche's Point			30.04	763.0	50	10.0		S			5		8					Cloudy	W. Kennedy.
Saint Ann's Head			30.08	764.0	49	9.4		SE			2		1					Blue sky	John C. Walker.
Saint Helier, (Jersey)			30.08	764.0	51.5	10.8		ENE			2		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.11	764.8	47	8.3		SE	4	1.8			1					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.88	758.9	50.0	10.0		NE			1		10					Gloomy	Sergt. W. H. Lyne.
Sheffield			30.10	764.5	48.6	9.2		N			1		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.11	764.8	50.3	10.2	76	S			1		1			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.13	765.3	42.9	6.1		E					5					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.05	763.3	47	8.3		SW			1		10					Overcast	John Smith.
Stratfield Turgiss			30.10	764.5	46.8	8.2		NE			1		10					Overcast	Rev. Charles H. Griffith
Thurso			30.08	764.0	59	9.4		S			1		2					Blue sky	John Trotter.
Truro, Royal Institution			30.06	763.5	54	12.2		SE			2		6					*D. clouds	W. Newcombe.
Valencia, Observatory			29.96	761.0	51.2	10.7		SE	20	8.9			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					51	10.6		NE			3		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.88	758.9	74.9	23.8	67	SE	9	4.0		4	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.51	749.5	64.0	17.8	94	NW			1		8kn			0.24	6.1	Hazy	Francis Abbott, F.R.A.S.
Leith, Restaurig Park			30.14	765.5	49.0	9.4		W			1	5ck		S		0	0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				ENE	13.2	5.9						0	0		C. Meldrum.
Melbourne, Observatory			29.96	761.0	54.9	12.7	80	W	5	2.2			6			0.09	2.3	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.01	762.2	51	10.6		S			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.11	764.8	46	7.8		S			3	8	5	SW					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Copenhagen			30.11	764.8	37.4	3.0	75	E			2		10					
Fanöe			30.14	765.5	34.7	1.5	91	NE			2		10					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			29.61	752.2	35.8	2.1	98	NE			2		10					Raining
Thorshavn, (Faröe)			30.04	762.9	46.0	7.8	90	ESE			4		10					
Vestervig			30.16	766.1	31.6	— 0.2	89	Calm			0		10					

NOTE.—The originals give the wind-force by the scale 0 to 8; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			30.06	763.4	52.7	11.5	81	NNE			3		10k		E	0	0	Covered	Normal School.
Amiens			30.04	762.9	46.4	8.0	86	E			3		10			0.157	4.0	Covered	Normal School.
Avignon			29.85	758.2	52.7	11.5	59	N			6		5			0	0	Cloudy	Normal School.
Bar-sur-Seine			29.99	761.8	45.9	7.7	84	N			2		10n		N	0.898	22.8	Covered	C. Saillard.
Beaumette, (near Angers)			30.13	765.4	51.3	10.7	70	NE	2.7	1.2					N	0	0		Beaumette Observ'tory.
Beauvais			29.83	757.7	44.1	6.7	85	N			2		10		NNE	0.31	8.	Covered	Normal School.
Besançon			29.99	761.8	45.0	7.2	85	NE			2		5		NW	1.398	35.5	Cloudy	Normal School.
Bourg en Bresse			30.03	762.8	44.6	7	85	S			2		8n			0	0	Very cloudy	Normal School.
Bourges			30.07	763.8	44.2	6.8	88	S			2		10		N	0.016	0.4	Covered	Normal School.
Brest			30.02	762.6	58.8	14.9	72	SSE			2		2k		SSE	0	0		Naval Observatory.
Carcassonne			30.00	762.0	56.1	13.4	59	W			2		2		E	0.16	4.	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.00	762.0	52.7	11.5	73	N			2		4		N	0.12	3.		Normal School.
Châlons-sur-Marne			29.98	761.5	47.1	8.4	78	NW			2		10n		SSE	0.276	7.0	Covered	Normal School.
Clermont			30.00	762.0	45.5	7.5	66	NW			3		8		W	0.118	3.0		Puy de Dome Obs'y.
Commercy			30.01	762.2	44.2	6.8	94	SW			2		10			0.285	7.25	Covered	Normal School.
Commune de Gréasque*			29.80	756.8	51.3	10.7	43	NW			6		2		NW	0	0		M. Kina.
Grenoble			30.07	763.8	45.0	7.2	82	NW			1		2kn		NW	0.289	7.35	Slightly cl'dy	Normal School.
La Roche-sur-Yon					50.7	10.4	74	W			1		0			0	0	Clear	Normal School.
Le Mans			30.08	763.9	48.9	9.4	73	NE			2		5		N	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.98	761.6	46.9	8.3	89	NE			2		10			0.295	7.5	Raining	Normal School.
Lorient			30.11	764.7	53.2	11.8	71	Calm			0		0			0	0	Clear	Naval Observatory.
Mâcon			30.08	764.1	46.4	8	91	WNW			1		10			0.24	6.	Covered	Normal School.
Metz			30.02	762.4	44.6	7.0	80	NNE			3		10			0.059	1.5		M. Schuster.
Mirecourt			29.92	760.0	49.1	9.5	91	W					2		S	0.24	6.	Slightly cl'dy	Normal School.
Nismes			29.86	758.4	52.9	11.6	58	N			2		0			0	0	Clear	Normal School.
Orleans			30.02	762.5	46.8	8.2	92	N			2		5		N	0	0	Cloudy	Normal School.
Paris, Observatory			30.05	763.3	46.0	7.8	76	NNW			2		10k		N	0.115	2.91	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.94	760.4	48.6	9.2		SW			4		10		SW	0	0	Covered	Normal School.
Rochefort, Observatory			30.08	764.0	54.7	12.6	70	N			1					0	0	Foggy	Naval Observatory.
Rouen			30.00	762.1	51.4	10.8	80	NNW			2		10			0.110	2.8	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.97	735.8	30.05	763.2	57.2	14		W			2		5		E	2.44	62.	Cloudy	Normal School.
Villefranche			30.15	765.8	49.1	9.5	84	NNW			6		8		S	0.16	4.	Very cloudy	Normal School.
SUB-SERIES.																			
Fort de France, Martinique			29.83	757.7	81.3	27.4													L'Abbé Marchési.
Marseilles			29.77	756.2	54.5	12.5	65	NW			4		2			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.74	628.5	30.13	765.4	38.1	3.4	70	NW	9.3	4.17			4		W	0.339	8.6		—. Falguère.
Montsouris, Paris			30.02	762.5	46.4	8.0	87	NNE			2		10			0.130	3.3		Montsouris Observatory
Perpignan			29.94	760.4	57.2	14.0	52	N	26.1	11.67			3		NW	0.020	0.5		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.10	536.0			25.5	— 3.6		NW			2		1			3aml	Bla'k		M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.43	569.6			29.7	— 1.3		NW			1		1			2.823	71.7		General de Nansouty.
Saint Maur, (near Paris)			30.05	763.2	44.2	6.8	88	N			1		10			0.102	2.6	Covered	E. Renou.
Toulouse			30.07	763.6	50.9	10.5	68	NW			2		4			0.295	7.5	Fair	Toulouse Observatory.
Tours			30.05	763.3	39.6	4.2	74	N			1		3		N	0	0		C. Marquet.
Versailles, (near Paris)			30.04	763.0	46.8	8.2	86	NE			1		9			0.042	1.07	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.32	770.2	51.1	10.6	87	Calm	0	0			10			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as pub'ished. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'r 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			29.79	756.7	37.0	2.8	79	E			4		10			0.039	1.0	Raining	Prof. T. Hoh.
Berlin			30.04	763.1	34.0	1.1	79	E			1		6			0	0		Prof. Arndt.
Breslau			30.01	762.2	34.5	1.4	75	ESE			4		9			0	0		Royal University Obs'y.
Carlsruhe			29.93	760.2	43.9	6.6	88	N			1		10			0.295	7.5		A. Senz.
Cassel			30.04	763.0	37.6	3.1	83	NE			5		8	ENE		0.035	0.9		Dr. H. Möhl.
Emden			30.17	766.3	39.4	4.1	81	E			1		10			0	0		Prof. Prestel.
Frankfort on the Main			29.99	761.8	39.9	4.4	63	NE			3		5			0.031	0.8		Physical Society.
Friedrichshafen			29.93	760.2	42.6	5.9	87	W			4		10			0.150	3.8	Raining	M. Wilhelm.
Hamburg			30.10	764.6	34.5	1.4	85	NE			1		10ks			0.012	0.3		Captain F. Hegemann.
Kiel			30.10	764.4	40.1	4.5	74	NE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.17	766.4	21.4	— 5.9	78	E			2		2			0	0		Prof. E. Luther.
Köslin			30.11	764.8	29.7	— 1.3		SE			1		1			0	0		H. Müller.
Leipsic			29.99	761.7	34.5	1.4	94	NE			3		10	NE		0.039	1.0	Light snow	Prof. Bruhns.
Memel			30.19	766.8	22.6	— 5.2	74	SSE			3		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			29.96	760.9	46.4	8.0	59	NE			2		10			0.437	11.1		Prof. E. Heis.
Neufahrwasser			30.13	765.4	21.9	— 5.6	70	S			2		3			0	0	Smoke-haze	A Lothe.
Posen			30.07	763.6	30.9	— 0.6	85	S			2		0						Dr. Magener.
Strassburg, (in Alsace)			29.95	760.7	46.2	7.9	83	Calm			0		10			0.165	4.2		Dr. Schur.
Stuttgart			29.89	759.3	43.5	6.4	87	W			1		10			0.083	2.1	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.89	759.3	45.7	7.6	81	NW			1		10			Inap.	Inap.		Prof. Flesch.
Weissenburg, (Bavaria,)	28.34	719.8	29.87	758.7	42.8	6.0	82	Calm	0	0			10			0.016	0.4		Dr. von Bebber.
Wustrow, Naval School			30.10	764.6	35.4	1.9	91	SE			1		10			0	0	Foggy	E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," At Porto-Grande, (Cape Verde Island.)			30.07	763.8	82.0	27.8	74	ENE			3		1		ENE			Lt. smoke-haze	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.82	757.3	56.5	13.6		NE										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.64	752.8	44.1	6.7	77	Calm	0	0			10			0.114	2.9		Prof. Giovanni Clodig.
Padua			29.65	753.1	44.8	7.1	87	NNW	1.3	0.6			10	NE		0.547	13.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.67	753.7	46.8	8.2	86	W	0.7	0.3			10	E		0.524	13.3	Raining	Alm. Da Schio.
Verona			29.69	754.1	51.4	10.8	74	E			1		10			0.091	2.3	Raining	Dott. B. Bertoncelli.
Bergamo	28.33	719.5	29.68	753.8	45.3	7.4	86	SSW			1		10			0	0		Prof. Trionfini Carlo.
Domodossola			29.69	754.2	48.2	9.0	73	N			2		2			0	0		Prof. Giuseppe Calza.
Milan			29.69	754.1	46.4	8.0	89	WNW			2		7	ENE		0	0		Ab. Gio. Capelli.
Pavia			29.68	753.9	48.9	9.4	76	N			1		9	NE		0	0		Prof. Gio. Cantoni.
Moncalieri			29.71	754.7	47.5	8.6	78	SSW	0.7	0.3			1			0	0		Prof. P. F. Denza.
Mondovì	27.76	705.1	29.73	755.2	43.9	6.6	69	WNW			2		1	N		0.008	0.2		Prof. C. Bruno.
Porto Maurizio			29.69	754.1	55.9	13.3	61	SE			2		2			0	0		Prof. L. Vassallo
Genoa			29.65	753.2	51.8	11.0	62	N	7.4	3.3			6	S		0	0		Prof. Garibaldi.
Piacenza			29.69	754.0	49.1	9.5	75	NW	3.8	1.7			10			0	0		Dott. G. Manzi.
Parma			29.69	754.0	46.9	8.3	85	ESE			6		8			0.008	0.2	Light rain	Prof. P. Pigorini.
Bologna			29.69	754.1	44.2	6.8	66	N			1		10			0.709	18.0	Raining	Prof. A. Palagi.
Florence			29.63	752.5	50.9	10.5	62	NE			4		10			0.020	0.5	Light rain	Cav. F. Meucci.
Leghorn			29.59	751.5	54.0	12.2	60	E	9.4	4.2			9	N		0.14	3.6	Raining	Prof. P. Monte.
Siena	28.36	720.4	29.59	751.6	46.9	8.3	61	NNW	1.8	0.8			8	N		0	0		Prof. L. Toscani.
Urbino	28.06	712.7	29.66	753.3	41.2	5.1	89	NNW			2		10			0.836	21.3	Raining	Prof. P. Serpieri.
Pesaro			29.59	751.5	46.9	8.3	85	NNE	45.4	20.3			10	N		0.427	10.8	Raining	Prof. Luigi Guidi.
Ancona			29.57	751.1	48.2	9.0	84	N			6		10			0.646	16.4	Raining	Prof. F. De—Bosis.
Grosseto			29.58	753.3	52.7	11.5	60	N			2		8	SE		0.14	3.6	Raining	Avv. P. Ponticelli.
Rome			29.54	750.4	52.0	11.1	87	E	1.3	0.6			5	NW		0.043	1.1	Light rain	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.56	750.9	59.4	15.2	71	WNW			2		9	WSW		0.276	7.0	Raining	Prof. L. Palmieri.
Lecce			29.62	752.4	59.4	15.2	77	SSE	4.9	2.2			3			0.10.	2.6	Raining	Prof. C. De—Giorgi.
Cosenza			29.67	753.7	57.4	14.1	81	W	0.7	0.3			10			1.39.	35.4	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.79	756.7	64.4	18.0	82	Calm			0		3			0	0		Prof. F. Cafiero.
Palermo			29.65	753.0	65.3	18.5	50	WSW	11.9	5.3			4	WSW		0.236	6.0	Raining	Prof. G. Cacciatore.
Caltanissetta	27.76	705.0	29.72	754.8	55.6	13.2	75	W			4		6	NE		0.169	4.3	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.58	751.4	54.0	12.2	84	WNW	3.1	1.4			10	NW		0.201	5.1		Prof. F. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovì, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.09	764.3	43.5	6.4		NE			4								
Groningen			30.04	763.0	39.6	4.2		NNE			3								
Helder			30.09	764.2	39.9	4.4		E			2								
Utrecht			30.02	762.4	38.8	3.8	76	NNE			3		8			0	0	Very cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.13	765.2	39.2	4.0	93	Calm	0	0			5			0	0		
Brône			30.02	762.5	33.8	1.0	65	NW	18	8			8			Inap.	Inap.	Light snow	
Christiania			30.15	765.8	30.2	— 1.0	90	NE	0	0			10			0	0	Light fog	
Tromsö			29.44	747.8	26.6	— 3.0	85	SW	25	11			10			0.276	7.0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.84	757.9	63.0	17.2	84	W	12.5	5.6			4			0	0		Dr. J. A. Sampaio.
Campo Major			30.07	763.7	52.3	11.3	95	W	2.5	1.1			10			0.024	0.6	Smoke-haze.	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.09	764.3	67.6	19.8	70	SSE	9.8	4.4			2			0	0		Capt. D. A. de Cunha.
Lisbon			30.09	764.3	63.3	17.4	77	SE	3.8	1.7			5	NW		0	0		The Observatory.
Ponta Delgada, (Azores)			29.89	759.1	61.9	16.6	94	S	5.6	2.50			10			0.291	7.4	Raining	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.10	764.5	23.7	— 4.6	84	SE	11	5			5						Astronomical Obs.
Wilna			30.29	769.3	21.0	— 6.1	53	SE	4	2			1						Astronomical Obs.
Dorpat			30.24	768.0	15.6	— 9.1	77	SW	7	3			1						Physical Cabinet.
St. Petersburg			30.09	764.3	17.6	— 8.0	84	W	11	5			10						Central Physical Obs.
Kuopio			29.81	757.2	32.2	0.1	89	W	18	8			5						Ch. Forsten.
Kieff			30.29	769.3	20.3	— 6.5	76	SSE	7	3			0						Physical Cabinet.
Nikolaiev			30.28	769.2	25.7	— 3.5	60	NE	9	4			0						Kurdakof.
Kertch			30.26	768.5	31.1	— 0.5	83	ENE	13	6			4						Lagorio.
Moscow			30.29	769.4	21.7	— 5.7	87	NW	4	2			10						Meteorological Obs.
Lugan			30.21	767.3	24.3	— 4.3	66	N	4	2			1						Meteorological Obs.
Archangel			29.69	754.1	17.2	— 8.2	94	S	22	10			10						Ogorodnikof.
Tiflis	28.78	731.1	30.25	768.4	41.7	5.4	75	E	9	4			10						Physical Observatory.
Astrakhan			30.24	768.0	26.6	— 3.0	59	W	2	1			0						Sebastianof.
Kasan			30.10	764.5	2.8	—16.2	90	N	16	7			1						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.73	729.7	29.78	756.4	— 3.3	—19.6	81	WSW	2	1			2						Meteorological Obs.
Nukuss			30.22	767.5	35.2	1.8	70	NNW	7	3			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.24	768.2	22.5	— 5.3	83	W	4	2			10						Meteorological Obs.
Yeniseisk			30.06	763.5	27.3	— 2.6	71	SW	2	1			10						Marks.
Irkutsk																			Usolsef.
Oorga																			Mossin.
Peking, (China)			30.34	770.6	40.8	4.9	46	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.89	759.2	28.8	— 1.8	44	NW	9	4			4						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.06	763.4	51.8	11.0	92	SW	1.0	0.44		0	7			0.010	0.4	Cloudy	Royal Observatory.
San Fernando			30.07	763.8	65.5	18.6	75	W	6.3	2.8		1	1	W	W	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.69	754.2	16.2	— 8.8	94	W			2		0			0	0		
Umea			29.93	760.3	26.2	— 3.2	96	W			2		10			0	0		
Hernosand			29.98	761.5	37.4	3.0	73	WNW			2		10			0	0		
Stockholm			29.96	761.0	29.3	— 1.5	78	W			2		10			0	0		
Wisby			30.13	765.2	35.2	1.8	78	S			4		10			0	0		
SUB-SERIES.																			
Upsala			30.09	764.2	26.1	— 3.3	97	SW	6.5	2.9			10			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.48	723.5	29.94	760.5	44.6	7.0	88	NE			1		10			0.189	4.8	Covered	The Observatory.
Zurich	28.28	718.3	29.97	761.3	38.1	3.4	93	W			1		10			0.280	7.1	Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —3.1 mm; Thermometer, +1.3 cent.; Relative Humidity, +10 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.92	759.9	50.0	10.0	71	ENE	9	4.0			8		SSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.89	759.3	61.2	16.2		SE			1		10					Raining	
Valona			29.60	751.7	59.5	15.3		SW			1		2						
Varna			29.92	760.0	42.8	6.0		S			2		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.90	759.4	61.7	16.5	80	S			4		10n		SW	1.96	49.8	Raining	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			30.25	768.3	33.1	0.6	93	E	8	3.6			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.09	764.3	35	1.7		NE	5	2.2			10s		E	0.02	0.5	Cloudy	W. R. Bigg.
*Chatham, N. B			30.22	767.6	30	— 1.1	96	Calm	0	0		5k	5ks	E	E	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.23	767.8	32	0.0	95	E	8	3.6		8cs	0			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.01	762.2	34.2	1.2	87	E			3	10k	0			0	0	Dull	James Smith, M. A.
Dalhousie, N. B			30.28	769.1	32	0.0	97	E			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C			30.24	768.1	44.3	6.8	92	N					10			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			30.19	766.8	34.0	1.1	87	E	16	7.2			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.15	765.8	— 2	—18.9	93	NW	11	4.9			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.98	761.5	40.1	4.5	96	Calm			0		10n			0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.85	732.8	29.97	761.2	38	3.3		E			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			30.08	764.0	38	3.3	77	E	14	6.3			8n			Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.03	762.7	35	1.7	94	NE	10	4.5			10ks		E	0.05	1.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			30.25	768.3	35.5	1.9	95	SE	5	2.2		9k	0	SE		0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			30.06	763.5	32	0.0	82	NE	19	8.5		2ck	2ks	E		In up.	Inap.	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.05	763.3	35	1.7	85	E	6	2.7		8k	0	E		0	0	Clearing	J. B. Haney.
*Parry Sound, Ontario			30.00	762.0	38	3.3	92	E	7	3.1		5k	2ks	SE	SE	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.99	761.7	40	4.4	100	NE	3	1.3			10n		NE	0.01	0.3	Foggy	H. Morgan.
Port Hastings, N. S			30.22	767.6	35.4	1.9		SE	5	2.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.00	762.0	40	4.4	96	E	4	1.8			10n		NE	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec			30.19	766.8	31	— 0.6	89	NE	26	11.6			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.13	765.3	34	1.1	84	NE	8	3.6			10n			0	0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.95	760.7	40	4.4	87	Calm	0	0			10ks			0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.97	761.2	39	3.9	100	SE	1	0.4			10n		SE	0.04	1.0	Light rain	R. J. Cole.
Stratford, Ontario	28.69	727.7	29.96	761.0	37.4	3.0	98	SE	4	1.8			Fog			0	0	Foggy	C. J. MacGregor, M. A
*Sydney, C. B			30.28	769.1	33	0.6	80	E	4	1.8			10ks		E	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.02	762.5	40	4.4	88	N	5	2.2			10n			0.01	0.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.01	762.2	38.8	3.8	99	E	6	2.7			10s			0.09	2.3	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.41	772.4	30.0	— 1.1	89	NW	3	1.3		0	0			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.87	758.7	41	5.0	91	NW	13	5.8			10s		NW	0.91	23.1	Cloudy	
Alpena, Mich.			29.91	759.7	41	5.0	82	Calm	0	0			10s			0.05	1.3	Cloudy	
Atlantic City, N. J.			29.76	755.9	43	6.1	100	N	12	5.4			10s		N	1.54	39.1	Cloudy	
Augusta, Ga.			30.02	762.5	39	3.9	100	Calm	0	0			Fog			0	0	Foggy	
Baltimore, Md.			29.87	758.7	47	8.3	85	N	8	3.6		5ck	2s	N	N	0.33	8.4	Clearing	
Barnegat, N. J.			29.75	755.6	44	6.7	95	N	32	14.3			10n		N	2.24	56.9	Light rain	
Bismarck, Dakota	28.32	719.3	30.13	765.3	3	—16.1	60	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.80	756.9	39	3.9	100	NE	26	11.6			10n		NE	5.43	137.9	Light rain	
Breckenridge, Minn.			30.08	764.0	5	—15.0	87	NW	20	8.9			10s		NW	0.01	0.3	Cloudy	
Buffalo, N. Y.			29.95	760.7	40	4.4	91	E	4	1.8			Fog			0.02	0.5	Foggy	
Burlington, Vt.			30.00	762.0	37	2.8	80	N	4	1.8			10s			0	0	Cloudy	
Cairo, Ill.			29.86	758.4	42	5.6	68	S	8	3.6		2k	0	N		0	0	Fair	
Cape Hatteras, N. C.			29.81	757.2	51	10.6	86	NW	16	7.2			10ks		NW	0.08	2.0	Cloudy	
Cape Henry, Va.			29.82	757.4	50	10.0	79	NW	22	9.8			10s		NW	0.37	9.4	Cloudy	
Cape Lookout, N. C.			29.93	760.2	51	10.6	72	NW	15	6.7		0	0			0.03	0.8	Clear	
Cape May, N. J.			29.78	756.4	45	7.2	92	N	24	10.7			10s			0.16	4.1	Cloudy	
Charleston, S. C.			30.01	762.2	47	8.3	85	W	6	2.7		0	0			0	0	Clear	
Cheyenne, Wyoming	24.0[illegible]	610.1	29.96	761.0	12	—11.1	79	NW	12	5.4		5ck	2s	W		0.01	0.3	Fair	
Chicago, Ill.			29.74	755.4	41	5.0	83	SE	8	3.6		2c	2k		SE	0	0	Fair	
Cincinnati, Ohio			29.91	759.7	46	7.8	85	S	8	3.6		2k	Fog	SW		Inap.	Inap.	Fair	
Cleveland, Ohio			29.96	761.0	43	6.1	96	W	4	1.8			10n			0.04	1.0	Light rain	
Corsicana, Tex.			30.08	764.0	48	8.9	70	N	14	6.3		5cs	0	N		0	0	Fair	
Davenport, Iowa			29.67	753.6	37	2.8	80	SE	7	3.1			10ks		SE	0	0	Cloudy	
Denison, Tex.			30.14	765.5	41	5.0	73	NW	5	2.2		1cs	0			0	0	Clear	
Denver, Col.	24.83	630.7	30.05	763.3	23	— 5.0	73	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			29.92	760.0	42	5.6	95	SE	2	0.9			10n,fr			Inap.	Inap.	Light rain	
Dodge City, Kan.	27.49	698.2	29.86	758.4	34	1.1	79	NW	16	7.2		2c	0	NW		0.17	4.3	Clear	
Dubuque, Iowa			29.69	754.1	36	2.2	90	SE	3	1.3			10n			0.15	3.8	Sleeting	
Duluth, Minn.			29.76	755.9	35	1.7	80	NW	4	1.8			10n			0.23	5.8	Light snow	
Eastport, Me.			30.06	763.5	38	3.3	80	NE	32	14.3			10s		E	0	0	Cloudy	
Erie, Pa.			29.94	760.5	44	6.7	84	SE	4	1.8			10ks			0.01	0.3	Cloudy	
Escanaba, Mich.			29.79	756.7	43	6.1	91	SE	16	7.2			10n		S	0.05	1.3	Light rain	
Fort Gibson, Indian Ter.			30.03	762.7	39	3.9	71	NW	11	4.9		0	8s		N	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.92	734.6	30.07	763.8	40	4.4	63	N	4	1.8		2c	0	W		0	0	Fair	
Fort Sully, Dakota	28.38	720.8	30.17	766.3	16	— 8.9	83	NW	3	1.3		0	2s			Inap.	Inap.	Clear	
Florence, Arizona	28.36	720.3	29.89	759.2	47	8.3		E				0	0			0	0	Clear	
Galveston, Tex.			30.04	763.0	63	17.2	94	S	3	1.3			10ks		W	0	0	Cloudy	
Grand Haven, Mich.			29.80	756.9	45	7.2	84	SE	10	4.5			10s		SE	Inap.	Inap.	Cloudy	
Indianapolis, Ind.			29.88	758.9	41	5.0	83	SE	9	4.0		0	8s		SE	0	0	Clearing	
Indianola, Tex.			30.01	762.2	61	16.1	94	S	4	1.8		0	Fog			0	0	Clear	
Jacksonville, Fla.			30.08	764.0	40	7.8	77	SW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			29.60	751.8	40	4.4	95	S	3	1.3			10n		S	0.10	2.5	Light rain	
Key West, Fla.			30.06	763.5	64	17.8	88	N	10	4.5		0	0			0	0	Clear	
Kittyhawk, N. C.			29.87	758.7	47	8.3	92	NW	12	5.4			10n			0.42	10.7	Light rain	
Knoxville, Tenn.			30.08	764.0	41	5.0	83	Calm	0	0			10ks		SE	Inap.	Inap.	Cloudy	
La Crosse, Wis.			29.69	754.1	36	2.2	90	S	2	0.9			10s			0	0	Threatening	
Leavenworth, Kan.			29.98	761.5	26	— 3.3	76	NW	15	6.7			10s		NW	0	0	Cloudy	
Louisville, Ky.			29.96	761.0	39	3.9	91	S	8	3.6			Fog			0	0	Foggy	
Lynchburg, Va.			29.90	759.4	48	8.9	74	W	4	1.8		0	0			0.50	12.7	Clear	
Malone, N. Y.			29.99	761.7	34	1.1	80	NE	6	2.7		10k	0	NE		0	0	Cloudy	
Marquette, Mich.			29.81	757.2	42	5.6	83	SE	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			29.94	760.5	48	8.9	77	SW	11	4.9		2c	2s	SW	SW	0	0	Fair	
Milwaukee, Wis.			29.78	756.4	39	3.9	91	S	7	3.1		10ks	Fog	S		0	0	Cloudy	
Mobile, Ala.			30.12	765.0	40	4.4	83	S	1	0.4		0	Fog			0	0	Clear	
Montgomery, Ala.			30.12	765.0	37	2.8	95	Calm	0	0			Fog			0	0	Foggy	
Morgantown, W. Va.	28.91	734.3	29.97	761.2	43	6.1	96	W	3	1.3			10s		W	0.37	9.4	Cloudy	
Mt. Washington, N. H.	23.58	598.9	29.94	760.5	24	— 4.4	87	E	60	26.8		10s	2s	E	E	0	0	Cloudy	
Nashville, Tenn.			30.02	762.5	36	1.7	90	E	6	2.7			10s			0	0	Cloudy	
New Haven, Conn.			29.77	756.1	42	5.6	83	N	30	13.4			10s		N	0.80	20.3	Cloudy	
New London, Conn.			29.69	754.1	43	6.1	83	NE	19	8.5		5s	5ks	NE	NE	1.59	40.4	Threatening	
New Orleans, La.			30.09	764.3	47	8.3	85	Calm	0	0		0	Fg,sm		N	0	0	Smoky	
Newport, R. I.			29.69	754.1	45	7.2	100	NE	24	10.7			10n		NE	2.29	58.2	Light rain	
New York, N. Y.			29.78	756.4	43	6.1	91	N	16	7.2			10n		N	0.93	23.6	Light rain	
Norfolk, Va.			29.86	758.4	45	8.9	92	NW	10	4.5			10n		NW	0.29	7.4	Light rain	
North Platte, Neb.	27.10	688.3	29.82	757.4	22	— 5.6	85	W	12	5.4		0	0			Inap.	Inap.	Clear	
Omaha, Neb.	28.83	732.3	29.99	761.7	15	— 9.4	82	NW	18	8.0		0	2s		N	0.04	1.0	Clear	
Oswego, N. Y.			29.98	761.5	40.5	4.7	91	NE	5	2.2		5ck	5s	E	NE	0.08	2.0	Cloudy	
Pembina, Dakota			30.14	765.5	— 4	—20.0	87	NW	2	0.9		0	2s			0	0	Clear	
Philadelphia, Pa.			29.82	757.4	44	6.7	84	NE	14	6.3			10s		N	2.28	57.9	Cloudy	
Pike's Peak, Col.	17.58	446.5	29.79	756.7	4	—15.6	22	N	24	10.7		10s	0			0.25	6.3	Cloudy	
Pittsburgh, Pa.			29.94	760.5	45	7.2	84	W	7	3.1			10s		W	0.18	4.6	Cloudy	
Port Huron, Mich.			29.92	760.0	40	4.4	91	SE	2	0.9			10n			Inap.	Inap.	Light rain	
Portland, Me.			29.96	761.0	36	2.2	90	NE	24	10.7			10n			0.14	3.6	Light rain	
Portland, Oregon			30.19	766.8	42	5.6	83	Calm	0	0			10s			0.02	0.5	Cloudy	
Punta Rassa, Fla.			30.10	764.5	57.0	13.9	68	N	8	3.6		2ck	0	SW		0	0	Fair	
Rochester, N. Y.			29.96	761.0	41	5.0	91	NE	4	1.8			10s		NE	0.19	4.8	Cloudy	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	37	2.8	45	Calm	0	0			10s			0.12	3.0	Cloudy	
Sandy Hook, N. J.			29.73	755.1	44	6.7	83	NE	36	16.1			10ks		NE	1.19	30.2	Cloudy	
San Diego, Cal.			29.96	761.0	54	12.2	86	E	4	1.8			10s		E	0	0	Cloudy	
San Francisco, Cal.			30.11	764.8	51	10.6	72	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.25	590.5	29.79	756.7	27	— 2.8	57	E	1	0.4		0	8s			0	0	Fair	
Savannah, Ga.			30.03	762.7	46	7.8	77	W	6	2.7		0	0			0	0	Clear	
Shreveport, La.			30.06	763.5	53	11.7	93	Calm	0	0			10s		W	0	0	Cloudy	
Smithville, N. C.			29.93	760.2	46	7.8	77	NW	3	1.3		0	0			0	0	Clear	
Springfield, Mass.			29.83	757.7	41	5.0	82	N	16	7.2			10ks		E	0.96	24.4	Cloudy	
St. Louis, Mo.			29.74	755.4	42	5.6	65	SW	16	7.2		0	8s		S	0	0	Fair	
St. Marks, Fla.			30.09	764.3	37	2.8	90	NW	3	1.3		0	0			0	0	Clear	
St. Paul, Minn.			29.71	754.6	32	0.0	89	NW	4	1.8			10n			0.02	0.5	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.82	757.4	43	6.1	100	NE	40	17.9			10n		NE	2.18	55.4	Heavy rain	
Toledo, Ohio			29.92	760.0	45	7.2	92	S	2	0.9			10s			0.01	0.3	Threatening	
Tucson, Arizona	27.47	697.7	30.02	762.5	41	5.0		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.02	762.5	46	7.8	77	W	8	3.6		0	0			0	0	Clear	
Vicksburg, Miss.			30.08	764.0	44	6.7	75	S	11	4.9		3cs,ck	0	W		0	0	Fair	
Virginia City, M. T.	24.22	615.2	29.70	754.4	26	— 3.3	64	Calm	0	0			10ks		W	0	0	Cloudy	
Washington, D. C.			29.89	759.2	47	8.3	85	NW	12	5.4		0	8ks,s		NW	0.83	21.1	Clearing	
Wilmington, N. C.			29.95	760.7	45	7.2	76	W	6	2.7		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.69	754.1	47	8.3	92	NE	12	5.4			10n			2.03	51.6	Light rain	
Yankton, Dakota	28.74	730.0	30.16	766.1	6	—14.4	76	NW	13	5.8		0	0			0.25	6.3	Clear	
Yuma, Arizona			29.90	759.4	55	12.8		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.15	765.8	78	25.6	86	Calm	0	0			10n			0.18	4.6		James Gall.
Navassa, W. I.					80	26.7		NE			2					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.15	689.6	29.93	760.2	65	18.3	83									0	0		C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	81	27.2	87	E			2	5k	6ks	E		0.170	4.32	⅜ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.02	762.6			85.1	29.5		E								1.860	47.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			67.7	19.7	74	Calm			0	1c	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.88	758.9	22.5	— 5.3	100	N	6	2.7			10n			0.05	1.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	74.5	23.6		NE			3					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Hyannis, Mass.			29.62	75°.3	47	8.3	100	NE	27	12.1			..d		NE	Rough		Light rain	Capt. James Jorgensen.
Steamer Berlin, N. 39°, 20', W. 63°, 20'.	ENE ½E	6	29.61	752.1	66.9	19.4		E			7		..c,ks			Heavy sea.		Clearing	Capt. C. Fohle.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 22, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.08	764.0	71.2	21.8	28	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.04	762.9	59.0	15.0	98	NW			1		10			0.535	13.6	Hidden	Peter.
Le Calle			30.01	762.2	61.7	16.5	67	NW			4		6			0.118	3.0	Fair	Fleury.
Tunis			29.98	761.4	62.2	16.8	56	NW			4		4			0	0	Fair	Jacques.
Sfax			29.97	761.3															
Salda			30.14	765.6	65.8	18.8	36	NW			2		1			0	0	Clear	Millot.
Tebessa			30.00	761.9	60.0	10.0		NW			3		2			0	0	Clear	Bourgeois.
Guriville					59.7	15.4	25	NNW			4		0			0	0	Clear	Lemaillot.
Laghouat			30.12	765.1	65.8	18.8	39	SW			1		0			0	0	Clear	Guyot.
Biskra			30.04	763.1	72.3	22.4	32	NW			2		3			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.97	761.3	33.3	0.7	96	NE			2		10			0.327	8.3	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.25	768.4	26.1	— 3.3	91	NE			2		10			0	0		Dr. Wierzbiski.
Eperies			30.10	764.6	31.1	— 0.5	79	N			3		0			0	0		Julius Mikolik.
Gratz	28.74	730.0	30.04	763.0	35.6	2.0	87	SW			2		10			0.244	6.2		Andreas Rospini.
Hermannstadt	28.52	724.5	30.00	761.9	37.4	3.0	71	ESE			2		10			0.026	0.65		Prof. Reissenberger.
Kremsmünster	28.74	729.9	30.14	765.6	33.1	0.6	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.23	767.8	24.8	— 4.0	95	SE			2		9			0.008	0.2		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.84	757.9	45.0	7.2	52	NE			5		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			29.94	760.4	36.7	2.6	75	Calm			0		10			0	0		Karl Stancel.
Trieste			29.91	759.7	46.0	7.8	53	N			1		9			0	0		Prof. V. Farolfi.
Vienna			30.09	764.2	37.6	3.1	78	NNW			2		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.26	768.5	39.0	3.9	82	ENE			2		9k		E,ESE	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.12	765.0	47.1	8.4		SSE	19	8.5			6			0.110	2.79	*D. clouds	William Boswell.
Ardrossan			30.09	764.3	48	8.9		SSE			4		8					Misty	William McNeil.
Armagh, Observatory			30.01	762.2	50.4	10.2		SSE	19	8.5			10					Squally	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.94	760.5	52.2	11.2		SE			2		10					Misty	J. Dreyer.
Bradford			30.20	767.1	45	7.2		S			2		1			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.97	761.2	84.5	29.2		NE			3		8					Overcast	Sergt. J. F. Halanen, A. [H.C.
Cambridge, Observatory			30.28	769.1	42.5	5.8		SSE			1		10					Overcast	H. Todd.
Cardington			30.26	768.6	43.0	6.1		SE			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.26	768.6	41.2	5.1		NE			1		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.71	729.2	30.24	768.1	45.6	7.6		SE			3		6					*D. clouds	R. F. Power.
Davos Platz, (Switzerland)	24.76	628.9			28.2	— 2.1	84	NE			1		10			1.02	0.51	Snowing	Francis Redford, M. A.
Donaghadee			30.03	762.7	50	10.0		SE			5		10					Overcast	J. Mac Gowan.
Dover			30.26	768.6	40	4.4		NE			3		8					Overcast	J. Costello.
Eccles, (near Manchester)			30.20	767.1	44.8	7.1		SE	4.2	1.9			2					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.12	765.0	50.5	10.3		SSE			4		3					*D. clouds	The Staff.
Fort Napier, (Natal)	27.54	699.5	29.77	756.1	80.3	26.8		E			2		8					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.96	761.0	83.0	28.3		W			0		7					*D. clouds	
Galway, Queen's College			29.81	757.2	54	12.2		SE			7		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.02	762.5	67.7	19.8		NW			4		1					Blue sky	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			30.08	764.0	45.7	7.6		SSE			1		10					Overcast	Lewis Stuart.
Great Yarmouth			30.27	768.8	42	5.6		SE			3		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.26	768.6	41.1	5.1		SSE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			30.14	765.5	48	8.9		ESE			1		7					*D. clouds	Dr. S. F. Hoskins.
Helston			30.08	764.0	53	11.7		SE			4		2c			0	0		M. P. Moyle.
Holyhead			30.09	764.3	49	9.4		S			4		3					*D. clouds	John Tilston.
Kew, Observatory			30.26	768.6	43.1	6.2		ESE	10	4.5			10					Misty	The Staff.
Kingstown			30.04	763.0	52	11.1		SSE			5		9					Overcast	George Mitchell.
Leicester Museum			30.26	768.6	46.1	7.8		SE			1		3					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.90	759.4	64.0	17.8		NW			4		8 c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.00	762.0	47	8.3		SW			2		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.12	765.0	73.5	23.1		N			1		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.24	768.1	46.7	8.2		SSE			3		7k, k		SSE	0.002	0.05	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.22	767.6	45.2	7.3		SE			1		7					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.22	767.6	46	7.8		SE			1		10					Gloomy	J. Lucas.
Plymouth			30.14	765.5	50	10.0		SE			4		10					Overcast	John Merrifield.
Roche's Point			29.98	761.5	54	12.2		S			6		10					Misty	W. Kennedy.
Saint Ann's Head			30.10	764.5	51	10.6		SSE			5		2					Blue sky	John C. Walker.
Saint Helier, (Jersey)			30.19	766.8	48.5	9.2		E			3		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.01	762.2	45.1	7.3		SSE	20	8.9			4					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.93	760.2	61.4	16.3		ESE			1		8			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.21	767.3	46.5	8.1		SW			2		7			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.13	765.3	48.4	9.1	77	W			2		3			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			30.20	767.1	43.3	6.3		S					10					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.89	759.2	50	10.0		SSW			7		10					Drizzling	John Smith.
Stratfield Turgiss			30.25	768.3	45.5	7.5		NE			1		4					*D. clouds	Rev. Charles H. Griffith
Thurso			29.95	761.5	44	6.7		SSE			2		5					*D. clouds	John Trotter.
Truro, Royal Institution			30.02	762.5	53	11.7		SE			6		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.82	757.4	54.2	12.3		SSE	35	15.6			10					Misty	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					48	8.9		S			6		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.03	762.7	75.0	23.9	53	S	28	12.5		1	2						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.56	750.8	65.0	18.3	88	N			1		7k			0.29	7.4		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.14	765.5	46.1	7.8		SW			2	3c				0	0	Fine	Andrew Gibb.
Mauritius, Observatory			30.08	764.0				ENE	13.4	6.0						0	0		C. Meldrum.
Melbourne, Observatory			29.93	760.2	55.0	12.8	83	W	18	8.0			7			0.33	8.4		R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.81	757.2	50	10.0		S			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.03	762.7	45	7.2		S			4		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.39	771.9	34.9	1.6	75	E			2		10						
Fanöe			30.39	771.8	36.0	2.2	87	E			2		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.41	747.1	39.7	4.3	97	SE			6		10					Raining	
Thorshavn, (Faröe)			29.85	758.1	46.8	8.2	85	S			4		10						
Vestervig			30.37	771.4	32.0	0.0	92	ESE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alengon			30.21	767.4	50.0	10.0	87	NE			2		10n		N	0	0	Covered	Normal School.
Amiens			30.22	767.6	41.0	5.0	71	E			4		5		E	0	0	Cloudy	Normal School.
Avignon			29.95	760.6	50.7	10.4	58	N			8		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.15	765.8	41.0	5.0	90	NE			1		10		E	Inap.	Inap.	Covered	C. Saillard.
Beaumette, (near Angers)			30.05	763.2	45.0	7.2	77	E	4.3	1.9					E	0	0		Beaumette Observ'tory.
Beauvais			30.25	768.4	39.7	4.3	70	ENE			2		8		ENE	0	0	Very cloudy	Normal School.
Besançon			30.12	765.1	42.1	5.6	78	NE			4		0			0	0	Clear	Normal School.
Bourg en Bresse			30.15	765.8	43.7	6.5	77	N			4		2n		NW	0.138	3.5	Slightly cl'dy	Normal School.
Bourges			30.17	766.3	40.3	4.6	97	N			2		10		NE	0	0	Covered	Normal School.
Brest			30.06	763.4	54.5	12.5	67	SE			3	1c				0	0		Naval Observatory.
Carcassonne			29.85	758.3	55.4	13	66	W			2		1		E	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.15	765.7	37.6	3.1	93	NE			2		8		N	0	0		Normal School.
Châlons-sur-Marne			30.20	767.0	41.5	5.3	69	SE			2		10kn		W	0	0	Covered	Normal School.
Clermont			30.16	766.0	38.7	3.7	83	N			2		10		N	0	0		Puy de Dome Obs'y.
Commercy			30.23	767.7	38.3	3.5	90	S			2		8kn		S	0	0	Very cloudy	Normal School.
Commune de Gréasque*			29.91	759.8	50.9	10.5	39	N			2		0			0	0		M. Kina.
Grenoble			30.01	762.3	44.8	7.1	68	NW			6		5ks		E	0.059	1.50	Cloudy	Normal School.
La Roche-sur-Yon					47.1	8.4	89	NE			1		2		E	0	0	Slightly cl'dy	Normal School.
Le Mans			30.19	766.9	41.2	5.1	78	NE			2		10			0	0	Covered	Normal School.
Lons-Le-Saulnier			30.05	763.2	43.9	6.6	91	NNE			2		2		N	0	0	Slightly cl'dy	Normal School.
Lorient			30.17	766.3	51.4	10.8	65	SE			2		0			0	0	Clear	Naval Observatory.
Mâcon			30.21	767.2	42.8	6	85	N			2		0			0.04	1.	Clear	Normal School.
Metz			30.27	768.9	38.5	3.6	72	NE			4		10		NE	0.016	0.4		M. Schuster.
Mirecourt			30.21	767.3	46.9	8.3	80	N					2		S	0	0	Slightly cl'dy	Normal School.
Nismes			29.95	760.8	55.8	13.2	62	NE			2		0			0	0	Clear	Normal School.
Orleans			30.17	766.4	37.8	3.2	83	NNE			2		10			0	0	Covered	Normal School.
Paris, Observatory			30.22	767.5	39.7	4.3	70	NE			2		5k		NE	0	0	Misty	National Observatory.
Parthenay																			Normal School.
Privas			30.03	762.7	46.4	8		SW			6		10		SW	0	0	Covered	Normal School.
Rochefort, Observatory			30.15	765.7	47.8	8.8	86	N			3		0			0	0	Blue sky	Naval Observatory.
Rouen			30.24	768.1	40.1	4.5	77	ESE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.94	735.0	30.02	762.4	55.4	13		WNW			2		0			0	0	Clear	Normal School.
Villefranche			30.22	767.6	43.7	6.5	92	NW			2		8		S	0.024	0.6	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.85	758.2	82.4	28													L'Abbé Marchési.
Marseilles			29.90	759.5	51.6	10.9	52	NW			3		2			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.79	629.7	30.18	766.6	41.4	5.2	87	NW	9.3	4.17			0			0	0		—. Falguère.
Montsouris, Paris			30.20	767.0	41.7	5.4	62	NNE			2		7			0	0		Montsouris Observatory
Perpignan			29.97	761.1	55.4	13.0	49	N	20.5	9.17			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.15	537.1			23.0	— 5.0		NE			2		1					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.46	570.2			35.2	1.8		NE			1		0			0	0	Clear	Gen eral de Nansouty.
Saint Maur, (near Paris)			30.21	767.2	41.2	5.1	70	NE			2		2			0	0		E. Renou.
Toulouse			30.13	765.3	48.6	9.2	58	NNW			2		9			0	0	Stormy	Toulouse Observatory.
Tours			30.19	766.9	41.5	5.3	80	NE			3		10			0	0	Misty	C. Marquet.
Versailles, (near Paris)			30.21	767.3	39.9	4.4	71	NE			2		8			0.002	0.06	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.28	769.1	42.1	5.6	81	Calm	0	0			4			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrograp'hic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.11	764.8	37.8	3.2	73	E			3		6	SE		Inap.	Inap.		Prof. T. Hoh.
Berlin			30.32	770.2	32.9	0.5	90	NE			1		10			0	0		Prof. Arndt.
Breslau			30.26	768.6	26.1	— 3.3	87	NE			3		10			0	0		Royal University Obs'y.
Carlsruhe			30.21	767.2	41.7	5.4	74	NE			3		10			0	0		A. Senz.
Cassel			30.28	769.1	35.6	2.0	87	NE			4		10	NE		0	0		Dr. H. Möhl.
Emden			30.44	773.1	38.3	3.5	83	E			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.27	768.9	40.6	4.8	60	NE			2		10			0	0		Physical Society.
Friedrichshafen			30.17	766.3	39.6	4.2	82	N			6		10			0.043	1.1	Raining	M. Wilhelm.
Hamburg			30.37	771.4	36.7	2.6	69	E			1		10			0	0		Captain F. Hegemann.
Kiel			30.36	771.2	38.3	3.5	66	NE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.44	773.1	19.8	— 6.8	68	SE			2		0			0	0		Prof. E. Luther.
Köslin			30.39	771.8	26.6	— 3.0		SE			1		0			0	0		H. Müller.
Leipsic			30.33	770.3	31.6	— 0.2	79	N			1		10			0	0		Prof. Bruhns.
Memel			30.45	773.5	21.9	— 5.6	70	E			2		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			30.28	769.0	40.8	4.9	84	NE			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.41	772.3	24.4	— 4.2	75	Calm			0		0			0	0	Smoke-haze	A Lothe.
Posen			30.34	770.5	36.7	2.6	80	SE			1		10						Dr. Magener.
Strassburg, (in Alsace)			30.22	767.5	40.3	4.6	82	NE			1		10			0.059	1.5		Dr. Schur.
Stuttgart			30.19	766.9	40.1	4.5	73	N			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.17	766.4	40.3	4.6	74	NE			2		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.62	727.0	30.19	766.8	37.0	2.8	75	NE	7	3			10	NE		0.031	0.8		Dr. von Bebber.
Wustrow, Naval School			30.39	771.8	36.3	2.4	78	NE			1		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," Near Vincent, (Cape Verde Islands.)			30.12	765.1	82.0	27.8	83	ENE			4		7		ENE			Lt. smoke-haze.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.85	758.1	63.5	17.5		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.89	759.2	44.2	6.8	75	Calm	0	0			10			0	0		Prof. Giovanni Clodi[illegible].
Padua			29.89	759.3	45.3	7.4	74	S	2.5	1.1			10			0.016	0.4	Light rain...	Prof. Dott. Lorenzoni.
Vicenza			29.89	759.3	46.4	8.0	78	W	6.3	2.8			10			0.016	0.4	Light rain...	Alm. Da Schio.
Verona			29.90	759.4	46.0	7.8	63	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.[illegible]	724.8	29.89	759.1	44.6	7.0	60	SE			2		6			0	0		Prof Trionfini Carlo.
Domodossola			29.89	759.3	45.9	7.7	66	Calm			0		3			0	0		Prof. Giuseppe Calza.
Milan			29.92	759.9	44.6	7.0	84	SSW			2		6	ESE		0	0		Ab. Gio. Capelli.
Pavia			29.92	759.9	43.7	6.5	84	SW			4		8	NE		0	0		Prof. Gio. Cantoni.
Moncalieri			29.95	760.6	41.7	5.4	88	SE	0.7	0.3			9	E		0	0		Prof. P. F. Denza.
Mondovi	27.[illegible]	710.[illegible]	29.94	760.4	40.5	4.7	62	NNE			2		1	N		0	0		Prof. C. Bruno.
Porto Maurizio			29.91	759.7	56.1	13.4	59	SW			2		7	N		0	0		Prof. L. Vassallo
Genoa			29.87	758.7	53.2	11.8	49	N	1.8	0.8			8	N		0	0		Prof. Garibaldi.
Piacenza			29.93	760.1	42.6	5.9	80	NW	9.4	4.2			7	NE		0	0		Dott. G. Munzi.
Parma			29.93	760.2	45.3	7.4	81	E			2		6			0	0		Prof. P. Pigorini.
Bologna			29.93	760.2	41.4	5.2	55	W			1		10			0.519	13.0	Raining.....	Prof. A. Palagi.
Florence			29.89	759.3	48.2	9.0	55	N			4		10	NE		0	0		Cav. F. Meucci.
Leghorn			29.85	758.3	49.3	9.6	54	NNE	6.9	3.1			10	NE		0	0		Prof. P. Monte.
Siena	28.61	726.8	29.84	758.0	45.0	7.2	84	NE	1.3	9.6			8	NE		0	0		Prof. L. Toscani.
Urbino	28.26	717.7	29.85	758.3	39.6	4.2	70	ENE			2		10			0.748	19.0	Raining.....	Prof. P. Serpieri.
Pesaro			29.84	757.9	47.3	8.5	51	NNE	71.6	32.0			10	NE		0.110	2.8	Raining.....	Prof. Luigi Guidi.
Ancona			29.82	757.3	42.8	6.0	85	NW			6		10			0.648	16.4	Raining.....	Prof. F. De—Bosis.
Grosseto			29.85	758.3	52.0	11.1	49	N			4		6	SE		0	0		Avv. P. Ponticelli.
Rome			29.75	755.6	52.2	11.2	48	N	13.0	5.8			2			0.012	0.3	Light rain...	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.75	755.7	52.2	11.2	67	NNW			2		10	SW		0.433	11.0	Raining.....	Prof. L. Palmieri.
Lecce			28.81	757.2	56.3	13.5	69	ENE	2.5	1.1			5	SW		0.146	3.7	Raining.....	Prof. C. De—Giorgi.
Cosenza			29.87	758.8	54.0	12.2	87	ESE	6.3	2.8			10			0.929	23.6	Raining.....	Prof. F. D. Conti.
Riposto, (Sicily)			29.83	757.6	63.3	17.4	86	SE			2		2			0	0		Prof. F. Cafiero.
Palermo			29.76	755.9	59.9	15.5	55	W	9.4	4.2			9	W		0.067	1.7	Raining.....	Prof. G. Cacciatore.
Caltanissetta	27.86	707.5	29.82	757.3	53.6	12.0	60	WSW			6		6	SE		0.01[illegible]	0.3	Light rain...	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.77	756.1	47.1	8.4	85	NE	1.8	0.8			10	N		1.62[illegible]	41.2		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.32	770.0	40.1	4.5		ENE			2								
Groningen			30.29	769.4	39.2	4.0		E			2								
Helder			30.32	770.1	39.2	4.0		E			2								
Utrecht			30.27	768.8	39.4	4.1	73	E			1		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.29	769.3	40.3	4.6	81	SE	11	5			10			0	0		
Brönö			29.89	759.2	36.0	2.2	79	S	18	8			10			0	0		
Christiania			30.37	771.5	25.3	— 3.7	93	ENE	0.2	0.1			10			0	0		
Tromsö			29.95	760.8	24.1	— 4.4	86	Calm	0	0			9			0.079	2.0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.87	758.6	59.0	15.0	76	W	15.4	6 9			4			0.039	1.0		Dr. J. A. Sampaio.
Campo Major			30.07	763.8	49.5	9.7	100	Calm	0	0			10			0.039	1.0	Misty	Dr. A. M. R dos Santos.
Funchal, (Madeira,)			30.05	763.3	68.2	20.1	76	W	6.3	2.8			10			0.181	4.6		Capt. D. A. de Cunha.
Lisbon			30.07	763.8	51.3	10.7	100	E	6.3	2.8			10			0	0		The Observatory.
Ponta Delgada, (Azores)			29.91	759.7	63.7	17.6	62	WNW	11.8	5.28			4			0.339	8.6		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.33	770.4	25.0	— 3.9	77	ESE	11	5			0						Astronomical Obs.
Wilna			30.49	774.4	20.7	— 6.3	67	Calm	0	0			1						Astronomical Obs.
Dorpat			30.43	772.8	25.5	— 3.6	92	WSW	7	3			10						Physical Cabinet.
St. Petersburg			30.26	768.7	30.7	— 0.7	93	WNW	13	6			4						Central Physical Obs.
Kuopio			30.17	766.2	22.5	— 5.3	96	NW	13	6			3						Ch. Forsten.
Kieff			30.46	773.6	19.6	— 6.9	81	ESE	7	3			10						Physical Cabinet.
Nikolajev			30.35	770.9	28.6	— 1.9	72	NE	18	8			4						Kurdakof.
Kertch			30.33	770.3	35.6	2.0	84	ENE	13	6			9						Lagorio.
Moscow			30.45	773.5	14.0	—10.0	67	SSW	9	4			5						Meteorological Obs.
Lugan			30.45	773.3	22.3	— 5.4	63	E	9	4			0						Meteorological Obs.
Archangel			29.62	752.3	23.4	— 4.8	90	W	29	13			10						Ogorodnikof.
Tiflis	28.94	735.0	30.41	772.4	41.7	5.4	82	SE	9	4			10					Raining	Physical Observatory.
Astrakhan			30.56	776.2	23.0	— 5.0	71	NE	7	3			0						Sebastianof.
Kasan			30.16	766.1	14.7	— 9.6	87	SW	16	7			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.03	737.4	30.09	764.2	— 2.4	—19.1	74	SW	9	4			10						Meteorogical Obs.
Nukuss			30.45	773.5	30.9	— 0.6	85	N	9	4			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.17	766.3	20.1	— 6.6	65	W	0	0			10						Meteorological Obs.
Yeniseisk			29.71	754.7	24.3	— 4.3	50	SW	9	4			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.5	45.1	7.3	21	NW	11	5			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.92	759.9	27.5	— 2.5	66	NW	7	3			3						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.04	763.0	55.0	12.8	71	NE	0.7	0.33		1	0	NW		0	0	Light clouds	Royal Observatory.
San Fernando			30.08	764.0	66.2	19.0	72	SW	7.6	3.4		3	3	W	SW	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.15	765.9	18.0	— 7.8	94	W			2		2			0	0		
Umea			30.28	769.2	24.4	— 4.2	94	Calm			0		7			0	0		
Hernosand			30.30	769.5	29.1	— 1.6	88	Calm			0		8			0	0		
Stockholm			30.37	771.4	28.2	— 2.1	94	Calm			0		7			0.008	0.2		
Wisby			30.41	772.3	35.2	1.8	82	SSE			2		10			0	0		
Sub-Series.																			
Upsala			30.15	765.8	29.5	— 1.4	89	SSW	6.3	2.8			3c,ck	W,NE		0.002	0.04		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.61	726.7	30.07	763.8	42.6	5.9	69	NNE			7		9			0	0	Covered	The Observatory.
Zurich	28.48	723.4	30.18	766.5	37.4	3.0	87	NE			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +0.1 mm; Thermometer, +0.4 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.98	761.6	60.3	15.7	55	ESE	16	7.0			9		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.84	757.8	57.6	14.2		SE			1		10						
Valona			29.82	757.3	55.4	13.0		W			1		5			Blank	Blank		
Varna			29.96	761.0	48.2	9.0		NW			3		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.15	765.8	72.1	22.3	77	SW			2		5ks		SW	0.78	19.8	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			30.13	765.3	33.7	0.9	86	E	8	3.6			7			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.89	759.2	43	6.1		E	5	2.2			10s		E	0.02	0.5	Light rain	W. R. Bigg.
*Chatham, N. B			30.08	764.0	34	1.1	80	NE	8	3.6			10s		E	0	0	Threatening	G. A. Blair.
Charlottetown, P. E. Island			30.03	762.7	36	2.2	90	NE	6	2.7		5cs	0			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.92	760.0	35.0	1.7	62	E			3		10n			0.207	5.21	Rainy	James Smith, M. A.
Dalhousie, N. B			30.14	765.5	32.4	0.2	80	E			2					0	0	Overcast	H. A. Johnson.
Esquimault, B. C			30.18	766.6	45.8	7.7	92	NE					10			0.46	11.7	Cloudy	W. H. Bevis.
Fredericton, N. B			30.17	766.3	34.0	1.1	75	E	14	6.3			10ks			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.31	769.9	10	—12.2	94	NW	15	6.7			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.76	755.9	34.8	1.6	79	SW			4		10n			0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.63	727.2	29.76	755.9	32	0.0	90	W			4		10n			0.18	4.6	Cloudy	James Grant.
*Halifax, N. S			29.91	759.7	34	1.1	80	N	10	4.5			5ks		N	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.81	757.2	45	7.2	96	SE	14	6.3			10ks		SW	0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			30.00	762.0	36.5	2.5	95	SE	14	6.3		9n	0	SE		0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.92	760.0	30	— 1.1	93	NE	9	4.0			10n			Inap.	Inap.	Light rain	C. H. McLeod, C. E.
*Ottawa, Ontario			29.82	757.4	36	2.2	85	E	10	4.5			10n		E	0.03	0.8	Light rain	J. B. Haney.
*Parry Sound, Ontario			29.63	752.6	41	5.0	91	S	11	4.9			10n		S	0.37	9.4	Light rain	Rev. R. Mosley.
Port Dover, Ontario			29.78	756.4	39	3.9	82	SW	19	8.5		10n	0	SW		0.04	1.0	Cloudy	H. Morgan.
Port Hastings, N. S			29.98	761.5	38.9	3.8		SE	10	4.5						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.83	757.7	36	2.2	80	W	20	8.9			10n		SW	0.13	3.3	Cloudy	M. Payne.
*Quebec, Quebec			30.04	763.0	31	— 0.6	100	NE	31	13.9			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.03	762.7	34	1.1	79	N	8	3.6			7ks			0	0	Fine	G. Murdoch, C. E.
*Saugeen, Ontario			29.67	753.6	37	2.8	81	W	16	7.1			10n		W	0.22	5.6	Cloudy	K. Stewart.
Stayner, Ontario			29.65	753.1	40	4.4	82	W	6	2.7			10n		W	0.08	2.0	Light rain	R. J. Cole.
Stratford, Ontario	28.42	721.9	29.74	755.4	32.5	0.3	94	SW	15	6.7			10n			0.127	3.23	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			30.05	763.3	36	2.2	74	NE	12	5.4			10ks		E	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.75	755.6	41	5.0	80	SW	14	6.3			5k		SW	0.13	3.3	Clearing	Magnetic Observatory.
Woodstock, Ontario			29.80	756.9	35.2	1.8	85	SW	12	5.4			10s		W	0.07	1.8	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.26	768.6	30.5	— 0.8	90	NE	3	1.3						0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.91	759.7	41	5.0	83	S	3	1.3			10ks		S	0	0	Cloudy	
Alpena, Mich.			29.59	751.6	37	2.8	90	SW	12	5.4			10s		SW	0.22	5.6	Cloudy	
Atlantic City, N. J.			29.96	761.0	45	7.2	92	N	4	1.8			10s			Inap.	Inap.	Cloudy	
Augusta, Ga.			30.05	763.3	42	5.6	91	Calm	0	0		2cs	Fog	W		0	0	Fair	
Baltimore, Md.			29.96	761.0	49	9.4	85	SW	4	1.8		2c	2s	SW		Inap.	Inap.	Fair	
Barnegat, N. J.			29.97	761.2	45	7.2	84	NE	11	4.9			10s		NW	0.09	2.3	Cloudy	
Bismarck, Dakota	28.56	725.4	30.39	771.9	8	—13.3	68	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.96	761.0	36	2.2	100	N	9	4.0			10n			0.39	9.9	Light rain	
Breckenridge, Minn.			30.26	768.6	19	— 7.2	84	NW	8	3.6			10s			0	0	Cloudy	
Buffalo, N. Y.			29.74	755.4	43	6.1	100	W	22	9.8			10n		W	0.10	2.5	Light rain	
Burlington, Vt.			29.92	760.0	38	3.3	80	S	2	0.9			10s			0.06	1.5	Cloudy	
Cairo, Ill.			30.21	767.3	30	— 1.1	68	W	5	2.2		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.94	760.5	47	8.3	85	Calm	0	0		1c	0			0.01	0.3	Clear	
Cape Henry, Va.			29.98	761.5	46	7.8	84	Calm	0	0		5c	0	W		0	0	Fair	
Cape Lookout, N. C.			30.01	762.2	52	11.1	93	Calm	0	0		0	Haze			0	0	Clear	
Cape May, N. J.			29.98	761.5	49	9.4	85	Calm	0	0			Fog			0	0	Foggy	
Charleston, S. C.			30.04	763.0	50	10.0	64	W	8	3.6		0	0			0	0	Clear	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	20	— 6.7	85	N	12	5.4		2ck	8s	N	N	0.01	0.3	Cloudy	
Chicago, Ill.			29.94	760.5	28	— 2.2	88	SW	14	6.3		0	5s			0.34	8.6	Fair	
Cincinnati, Ohio			29.99	761.7	35	1.7	70	W	8	3.6		0	8s		W	0.01	0.3	Fair	
Cleveland, Ohio			29.87	758.7	36	2.2	70	SW	20	8.9			10s		SW	0.02	0.5	Cloudy	
Corsicana, Tex.			30.20	767.1	43	6.1	66	NE	7	3.1		Haze	8s		W	0	0	Cloudy	
Davenport, Iowa			30.13	765.3	17	— 8.3	83	W	14	6.3		Haze	0			0.01	0.3	Clear	
Denison, Tex.			30.27	768.8	39	3.9	55	NE	8	3.6		8ck	2s	N		0	0	Cloudy	
Denver, Col.	25.01	635.2	30.23	767.8	25	— 3.9	88	N	12	5.4			10n			0.05	1.3	Light snow	
Detroit, Mich.			29.81	757.2	32	0.0	89	SW	16	7.2			10s		W	0.06	1.5	Cloudy	
Dodge City, Kan.	27.62	701.5	30.02	762.5	33	0.6	79	NE	1	0.4		2c	5s	SW	SW	0	0	Fair	
Dubuque, Iowa			30.10	764.5	15	— 9.4	65	W	7	3.1		0	0			0.20	5.1	Clear	
Duluth, Minn.			30.04	763.0	17	— 8.3	84	NW	6	2.7		0	5s		W	0.39	9.9	Fair	
Eastport, Me.			29.98	761.5	37	2.8	71	NE	26	11.6		8c	5s	W	NE	0	0	Cloudy	
Erie, Pa.			29.81	757.2	40	4.4	73	SW	20	8.9			10ks		W	0	0	Cloudy	
*Escanaba, Mich.																0.63	16.0		
Fort Gibson, Indian Ter.			30.27	768.8	33	0.6	69	N	4	1.8		2ck	0	W		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.02	737.1	30.19	766.8	34	1.1	61	N	6	2.7			8cs			0	0	Cloudy	
Fort Sully, Dakota	28.59	726.2	30.38	771.6	23	— 5.0	86	NW	20	8.9			10s		NW	0.04	1.0	Cloudy	
Florence, Arizona	28.41	721.6	29.96	761.0	45	7.2		SE				0	0			0	0	Clear	
Galveston, Tex.			30.12	765.0	58	14.4	69	NE	14	6.3			10s		S	0.06	1.5	Cloudy	
Grand Haven, Mich.			29.72	754.9	37	2.8	85	W	33	14.8			10n		W	0.55	14.0	Light rain	
Indianapolis, Ind.			30.04	763.0	31	— 0.6	89	W	5	2.2			10s			0.09	2.3	Cloudy	
Indianola, Tex.			30.08	764.0	59	15.0	70	NE	20	8.9			8s			0	0	Cloudy	
Jacksonville, Fla.			30.11	764.8	46	7.8	85	SW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			30.14	765.5	21	— 6.1	85	NW	10	4.5		0	0			0.04	1.0	Clear	
Key West, Fla.			30.07	763.8	66	18.9	90	N	12	5.4		0	8ks			0	0	Cloudy	
Kittyhawk, N. C.			30.02	762.5	44	6.7	92	Calm	0	0		5c	0	NW		Inap.	Inap.	Fair	
Knoxville, Tenn.			30.12	765.0	34	1.1	90	N	1	0.4		1ck	Fog	SW		0	0	Foggy	
La Crosse, Wis.			30.06	763.5	19	— 7.2	69	W	11	4.9		0	0			0.40	10.2	Clear	
Leavenworth, Kan.			30.32	770.1	24	— 4.4	88	NW	4	1.8		0	0			0	0	Clear	
Louisville, Ky.			30.08	764.0	34	1.1	69	SW	10	4.5			10s		SW	0.01	0.3	Cloudy	
Lynchburg, Va.			29.97	761.2	42	5.6	95	Calm	0	0			Fog			0	0	Foggy	
Malone, N. Y.			29.82	757.4	33	0.6	100	NE	3	1.3			10n		NE	0.10	2.5	Light rain	
Marquette, Mich.			29.67	753.6	30	— 1.1	79	NW	24	10.7			10s			0.54	13.7	Threatening	
Memphis, Tenn.			30.24	768.1	36	2.2	71	NW	9	4.0		5c	Sm'e	W	NW	0	0	Fair	
Milwaukee, Wis.			29.85	758.2	28	— 2.2	88	W	19	8.5		0	5s		W	0.17	4.3	Fair	
Mobile, Ala.			30.16	766.1	52	11.1	86	S	2	0.9		5c	Fog	NW		0	0	Fair	
Montgomery, Ala.			30.14	765.5	47.5	8.6	92	SW	2	0.9		0	Fog			0	0	Foggy	
Morgantown, W. Va.	28.86	733.0	29.92	760.0	45	7.2	76	SW	8	3.6			10s		SW	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.62	599.9	29.98	761.5	30	— 1.1	100	E	24	10.7			Fog			0	0	Foggy	
Nashville, Tenn.			30.15	765.8	34	1.1	90	NW	2	0.9		0	Fog			0	0	Clear	
New Haven, Conn.			29.97	761.2	40	4.4	82	NE	10	4.5			10s		NE	Inap.	Inap.	Cloudy	
New London, Conn.			29.96	761.0	41	5.0	82	N	5	2.2			10s		N	0	0	Cloudy	
New Orleans, La.			30.13	765.3	58	14.4	75	NE	6	2.7		9k	0	NW		0	0	Cloudy	
Newport, R. I.			29.95	760.7	40	4.4	91	N	10	4.5			10ks		N	0.03	0.8	Threatening	
New York, N. Y.			29.98	761.5	42	5.6	83	E	2	0.9			10s, fg		W	0.06	1.5	Cloudy	
Norfolk, Va.			30.00	762.0	44	6.7	92	N	1	0.4		2c	Fog			Inap.	Inap.	Fair	
North Platte, Neb.	27.32	693.9	30.01	762.2	32	0.0	89	NW	8	3.6			10ks		NW	0	0	Cloudy	
Omaha, Neb.	29.13	739.9	30.30	769.6	19	— 7.2	84	NW	4	1.8		5c	0			0	0	Fair	
Oswego, N. Y.			29.81	757.2	46	7.8	88	SE	7	3.1			10s		SW	0.01	0.3	Threatening	
Pembina, Dakota			30.27	768.8	13.5	10.3	81	NW	14	6.3			10s		NW	0	0	Cloudy	
Philadelphia, Pa.			29.98	761.5	46	7.8	84	S	5	2.2			10s			Inap.	Inap.	Cloudy	
Pike's Peak, Col.	17.58	446.5	29.78	756.4	— 8	—22.2	100	N	6	2.7			5n		N	0.08	2.0	Light snow	
Pittsburgh, Pa.			29.88	758.9	43	6.1	66	W	12	5.4			10ks		W	Inap.	Inap.	Cloudy	
Port Huron, Mich.			29.78	756.4	32	0.0	89	SW	14	6.3			10n		SW	0.12	3.0	Light snow	
Portland, Me.			29.97	761.2	37	2.8	71	N	8	3.6			10s, fg			0.06	1.5	Cloudy	
Portland, Oregon			30.28	769.1	44	6.7	76	S	2	0.9			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.11	764.8	56.5	13.6	77	N	12	5.4		0	0			0	0	Clear	
Rochester, N. Y.			29.74	755.4	46	7.8	76	SW	10	4.5		2k	Fog	SW	SW	0.01	0.3	Fair	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	30	— 1.1	48	N	8	3.6		0	0			0	0	Clear	
Sandy Hook, N. J.			29.94	760.5	44	6.7	83	NE	9	4.0			10ks		NE	0.01	0.3	Cloudy	
San Diego, Cal.			30.04	763.0	49	9.4	85	N	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.14	765.5	53	11.7	79	W	6	2.7		0	0			0	0	Clear	
Santa Fé, N. M.	23.17	588.5	29.71	754.6	30	— 1.1	89	W	2	0.9			10n			0.02	0.5	Light snow	
Savannah, Ga.			30.07	763.8	50	10.0	59	W	5	2.2		0	Sm'e			0	0	Clear	
Shreveport, La.			30.28	769.1	40	4.4	82	N	2	0.9		0	0			0	0	Clear	
Smithville, N. C.			29.99	761.7	50	10.0	86	NW	5	2.2		0	0			0	0	Clear	
Springfield, Mass.			29.96	761.0	41	5.0	82	NE	4	1.8			10s			0	0	Cloudy	
St. Louis, Mo.			30.23	767.8	25	— 3.9	75	NW	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.11	764.8	37	2.8	95	NW	1	0.4		0	0			0	0	Clear	
St. Paul, Minn.			30.11	764.8	13	—10.6	80	NW	1	0.4		0	0			0.04	1.0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.95	760.7	40	4.4	91	NE	20	8.9			10s		NE	0.74	18.8	Cloudy	
Toledo, Ohio			29.83	757.7	35	1.7	80	SW	28	12.5			10s		SW	0.10	2.5	Cloudy	
Tucson, Arizona	27.48	698.0	30.04	763.0	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.08	764.0	50	10.0	53	W	4	1.8		0	0			0	0	Clear	
Vicksburg, Miss.			30.24	768.1	40	4.4	82	NE	4	1.8		2c	0	W		Inap.	Inap.	Fair	
Virginia City, M. T.	24.53	623.0	30.01	762.2	11	—11.7	79	Calm	0	0		1k	0	W		0	0	Clear	
Washington, D. C.			29.97	761.2	47	8.3	92	W	4	1.8		0	8ks		W	Inap.	Inap.	Fair	
Wilmington, N. C.			30.01	762.2	47	8.3	92	S	1	0.4		0	Fog			0	0	Fair	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.92	760.0	46	7.8	85	N	4	1.8			10n			0.43	10.9	Light rain	
Yankton, Dakota	28.96	735.6	30.39	771.9	11	—11.7	80	Calm	0	0			10s		W	0	0	Cloudy	
Yuma, Arizona			30.11	764.8	58	14.4		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.10	764.5	77	25.0	86	Calm	0	0		10c	8n		SE	0.62	15.7		James Gall.
Navassa, W. I.					77	25.0		NE			1					0.30	7.6	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.94	760.5	64	17.8	88									1.40	35.6		C. Partridge.
Paramaribo, D. Guiana, S. A.			30.02	762.5	81	27.2	87	E			2	6k	5ks	E		0.30	7.6	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.08	763.9			80.6	27.0		NE								0.41?	10.5		Dr. H. Groot.
Medellin, Colombia, S. A.	25.18	639.6			67.5	19.7	84	Calm			0	7cs	1ks			0.04	1.0	Cloudy	Thomas Herran.
York Factory, B. A.			30.07	763.8	15.0	— 9.4	100	N	14	6.3			10n			0.96	24.4		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	75.5	24.2		NE			3					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from ↓		
Schooner Addie Fuller, at Hyannis, Mass.			29.86	758.4	43	6.1	100	NE	12	5.4			10d		NE			Light rain	Capt. James Jorgensen.
Steamer Berlin, N. 40°, 48′, W. 59°, 1′.	E by N	5	29.36	745.7	64.6	18.1		ENE			7		..k,d			Heavy sea.		Raining	Capt. C. Pohle.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. * Observation not simultaneous.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 23, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
2:44 P. M. ST. PETERSBURG mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.16	766.1	68.4	20.2	62	Calm			0		4			0	0	Fair	Charnot.
Algiers			30.09	764.3	64.8	18.2	72	NNE			1		8			0.079	2.0	Cloudy	Peter.
La Calle			30.07	763.6	60.4	15.8	69	NW			3		3			0.354	9.0	Fair	Fleury.
Tunis			30.09	764.2	59.7	15.4	58	NW			4		4			0.087	2.2	Fair	Jacques.
Sfax			30.15	765.7															
Saida			30.10	766.8	60.3	15.7	53	NW			1		2			0	0	Clear	Millot.
Tebessa			30.07	763.7	54.5	12.5		NW			2		6			0	0	Fair	Bourgeois.
Geriville					60.1	15.6	25	NNE			3		2			0	0	Clear	Lemaillot.
Laghouat			30.20	767.1	66.2	19.0	46	N			1		0			0	0	Clear	Guyot.
Biskra			30.22	767.5	71.1	21.7	35	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.15	765.8	32.4	0.2	92	NE			1		10			0.067	1.7	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.33	770.4	25.2	— 3.8	95	NNE			3		10			0.039	1.0		Dr. Wierzbiski.
Eperies			30.22	767.6	32.0	0.0	74	Calm			0		10		N	0.157	4.00		Julius Mikolik.
Gratz	28.88	733.5	30.19	766.9	33.1	0.6	88	SSW			2		10			0.894	22.7		Andreas Rospini.
Hermannstadt	28.65	727.8	30.12	765.1	40.1	4.5	78	NE			1		6			0	0		Prof. Reissenberger.
Kremsmünster	28.76	730.5	30.18	766.5	29.1	— 1.6	88	ENE			3		5			0.110	2.8		Prof. C. Wagner.
Lemberg			30.33	770.3	24.4	— 4.2	95	E			2		10			0.047	1.2		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.00	761.9	45.0	7.2	55	NE			2		38			0	0		I.R. Hydrographic Of'ce
Szegedin			30.11	764.7	40.1	4.5	54	N			2		10			0.337	8.55		Karl Stancel.
Trieste			30.03	762.7	42.8	6.0	55	N			2		2			0	0	Partly cl'dy.	Prof. V. Farolfi.
Vienna			30.21	767.4	29.8	— 1.2	78	N			1		10			0.110	2.8		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.19	766.7	38.7	3.7	76	E			3	0	2k		ESE	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.04	763.0	41.9	5.5		SSE	28	12.5			9			0	0	Overcast	William Boswell.
Ardrossan			30.01	762.2	43	6.1		SE			5		8					Overcast	William McNeil.
Armagh, Observatory			29.87	758.7	47.0	8.3		SE	26	11.6			10					Squally	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.72	754.9	49.7	9.8		SE			4-5		10					*D. clouds	J. Dreyer.
Bradford			30.10	764.5	38.9	3.8		E			4		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	84.0	28.9		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.14	765.5	41.0	5.0		SE			1		10					Overcast	H. Todd. [H.C.
Cardington			30.14	765.5	39.0	3.9		SE			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.10	764.5	39.2	4.0		SE			1		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.50	723.9	30.05	763.3	36.0	2.2		SE			6		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.74	628.4			28.0	— 2.2	76	NE			1		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.91	759.7	46	7.8		S			5		10					Overcast	J. Mac Gowan.
Dover			30.05	763.3	41	5.0		NE			3		8					Overcast	J. Costello.
Eccles, (near Manchester)			30.08	764.0	39.5	4.2		SSE	8.6	3.8			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.92	760.0	44.6	7.0		SE			6		10					Overcast	The Staff.
Fort Napier, (Natal)	27.52	699.0	29.76	755.9	66.5	19.2		E			1		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.92	760.0	86.0	30.0		N			0		5					*D. clouds	
Galway, Queen's College			29.67	753.6	51	10.6		S			8		9					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.10	764.5	67.2	19.6		NW			3		5					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.01	762.2	38.3	3.5		SE			1		8					*D. clouds	Lewis Stuart.
Great Yarmouth			30.18	766.6	41	5.0		ESE			4		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.15	765.8	38.7	3.7		SE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			30.00	762.0	41	5.0		ESE			4		8					*D. clouds	Dr. S. E. Hoskins.
Helston			29.87	758.7	47	8.3		SE			6		10k			0	0		M. P. Moyle.
Holyhead			29.93	760.2	43	6.1		SSE			2		3					*D. clouds	John Tilston.
Kew, Observatory			30.14	765.5	39.8	4.3		SE	13	5.8			10					Misty	The Staff.
Kingstown			29.88	758.9	48	8.9		SSE			6		10					Overcast	George Mitchell.
Leicester Museum			30.15	765.8	38.2	3.4		E			2		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	59.2	15.1		NW			3		10					Overcast	Corp'l. P. Bravis, A.H.C.
Nairn			29.92	760.0	47	8.3		SE			2		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.09	764.3	74.0	23.3		NE			4		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.14	765.5	38.0	3.3		SSE			3		10k,d		SE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.10	764.5	37.0	2.8		SE			4		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.09	764.3	41	5.0		ESE			1		10					Misty	J. Lucas.
Plymouth			29.98	761.5	44.4	6.9		SE			5		10					Overcast	John Merrifield.
Roche's Point			29.72	754.9	53	11.7		SSE			8		10					Gale	W. Kennedy.
Saint Ann's Head			29.92	760.0	45	7.2		SE			7		8					Overcast	John C. Walker.
Saint Helier, (Jersey)			30.02	762.5	42.3	5.7		SE			4		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.92	760.0	45	7.2		SE	30	13.4			2					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.07	763.8	61.2	16.2		W			1		9					Raining	Sergt. W. H. Lyne.
Sheffield			30.14	765.5	39.4	4.1		S			2		10			0	0	Overcast	W. F. Cooper.
Stilloth Rectory			30.02	762.5	42.0	5.6	76	SE			2		2			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.09	764.3	38.3	3.5		SE					10					Overcast	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.85	758.2	47	8.3		S			7		10					Gloomy	John Smith.
Stratfield Turgiss			30.07	763.8	41.1	5.1		SE			1		10					Overcast	Rev. Charles H. Griffith
Thurso			29.88	758.9	47	8.3		SSE			3		8					Gloomy	John Trotter.
Truro, Royal Institution			29.92	760.0	47	8.3		SE			7		10					Gloomy	W. Newcombe.
Valencia, Observatory			29.51	749.5	52.7	11.5		SSE	42	18.8			10					Raining	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					43	6.1		S			6		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.10	764.5	75.0	23.9	49	SSE	20	8.9		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.71	754.6	61.0	16.1	82	S			2		10kn			0.12	3.0	Drizzling	Francis Abbott, F.R.A.S.
Leith, Restdrig Park			30.04	763.0	39.9	4.4		SW			2		10k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				NE	16.8	7.5						0	0		C. Meldrum.
Melbourne, Observatory			29.91	759.7	50.0	10.0	80	WNW	9	4.0			1			0.10	2.5	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.72	754.9	47	8.3		S			8		10			0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.94	760.5	46	7.8		S			7		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.42	772.6	35.4	1.9	84	E			2		2						
Fanöe			30.38	771.7	33.3	0.7	87	SE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.44	747.8	40.5	4.7	94	SE			4		8						
Thorshavn, (Faröe)			29.67	753.6	50.7	10.4	94	SSW			6		10					Raining	
Vestervig			30.41	772.4	31.6	— 0.2	89	SE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co .peration of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.09	764.2	50.0	10.0	87	E			2		2ck		NE	0	0	Slightly cl'dy	Normal School.
Amiens			30.08	763.9	41.0	5.0	74	ESE			4		5		SE	0	0	Cloudy	Normal School.
Avignon			30.01	762.3	49.3	9.6	59	N			2		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.12	765.0	39.7	4.3	73	E			2		5		E	0	0	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.95	760.8	43.9	6.6	70	E	12.5	5.6						0	0		Beaumette Observ'tory.
Beauvais			30.16	766.0	39.2	4	72	E			2		10		ESE	0	0	Covered	Normal School.
Besançon			30.11	764.7	41.0	5	78	NE			4		8		E	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.16	766.0	33.3	0.7	89	S			1				W	0	0	Foggy	Normal School.
Bourges			30.11	764.7	37.4	3	97	NE			2		0			0	0	Clear	Normal School.
Brest			29.87	758.7	43.3	6.3	78	SSE			5		10		SSE	0	0	Misty	Naval Observatory.
Carcassonne			29.97	761.3	50.0	10	60	E			4		1		W	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.08	764.0	38.8	3.8	87	E			1		7		E	0	0		Normal School.
Châlons-sur-Marne			30.14	765.6	42.8	6.0	56	SE			2		5k		NNW	0	0	Cloudy	Normal School.
Clermont			30.07	763.7	36.3	2.4	85	SE			1		2			0	0		Puy de Dome Obs'y.
Commercy			30.14	765.6	39.0	3.9	73	E			2		2kn		S	0	0	Slightly cl'dy	Normal School.
Commune de Gréasque*			30.05	763.2	51.6	10.9	56	S			4		5		S	0	0		M. Kina.
Grenoble			30.03	762.8	43.5	6.4	66	NE			2		0			0	0	Clear	Normal School.
La Roche-sur-Yon					44.6	7.0	71	E			2		0			0	0	Clear	Normal School.
Le Mans			30.09	764.3	41.7	5.4	88	ESE			4		0			0	0	Clear	Normal School.
Lons-Le-Saulnier			30.09	764.2	33.1	0.6	100	W			2					0	0	Foggy	Normal School.
Lorient			30.01	762.2	42.8	6.0	67	ESE			4		10			0.008	0.2	Covered	Naval Observatory.
Mâcon			30.16	766.1	35.2	1.8	96	N			1		10			0	0	Covered	Normal School.
Metz			30.21	767.2	38.7	3.7	68	NE			3		0			0	0	Clear	M. Schuster.
Mirecourt			30.11	764.8	45.9	7.7	76	N					10		S	0	0	Covered	Normal School.
Nismes			29.98	761.5	54.9	12.7	74	NE			2		0			0	0	Clear	Normal School.
Orleans			30.07	763.6	40.6	4.8	90	NE			2		10			0	0	Covered	Normal School.
Paris, Observatory			30.13	765.3	39.0	3.9	66	ESE			2		10			0	0	Misty	National Observatory.
Parthenny																			Normal School.
Privas			30.08	764.0	43.9	6.6		S			2		0			0	0	Clear	Normal School.
Rochefort, Observatory			30.00	761.9	47.5	8.6	65	ENE			3		0			0.020	0.5	Blue sky	Naval Observatory.
Rouen			30.12	765.0	40.3	4.6	87	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.79	731.3	29.87	758.8	53.6	12		W			2		2		E	0	0	Slightly cl'dy	Normal School.
Villefranche			30.17	766.4	44.6	7	93	NW			2		5		SW	0.008	0.2	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.85	758.3	81.3	27.4													L'Abbé Marchési.
Marseilles			29.95	760.8	58.6	14.8	68	ESE			1		4			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.78	629.4	30.16	766.0	41.7	5.4	47	SW	13.0	5.83			2		WNW	0	0		—. Falguère.
Montsouris, Paris			30.11	764.7	38.7	3.7	73	E			1		10			0	0		Montsouris Observatory
Perpignan			30.00	762.1	52.7	11.5	62	SE	9.3	4.17			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.14	537.0			26.6	— 3.0		NNW			2		8					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.44	570.1			37.4	3.0		NNW			2		7			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			30.12	765.0	40.6	4.8	62	SE			1		8			0	0	Very cloudy	E. Renou.
Toulouse			29.99	761.8	46.2	7.9	77	SE			1		0			0	0	Hazy	Toulouse Observatory.
Tours			30.05	763.2	42.4	5.8	73	NE			2		0			0	0	Clear	C. Marquet.
Versailles, (near Paris)			30.12	765.0	38.5	3.6	73	SE			1		10			0	0	Covered	Dr. A. Béringy.
Zi-Ka-Wei, (near Shanghai)			30.35	770.9	41.0	5.0	81	N	0.9	0.42			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.14	765.5	33.8	1.0	80	E			2		10			0	0		Prof. T. Hoh.
Berlin			30.34	770.6	29.1	— 1.6	67	E			1		2			0	0		Prof. Arndt.
Breslau			30.33	770.4	24.1	— 4.4	83	ESE			4		10			Inap.	Inap.	Snowing	Royal University Obs'y
Carlsruhe			30.17	766.2	37.0	2.8	70	NE			3		10			0	0		A. Senz.
Cassel			30.20	769.3	29.3	— 1.5	81	E			4		10	E		0	0		Dr. H. Möhl.
Emden			30.42	772.7	29.7	— 1.3	90	E			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.23	767.9	34.0	1.1	66	NE			2		10			0	0		Physical Society.
Friedrichshafen			30.13	765.2	36.7	2.6	75	NE			8		10			0	0		M. Wilhelm.
Hamburg			30.36	771.1	29.3	— 1.5	78	SE			1		2			0	0	Clear	Captain F. Hegemann.
Kiel			30.35	771.0	33.4	0.8	67	ESE			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.40	774.5	17.4	— 8.1	82	SE			2		2			0	0		Prof. E. Luther.
Koslin			30.43	773.0	28.4	— 2.0		NE			2		0			0	0		H. Müller.
Leipsic			30.34	770.5	27.0	— 2.8	79	ENE			3		10	NE		0	0		Prof. Bruhns.
Memel			30.54	775.8	23.0	— 5.0	74	SE			2		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			30.23	767.8	35.2	1.8	91	E			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.49	774.4	18.0	— 7.8	83	SSE			3		1			0.004	0.1	Smoke-haze.	A Lothe.
Posen			30.43	772.8	21.2	— 6.0	81	SE			7		10						Dr. Magener.
Strassburg, (in Alsace)			30.10	766.1	37.0	2.8	78	NE			2		10	NE		0	0		Dr. Schur.
Stuttgart			30.15	765.9	35.6	2.0	73	N			2		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.11	764.8	39.2	4.0	73	NE			6		1			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.61	726.6	30.19	766.8	32 4	0.2	80	NE	4	2			10	NE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.45	773.5	32.0	0.0	78	ESE			3		5			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," Porto-Grande, (Cape Verde Islands.)			30.13	765.4	80.8	27.1	72	NE			4		7		NE			Lt. smoke-haze.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.01	762.2	63.9	17.7		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.01	762.3	44.1	6.7	58	E	6.3	2.8			3			0	0		Prof. Giovanni Clodig.
Padua			30.02	762.5	47.1	8.4	56	NE	3.8	1.7			2	N		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.02	762.6	47.8	8.8	63	S	1.3	0.6			3	W		0	0		Alm. Da Schio.
Verona			30.04	762.9	50.0	10.0	62	W			1		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.67	728.2	30.02	762.5	42.8	6.0	71	S			1		8			0	0		Prof. Trionfini Carlo.
Domodossola			30.02	762.4	44.2	6.8	65	S			4		1			0	0		Prof. Giuseppe Calza.
Milan			30.07	763.8	41.4	5.2	95	ESE			2		7	WNW		0	0		Ab. Gio. Capelli.
Pavia			30.06	763.4	41.9	5.5	69	SE			1		9			0	0		Prof. Gio. Cantoni.
Moncalieri			30.06	763.5	41.0	5.0	86	NNW	0	0			10			0	0		Prof. P. F. Denza.
Mondovi	28.08	713.2	30.05	763.3	31.1	— 0.5	98	NW			2		10			0	0	Dense fog	Prof. C. Bruno.
Porto Maurizio			30.04	762.9	53.6	12.0	54	ESE			2		1			0	0		Prof. L. Vassallo
Genoa			29.99	761.7	55.6	13.1	37	N	0.7	0.3			0			0	0		Prof. Garibaldi.
Piacenza			30.06	763.5	41.2	5.1	79	NW	0.7	0.3			10			0	0		Dott. G. Manzi.
Parma			30.07	763.7	41.5	5.3	80	NNE			2		10			0	0		Prof. P. Pigorini.
Bologna			30.04	763.1	46.6	8.1	50	NW			1		4	E		0	0		Prof. A. Palagi.
Florence			30.00	762.1	48.2	9.0	58	NE			4		3			0	0		Cav. F. Meucci.
Leghorn			30.00	761.9	51.4	10.8	39	ENE	9.4	4.2			1			0	0		Prof. P. Monte.
Siena	28.71	729.3	29.94	760.5	46.2	7.9	54	N	0	0			4	N		0	0		Prof. L. Toscani.
Urbino	28.43	722.0	30.02	762.6	39.2	4.0	88	NNE			4		10			0.59	15.0	Raining	Prof. P. Serpieri.
Pesaro			30.00	762.0	48.0	8.9	64	NNE	45.4	20.3			10	NE		0.016	0.4	Light rain	Prof. Luigi Guidi.
Ancona			29.98	761.6	47.1	8.4	81	SW			4		10			0.71	18.1	Raining	Prof. F. De— Bosis.
Grosseto			29.98	761.4	52.0	11.1	51	N			4		4	SE		0	0		Avv. P. Ponticelli.
Rome			29.92	759.9	49.6	9.8	64	NE	1.3	0.6			7			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U			29.89	759.1	50.4	10.2	66	NE			4		9	SW		0.490	12.6	Raining	Prof. L. Palmieri.
Lecce			29.95	760.8	56.7	13.7	80	W	6.3	2.8			9	S		0.078	2.0	Raining	Prof. C. De—Giorgi.
Cosenza			29.97	761.1	53.2	11.8	74	NE	3.8	1.7			10			0.32	8.2	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.91	759.7	62.6	17.0	80	E			2		8			0	0		Prof. F. Cafiero.
Palermo			29.89	759.2	58.8	14.9	52	WSW	3.1	1.4			7	WSW		0.150	3.8	Light rain	Prof. G. Cacciatore.
Caltanissetta	27.95	709.9	29.91	759.7	50.4	10.2	70	WNW			1		4	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.92	759.9	46.9	8.3	78	NE	1.8	0.8			10	NE		0.125	3.1		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.23	767.7	39.2	4.0		SE			4								
Groningen			30.25	768.3	32.9	0.5		E			3								
Helder			30.27	768.8	34.2	1.2		E			2								
Utrecht			30.22	767.5	34.0	1.1	76	E			2		10			0	0	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.26	768.5	39.2	4.0	80	SE	29	13			10			0.004	0.1		
Brönö			29.98	761.6	38.8	3.8	87	S	18	8			10			Inap.	Inap.	Light rain	
Christiania			30.34	770.7	34.0	1.1	83	SSW	7.2	3.2			10			0	0	Light fog	
Tromsö			29.85	758.2	24.8	— 4.0	91	Calm	0	0			10			0.311	7.9		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.01	762.2	59.7	15.4	76	WSW	1.8	0.8			4			0.051	1.3		Dr. J. A. Sampaio.
Campo Major			30.10	764.6	56.5	13.6	93	SW	4.3	1.9			9	SE		0.091	2.3		Dr. A. M. R dos Santos.
Funchal, (Madeira,)			30.17	766.4	70.2	21.2	64	WSW	4.3	1.9			1			0	0		Capt. D. A. de Cunha.
Lisbon			30.12	765.0	61.9	16.6	89	E	2.5	1.1			5	W		0.673	17.1		The Observatory.
Ponta Delgada, (Azores)			30.07	763.8	64.4	18.0	59	SW	16.8	7.50			4	NE		0.016	0.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.42	772.6	22.3	— 5.4	85	E	13	6			9						Astronomical Obs.
Wilna			30.62	777.8	18.5	— 7.5	87	SSE	4	2			10						Astronomical Obs.
Dorpat			30.57	776.4	22.5	— 5.3	89	SSW	4	2			0						Physical Cabinet.
St. Petersburg			30.42	772.6	33.4	0.8	96	WSW	18	8			10						Central Physical Obs.
Kuopio			30.19	766.7	32.7	0.4	92	W	18	8			10						Ch. Forsten.
Kieff			30.54	775.7	21.0	— 6.1	79	ENE	7	3			10						Physical Cabinet.
Nikolaiev			30.42	772.6	31.5	— 0.3	81	NE	7	3			10					Snowing	Kurdakof.
Kertch			30.40	772.1	38.3	3.5	87	ENE	11	5			7						Lagorio.
Moscow			30.64	778.3	18.0	— 7.8	94	SSW	4	2			10						Meteorological Obs.
Lugan			30.54	775.6	26.6	— 3.0	57	ENE	11	5			1						Meteorological Obs.
Archangel			30.04	763.0	22.6	— 5.2	90	W	18	8			8						Ogorodnikof.
Tiflis	29.02	737.1	30.50	774.7	41.7	5.4	74	Calm	0	0			10						Physical Observatory.
Astrakhan			30.62	777.8	28.4	— 2.0	68	Calm	0	0			0						Sebastianof.
Kasan			30.25	768.4	18.1	— 7.7	89	W	16	7			2						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.85	732.8	29.86	758.5	16.0	— 8.9	73	WSW	22	10			10						Meteorogical Obs.
Nukuss			30.54	775.6	25.5	— 3.0	69	NE	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.45	773.4	2.3	—16.5	80	SW	9	4			0						Meteorological Obs.
Yeniseisk			29.95	760.8	8.8	—12.9	85	S	4	2			4						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.29	769.4	37.0	2.8	54	SW	7	3			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			29.97	761.2	26.2	— 3.2	72	Calm	0	0			10			Blank	Blank		
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.10	764.6	52.0	11.1	81	SW	3.0	1.33		0	0			0.031	0.8	Almost cov'd	Royal Observatory.
San Fernando			30.16	766.0	65.3	18.5	76	WSW	4.0	1.8		0	10		SW	0.031	0.8		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.05	763.2	21.6	— 5.8	95	N			2		10			0	0		
Umea			30.18	766.5	29.5	— 1.4	100	SW			2		10			0	0		
Hernosand			30.18	766.5	26.8	— 2.9	83	SSW			2		1			0	0		
Stockholm			30.41	772.4	27.9	— 2.3	97	SSW			2		10			0	0	Foggy	
Wisby			30.56	776.3	36.0	2.2	72	SW			4		7			0	0		
SUB-SERIES.																			
Upsala			29.98	761.6	30.2	— 1.0	90	SSW	10.7	4.8			10			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.61	726.8	30.09	764.2	38.8	3.8	71	ENE			2		10			0	0	Covered	The Observatory.
Zurich	28.42	721.8	30.12	765.0	36.3	2.4	76	NE			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +0.2 mm; Thermometer, —1.6 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.15	765.8	59.2	15.1	88	NW	9	4.0			9		S	0.453	11.5	Raining	
Fao, (Persian Gulf)			30.35	771.0	73.2	22.9		NW			3		0						
Salonica			30.06	763.5	59.0	15.0		NW			1		10						
Valona			29.92	759.9	57.7	14.3		SW			1		5						
Varna			30.00	762.0	59.0	15.0		NW			1		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.22	767.5	69.1	20.6	62	NE			1		8cs			0	0	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.99	761.7	32.9	0.5	95	SE	5	2.2			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.00	762.0	37	2.8		SW	5	2.2			10s		SW	0.05	1.3	Cloudy	W. R. Bigg.
*Chatham, N. B			29.98	761.5	33	0.6	94	Calm	0	0			10s			0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			30.04	763.0	36	2.2	85	NE	5	2.2			10n			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.89	759.2	38.2	3.4	86	NW			2		10s			0	0	Unsettled	James Smith, M. A.
Dalhousie, N. B			30.00	762.0	32.5	0.3	97	E			1					0.05	1.3	Snowing	H. A. Johnson.
Esquimault, B. C			30.20	767.1	42.1	5.6	100	N					10			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			30.03	762.7	34.0	1.1	89	Calm	0	0			10n			0.075	1.91	Snowing	Prof. Harrison.
*Fort Garry, Manitoba			30.15	765.8	4	—15.6	95	S	4	1.8			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.98	761.5	34.8	1.6	84	SW			3		10n			0.229	5.82	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.85	732.8	29.99	761.7	30	— 1.1	89	SW			2		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.99	761.7	36	2.2	88	N	6	2.7			8n			0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.99	761.7	38	3.3	94	W	9	4.0			10ks		W	0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			30.01	762.2	37.0	2.8	94	SE	8	3.6			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.93	760.2	38	3.3	90	SW	12	5.4		Haz	5s	SW	SW	0.37	9.4	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.91	759.7	37	2.8	81	S	6	2.7			10ks		W	0.10	2.5	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.91	759.7	33	0.6	89	S	16	7.2		2k	8ks	SW	SW	0.48	12.2	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.04	763.0	31	— 0.6	89	W	6	2.7		10k	0	W		0.05	1.3	Cloudy	H. Morgan.
Port Hastings, N. S			29.99	761.7	34.4	1.3		NE	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.05	763.3	33	0.6	87	W	12	5.4			10n		W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec			29.94	760.5	33	0.6	80	Calm	0	0			10n			0.01	0.3	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.04	763.0	36	2.2	90	Calm	0	0			10n			0.01	0.3	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.93	760.2	33	0.6	82	NW	10	4.5			10ks		W	0.09	2.3	Light rain	K. Stewart.
Stayner, Ontario			29.93	760.2	32	0.0	94	Calm	0	0			10n		NW	Inap.	Inap.	Light sleet	R. J. Cole.
Stratford, Ontario	28.66	728.0	30.00	762.0	29.0	— 1.7	92	SW	7	3.1			10s			Inap.	Inap.	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			30.04	763.0	35	1.7	90	NE	2	0.9		8c	2s		E	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario			30.01	762.2	34	1.1	81	SW	15	6.7			10n		SW	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.03	762.7	30.5	— 0.8	89	SW	15	6.7			10s			0.01	0.3	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.22	767.6	35.0	1.7	74	Calm	0	0		5k	10s			Inap.	Inap.	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.01	762.2	37	2.8	90	SW	1	0.4			Fog			0.03	0.8	Foggy	
Alpena, Mich.			29.94	760.5	26	— 3.3	76	W	4	1.8			10s		W	0.02	0.5	Cloudy	
Atlantic City, N. J.			30.06	763.5	43	6.1	83	N	4	1.8			10s		SW	0	0	Cloudy	
Augusta, Ga.			30.12	765.0	36	2.2	90	Calm	0	0		2cs	Fog	NW		0	0	Fair	
Baltimore, Md.			30.12	765.0	42	5.6	74	NW	4	1.8		5c	5s	SW		0	0	Cloudy	
Barnegat, N. J.			30.04	763.0	42	5.6	75	NW	8	3.6		10k	0	W		0	0	Cloudy	
Bismarck, Dakota	28.11	714.0	29.91	759.7	4	—15.6	74	Calm	0	0		0	5s			0	0	Fair	
Boston, Mass.			30.01	762.2	36	2.2	80	W	4	1.8		5c	Fog	W		0.07	1.8	Fair	
Breckenridge, Minn.			30.18	766.6	12	—11.1	90	S	4	1.8			10s			Inap.	Inap.	Cloudy	
Buffalo, N. Y.			30.00	762.0	32	0.0	89	NW	6	2.7			10n			0.38	9.7	Light snow	
Burlington, Vt.			29.97	761.2	42	5.6	74	S	6	2.7			10s			0.12	3.0	Cloudy	
Cairo, Ill.			30.26	768.6	32	0.0	69	SW	1	0.4		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.02	762.5	51	10.6	93	SE	2	0.9		Haze	Fog			0	0	Foggy	
Cape Henry, Va.			30.06	763.5	44	6.7	100	Calm	0	0			Fog			0	0	Foggy	
Cape Lookout, N. C.			30.09	764.3	57	13.9	93	Calm	0	0		0	Fog			0	0	Foggy	
Cape May, N. J.			30.06	763.5	45	7.2	75	N	8	3.6		10k	0	NW		0	0	Cloudy	
Charleston, S. C.			30.12	765.0	50	10.0	71	W	3	1.3		0	Sm'e			0	0	Clear	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	34	1.1	60	NW	20	8.9		0	2s		NW	0	0	Fair	
Chicago, Ill.			30.09	764.3	24	— 4.4	74	W	10	4.5		0	5s		W	0.01	0.3	Fair	
Cincinnati, Ohio			30.12	765.0	33	0.6	69	W	5	2.2		5ck	Sm'e	W		0	0	Fair	
Cleveland, Ohio			30.08	764.0	32	0.0	93	S	10	4.5			10s		S	0	0	Cloudy	
Corsicana, Tex.			30.29	769.4	39	3.9	91	N	5	2.2			10s			1.58	40.1	Cloudy	
Davenport, Iowa			30.23	767.8	22	— 5.6	72	NW	12	5.4			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			30.37	771.4	33	0.6	79	NW	4	1.8		1c	0			Inap.	Inap.	Clear	
Denver, Col.	24.85	631.2	30.07	763.8	25	— 3.9	88	S	9	4.0		0	0			0.05	1.3	Clear	
Detroit, Mich.			30.01	762.2	32	0.0	79	SW	8	3.6			10s		SW	0.03	0.8	Cloudy	
Dodge City, Kan.	27.56	700.0	30.01	762.2	23	— 5.0	73	W	7	3.1		0	0			0	0	Clear	
Dubuque, Iowa			30.17	766.3	22	— 5.6	85	W	4	1.8			10n			Inap.	Inap.	Light snow	
Duluth, Minn.			30.12	765.0	17	— 8.3	84	SW	2	0.9		0	5s		SW	0	0	Fair	
Eastport, Me.			29.98	761.5	40	4.4	91	SE	4	1.8			10s		SE	0.02	0.5	Threatening	
Erie, Pa.			30.04	763.0	34	1.1	79	S	18	8.0			10ks		SW	Inap.	Inap.	Cloudy	
Escanaba, Mich.			30.00	762.0	23	— 5.0	72	W	6	2.7		Haze	5s		NW	Inap	Inap.	Fair	
Fort Gibson, Indian Ter.			30.30	769.6	26	— 3.3	76	E	3	1.3		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.08	738.6	30.25	768.3	32	0.0	61	SW	2	0.9		0	0			0.02	0.5	Clear	
Fort Sully, Dakota	28.27	718.0	30.00	762.0	26	— 3.3	88	SE	7	3.1			10s		SE	0	0	Cloudy	
Florence, Arizona	28.66	728.0	30.21	767.3	50	10.0		NE				0	0			0	0	Clear	
Galveston, Tex.			30.17	766.3	47	8.3	85	NE	26	11.6			10n		NE	0.29	7.4	Light rain	
Grand Haven, Mich.			29.99	761.7	32	0.0	79	W	16	7.2			10n		W	0.03	0.8	Light snow	
Indianapolis, Ind.			30.13	765.3	30	— 1.1	89	Calm	0	0			10n			Inap.	Inap.	Light snow	
Indianola, Tex.			30.14	765.5	45	7.2	100	NE	28	12.5			10n		N	1.14	29.0	Light rain	
Jacksonville, Fla.			30.14	765.5	50	10.0	77	SW	4	1.8		8cs	0	SW		0	0	Fair	
Keokuk, Iowa			30.16	766.1	32	0.0	79	NW	8	3.6		0	0			0	0	Clear	
Key West, Fla.			30.07	763.8	68	20.0	90	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.09	764.3	45	7.2	100	SW	4	1.8		Fog	Fog			0.02	0.5	Foggy	
Knoxville, Tenn.			30.21	767.3	36	2.2	80	Calm	0	0			10s		NW	0	0	Cloudy	
La Crosse, Wis.			30.16	766.1	22	— 5.6	85	NW	8	3.6			10s		NW	0	0	Cloudy	
Leavenworth, Kan.			30.22	767.6	28	— 2.2	77	S	2	0.9		0	0			0	0	Clear	
Louisville, Ky.			30.18	766.6	31	— 0.6	79	S	8	3.6		5c	Fog	S		0	0	Fair	
Lynchburg, Va.			30.10	764.5	39	3.9	76	Calm	0	0			10s			0	0	Cloudy	
Malone, N. Y.			29.92	760.0	43	6.1	100	SW	8	3.6			10n		SW	0.24	6.1	Light rain	
Marquette, Mich.			29.95	760.7	24	— 4.4	74	W	12	5.4			10s			0.02	0.5	Cloudy	
Memphis, Tenn.			30.28	769.1	43	6.1	83	SW	4	1.8		5cs	5s	SW	SW	Inap.	Inap.	Cloudy	
Milwaukee, Wis.			30.09	764.3	24	— 4.4	87	NW	11	4.9			10n			Inap.	Inap.	Light snow	
Mobile, Ala.			30.19	766.8	46	7.8	67	NE	12	5.4		5c	2s	W	NE	0	0	Cloudy	
Montgomery, Ala.			30.22	767.6	43.5	6.4	66	NW	1	0.4		10cs	Haz	SW		0	0	Cloudy	
Morgantown, W. Va.	29.01	736.8	30.11	764.8	35	1.7	70	SW	10	4.5			10s		SW	0	0	Cloudy	
Mt. Washington, N. H.	23.57	598.7	29.93	760.2	20	— 6.7	85	NW	10	4.5		0	10s		NW	0.08	2.0	Fair	
Nashville, Tenn.			30.23	767.8	35	1.7	80	Calm	0	0			10s		NW	0	0	Cloudy	
New Haven, Conn.			30.02	762.5	41	5.0	91	SW	5	2.2			Fog			0.03	0.8	Foggy	
New London, Conn.			30.03	762.7	43	6.1	91	Calm	0	0		5k	Fog	W		0	0	Cloudy	
New Orleans, La.			30.18	766.6	53.5	11.9	46	N	12	5.4			10s		N	0	0	Cloudy	
Newport, R. I.			30.03	762.7	43	6.1	83	NW	2	0.9			10ks		W	0	0	Threatening	
New York, N. Y.			30.05	763.3	41	5.0	65	NW	2	0.9			10s			0	0	Cloudy	
Norfolk, Va.			30.09	764.3	43	6.1	83	SW	2	0.9		8c	Fog			0	0	Fair	
North Platte, Neb.	27.13	689.1	29.87	758.7	18	— 7.8	84	W	12	5.4		0	0			0	0	Clear	
Omaha, Neb.	29.00	736.6	30.15	765.8	22	— 5.6	85	Calm	0	0		0	Sm'e			0	0	Clear	
Oswego, N. Y.			30.01	762.2	40.5	4.7	73	SW	8	3.6			10s		SW	0.01	0.3	Cloudy	
Pembina, Dakota			30.13	765.3	10	—12.2	79	SW	6	2.7			10s			Inap.	Inap.	Cloudy	
Philadelphia, Pa.			30.08	764.0	40	4.4	73	N	7	3.1		2ck	2s	W		0	0	Cloudy	
Pike's Peak, Col.	17.75	450.8	29.96	761.0	10	—12.2	79	W	26	11.6		0	0			0.02	0.5	Clear	
Pittsburgh, Pa.			30.08	764.0	35	1.7	80	W	7	3.1			10s		W	0	0	Cloudy	
Port Huron, Mich.			29.99	761.7	31	— 0.6	79	SW	6	2.7			10s		W	0.01	0.3	Cloudy	
Portland, Me.			30.00	762.0	40	4.4	83	W	4	1.8			10s,sm			0.04	1.0	Cloudy	
Portland, Oregon			30.15	765.8	48	8.9	92	Calm	0	0			10s			0.13	3.3	Threatening	
Punta Rassa, Fla.			30.12	765.0	61.5	16.4	85	NE	8	3.6		0	Haze			0	0	Clear	
Rochester, N. Y.			29.99	761.7	36	2.2	90	W	8	3.6			10s		W	Inap	Inap.	Threatening	
Salt Lake City, Utah	25.95	659.1	30.28	769.1	30	— 1.1	48	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			30.00	762.0	42	5.6	83	NW	10	4.5		8ck	0	SW		0	0	Cloudy	
San Diego, Cal.			30.15	765.8	49	9.4	42	Calm	0	0			0			0	0	Clear	
San Francisco, Cal.			30.21	767.3	52	11.1	79	NW	8	3.6		0	0			0	0	Clear	
Santa Fé, N. M.	23.35	593.1	29.89	759.2	16	— 8.9	83	NE	9	4.0		0	0			0.03	0.8	Clear	
Savannah, Ga.			30.14	765.5	51	10.6	64	Calm	0	0		5c	Sm'e			0	0	Clear	
Shreveport, La.			30.33	770.4	40	4.4	91	N	6	2.7			10s			0.80	20.3	Cloudy	
Smithville, N. C.			30.10	764.5	49	9.4	93	Calm	0	0			Fog			0.01	0.3	Foggy	
Springfield, Mass.			30.02	762.5	35.5	4.2	91	S	2	0.9			Fog			0.01	0.3	Dense fog	
St. Louis, Mo.			30.23	767.8	32	0.0	69	NW	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.13	765.3	44	6.7	92	NW	2	0.9		5c	0	W		0	0	Fair	
St. Paul, Minn.			30.12	765.0	17	— 8.3	67	NW	7	3.1			10s			Inap.	Inap.	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.03	762.7	38	3.3	90	W	4	1.8			10s		W	0.17	4.3	Cloudy	
Toledo, Ohio			30.03	762.7	34	1.1	79	SW	12	5.4			10s		SW	0	0	Cloudy	
Tucson, Arizona	27.74	704.6	30.29	769.4	45	7.2		NE				0	0			0	0	Clear	
Tybee Island, Ga.			30.11	764.8	50	10.0	64	NW	8	3.6		0	0			0	0	Clear	
Vicksburg, Miss.			30.32	770.1	41	5.0	91	NE	3	1.3			10n,sm		SW	0.12	3.0	Light rain	
Virginia City, M. T.	24.34	618.2	29.82	757.4	32	0.0	89	NW	4	1.8			10ks		W	0	0	Cloudy	
Washington, D. C.			30.12	765.0	39	3.9	71	N	5	2.2		2ck	5s,sm'	W		0	0	Fair	
Wilmington, N. C.			30.09	764.3	47	8.3	85	Calm	0	0		0	Fog			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.05	763.3	45	7.2	92	NW	1	0.4			10s		NW	0.03	0.8	Cloudy	
Yankton, Dakota	28.82	73.[illegible]0	30.26	768.6	0	—17.8	85	Calm	0	0			10s			0.10	2.5	Cloudy	
Yuma, Arizona			30.26	768.6	55	12.8		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	78	25.6	82	Calm	0	0		8c	2s			0	0		James Gall.
Navassa, W. I.					79	26.1		NE			2					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.14	689.3	29.92	760.0	65	18.3	83									0	0		C. Partridge.
Paramaribo, D. Guiana, S. A.			30.00	762.0	82	27.8	82	NE			3	5k	4k	NE		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.04	762.9			80.6	27.0		NE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			65.8	18.8	88	Calm			0	1cs	8n			0.07	1.8	Cloudy	Thomas Herran.
York Factory, B. A.			29.96	761.0	3.5	—15.8	100	NW	4	1.8			8s			0.35	8.9		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	73.5	23.1		NE			3					0	0	Fine	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Hyannis, Mass.					29.97	761.2	43	6.1	92	SW	6	2.7		5ck	0	SW					Capt. James Jorgensen.
Steamer Berlin, N. 41°, 0′, W. 56°, 47′.	E by N	4.5			29.60	751.8	56.8	13.8		ENE			8		10d			Heavy sea.		Storm	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,840 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.83 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 24, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.17	766.3	70.9	21.6	62	N			2		3			0	0	Fair	Charnot.
Algiers			30.15	765.9	65.8	18.8	73	WNW			2		4			0.138	3.5	Fair	Peter.
La Calle			30.15	765.8	61.9	16.6	67	W			2		6			0	0	Fair	Fleury.
Tunis			30.18	766.5	62.6	17.0	57	NW			4		2			0	0	Clear	Jacques.
Stax			30.23	767.8															
Saida			30.22	767.5	59.2	15.1	60	NNW			1		2			0	0	Clear	Millot.
Tebessa			30.15	765.8	50.0	10.0		NW			2		2			0	0	Clear	Bourgeois.
Gerfville					57.4	14.1	56	NNE			2		3			0	0	Fair	Lemaillot.
Laghouat			30.22	767 6	60.8	16.0	59	N			1		0			0	0	Clear	Guyot.
Biskra			30.22	767.5	68.5	20.3	33	NW			1		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.06	763.5	34.7	1.5	91	NE			1		10			0.083	2.1	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.20	767.1	25.9	— 3.4	95	NE			2		10			0	0		Dr. Wierzbiski.
Eperies			30.07	763.7	29.1	— 1.6	80	NW			2		10		N	0	0		Julius Mikolik.
Gratz	28.77	730.7	30.07	763.6	36.7	2.6	86	S			1		10			0.799	20.3		Andreas Rospini.
Hermannstadt	28.47	723.0	29.94	760.5	35.6	2.0	89	SE			0		10			0.715	18.15	Snowing	Prof. Reissenberger.
Kremsmünster	28.68	728.4	30.09	764.2	30.6	— 0.8	88	W			1		10			0	0		Prof. C. Wagner.
Lemberg			30.16	766.0	25.3	— 3.7	93	S			1		10			0.382	9.7		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29 99	761.8	45.5	7.5	65	NW			1		4cs			0	0		I.R.Hydrographic Of'ce
Seegedin			30.00	761.9	38.3	3.5	51	Calm			0		10			0.258	6.55		Karl Stancel.
Trieste			30.02	762.5	46.2	7.9	60	Calm			0		9			0	0	Partly cl'dy	Prof. V. Farolfi.
Vienna			30.08	763.9	33.1	0.6	82	N			1		10			0.035	0.9		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.01	762.3	36.7	2.6	86	E			2		10		SSW	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.85	758.2	43.7	6.5		SSE	25	11.2			7			0	0	*D. clouds	William Boswell.
Ardrossan			29.85	758.2	37	2.8		ESE			3							Sleeting	William McNeil.
Armagh, Observatory			29.70	754.4	48.1	8.9		SE	14	6.3			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.66	753.4	51.7	10.9		SSE			1		7					*D. clouds	J. Dreyer.
Bradford			29.89	759.2	38.3	3.5		E			2		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.98	761.5	84.2	29.0		NE			3		7					*D. clouds	Sergt. J. F. Halanen, A. H.C.
Cambridge, Observatory			29.93	760.2	42.0	5.6		SE			1		10					Overcast	H. Todd.
Cardington			29.94	760.5	41.0	5.0		SE			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.95	760.7	42.2	5.7		Calm			0		9					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.03	711.9	29.53	750.0	44.0	6.7		W			6		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.73	628.1			32.2	0.1	80	Calm			0		8			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.75	755.6	45	7.2		SE			5		10					Raining	J. Mac Gowan.
Dover			29.95	760.7	42	5.6		SSE			3		4					¾ clouded	J. Costello.
Eccles, (near Manchester)			29.87	758.7	39.5	4.2		SE	3.8	1.7			10					Showery	Thomas Mackereth.
Falmouth, Observatory			29.80	756.9	52.7	11.5		SW			2		3					*D. clouds	The Staff.
Fort Napier, (Natal)	27.63	701.8	29.87	758.7	65.3	18.5		E			2		6					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		W			1		4					*D. clouds	
Galway, Queen's College			29.56	750.8	53	11.7		SW			2		7					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.13	765.3	68.0	20.0		E			1		1					Blue sky	Corpl. C. Aitken, A. H.C.
Glasgow, Observatory			29.86	758.4	36.8	2.7		NE			2		10					Gloomy	Lewis Stuart.
Great Yarmouth			29.99	761.7	40	4.4		SSE			3		6					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.95	760.7	40.4	4.7		SSE			1		10					Raining	The Staff, for G. B. Airy.
Guernsey			29.84	757.9	52.5	11.4		SSW			1		8			Blank	Blank	Misty	Dr. S. F. Hoskins.
Helston			29.76	755.9	54	12.2		SW			4		6ck			0.5	12.7		M. P. Moyle.
Holyhead			29.75	755.6	48	8.9		SSE			3		4					*D. clouds	John Tilston.
Kew, Observatory			29.92	760.0	41.2	5.1		SE	10	4.5			10					Raining	The Staff.
Kingstown			29.71	754.6	49	9.4		SSE			4		10					Overcast	George Mitchell.
Leicester Museum			29.94	760.5	38.8	3.8		SE			2		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.09	764.3	60.8	16.0		NW			3		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.85	758.2	40	4.4		Calm			0		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	74.6	23.7		NE			0		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.92	760.0	39.1	3.9		SSE			4		10k,c		SSE	0.020	0.51	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.89	759.2	37.0	2.8		ENE			2		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.87	758.7	40	4.4		E			1		10					Misty	J. Lucas.
Plymouth			29.80	756.9	52.8	11.6		SW			1		7					*D. clouds	John Merrifield.
Roche's Point			29.66	753.4	52	11.1		SW			4		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.75	755.6	53	11.7		SW			3		7					Squally	John C. Walker.
Saint Helier, (Jersey)			29.89	759.2	49.8	9.9		S			3		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.86	758.4	44.8	7.1		SE	42	18.8			8					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.78	756.4	61.8	16.6		ENE			1		8			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.83	757.7	39.0	3.9		SSE			2		10			0.080	2.26	Overcast	W. F. Cooper.
Silloth Rectory			29.85	758.2	38.7	3.7	83	SE			2		3			0.010	0.27	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.89	759.2	38.2	3.4		SE					8			Blank	Blank	*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.75	755.6	45	7.2		SE			1		10					Overcast	John Smith.
Stratfield Turgiss			29.91	759.7	41.8	5.4		E			1		10					Showery	Rev. Charles H. Griffith.
Thurso			29.84	757.9	43	6.1		SSE			5		5					*D. clouds	John Trotter.
Truro, Royal Institution			29.81	757.2	55	12.8		S			4		4					*D. clouds	W. Newcombe.
Valencia, Observatory			29.62	752.3	49.6	9.8		SW	9	4.0			8					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					46	7.8		E			6		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.97	761.2	76.1	24.5	48	W	18	8.0		3	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.03	762.7	59.5	15.3	81	W			2		10kn			0.12	3.0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.93	760.2	36.9	2.7		SE			2		7k			0	0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				NE	19.5	8.7						0	0		C. Meldrum.
Melbourne, Observatory			30.10	764.5	54.2	12.3	81	SSE	12	5.4			6			0.32	8.1	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.71	754.6	47	8.3		SSE			7		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.97	761.2	44	6.7		S			7	5	5						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.27	768.8	33.6	0.9	84	ESE			2		10						
Fanöe			30.23	767.8	27.3	— 2.6	96	SSE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.46	748.3	40.5	4.7	98	Calm			0		10					Raining	
Thorshavn, (Faröe)			29.82	757.4	44.4	6.9	86	SSE			2		10					Raining	
Vestervig			30.24	768.0	30.7	— 0.7	98	SE			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alengon			29.98	761.4	46.4	8.0	86	NE			2		10			0	0	Covered	Normal School.
Amiens			29.99	761.7	38.5	3.6	50	ESE			3		5		E	0	0	Cloudy	Normal School.
Avignon			30.08	764.0	45.0	7.2	71	NNW			1		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.01	762.3	36.3	2.4	85	SSW			2		8		S	0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.68	753.9	45.9	7.7	97	S	2.7	1.2			10		SW	0.098	2.5	Raining	Beaumette Observ'tory.
Beauvais			30.01	762.3	37.4	3	86	SE			1		0			0	0	Clear	Normal School.
Besançon			30.11	764.8	34.9	1.6	89	S			2		10			0	0	Covered	Normal School.
Bourg en Bresse			29.95	760.7	34.0	1.1	82	SW			2				SE	0	0	Foggy	Normal School.
Bourges			30.06	763.5	37.8	3.2	63	E			2		5		E	0.169	4.3	Cloudy	Normal School.
Brest			29.79	756.6	53.4	11.9	85	W			1		4		W	0.217	5.5	Squally	Naval Observatory.
Carcassonne			30.07	763.8	54.5	12.5	77	W			2		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.95	760.8	38.5	3.6	60	S			2		9		S	0	0		Normal School.
Châlons-sur-Marne			30.01	762.3	40.6	4.8	71	SE			2		10k		N	0	0	Covered	Normal School.
Clermont			30.06	763.4	46.4	8.0	69	S			2		5			0	0		Puy de Dome Obs'y.
Commercy			30.07	763.8	38.3	3.5	90	E			2		10			0	0	Covered	Normal School.
Commune de Gréasque*			30.07	763.6	50.5	10.3	48	NW			2		2		NW	0	0		M. Kina.
Grenoble			30.09	764.3	41.9	5.5	72	NW			4		0			0	0	Clear	Normal School.
La Roche-sur-Yon					50.7	10.4	95	SE			2		10			0.087	2.2	Covered	Normal School.
Le Mans			29.99	761.8	39.7	4.3	87	ESE			4		10			0	0	Covered	Normal School.
Lons-Le-Saulnier			30.05	763.2	36.1	2.3	96	WSW			1		10			0	0	Foggy	Normal School.
Lorient			29.89	759.3	54.3	12.4	78	SSW			3		8		SW	0.756	19.2	Very cloudy	Naval Observatory.
Mâcon			30.19	766.8	34.7	1.5	96	Calm			0		10			0	0	Covered	Normal School.
Metz			30.12	765.0	34.9	1.6	75	NE			3		10			0	0		M. Schuster.
Mirecourt			30.05	763.3	42.3	5.7	83	N					10		S	0	0	Covered	Normal School.
Nismes			30.04	763.0	56.5	13.6	64	NE			2		0			0	0	Clear	Normal School.
Orleans			29.73	755.1	39.9	4.4	65	ENE			2				W	0	0	Foggy	Normal School.
Paris, Observatory			30.02	762.4	39.6	4.2	74	ESE			2	2c		SW		0	0	Clear	National Observatory.
Parthenay																			Normal School.
Privas			30.01	762.2	36.0	2.2		N			2		8		N	0	0	Very cloudy	Normal School.
Rochefort, Observatory			29.99	761.7	54.9	12.7	89	SSW			3		10		NE			Raining	Naval Observatory.
Rouen			29.97	761.3	40.8	4.9	71	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.95	735.2	30.02	762.6	55.4	13		W			2		0			0.08	2.	Clear	Normal School.
Villefranche			30.13	765.4	38.5	3.6	95	SE			2		5			0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.84	757.8	80.6	27													L'Abbé Marchési.
Marseilles			30.04	763.0	53.8	12.1	53	WNW			1		4			0	0	Cloudy	Marseilles Observatory.
Mont-Louis	24.87	631.8	30.27	768.8	42.3	5.7	67	SW	7.4	3.33			8		WSW	0	0		—. Falguère.
Montsouris, Paris			30.00	761.9	41.2	5.1	73	SSE			2		2		WSW	0	0		Montsouris Observatory
Perpignan			30.09	764.3	59.7	15.4	55	N	3.7	1.67			9		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.19	538.2			24.8	— 4.0		W			3		9			Bla k	lank	Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.49	571.3			31.1	— 0.5		W			3		9			0.598	15.2	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			30.01	762.2	41.4	5.2	75	S			1		0			0	0		E. Renou.
Toulouse			30.11	764.8	56.7	13.7	64	WNW			1		8			0.063	1.6	Fair	Toulouse Observatory.
Tours			29.98	761.6	56.1	13.4	94	SSE			1		10			0	0	Misty	C. Marquet.
Versailles, (near Paris)			30.00	761.0	41.7	5.4	75	S			1		2			0	0	Clear	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.29	769.4	40.5	4.7	90	Calm	0	0			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.08	763.9	33.8	1.0	73	E			2		10			0	0		Prof. T. Hoh.
Berlin			30.21	767.4	30.4	— 0.9	69	E			1		7			0	0		Prof. Arndt.
Breslau			30.21	767.2	28.6	— 1.9	90	E			3		10			0	0		Royal University Obs'y.
Carlsruhe			30.07	763.6	35.6	2.0	78	NE			2		10			0	0		A. Senz.
Cassel			30.13	765.4	34.3	1.3	74	ESE			2		8	E		0	0		Dr. H. Möhl.
Emden			30.24	768.0	28.8	— 1.8	95	SE			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.13	765.3	36.1	2.3	55	E			2		7			0	0		Physical Society.
Friedrichshafen			30.10	764.5	36.3	2.4	82	NNE			5		10			0	0		M. Wilhelm.
Hamburg			30.22	767.5	27.0	— 2.8	87	ESE			2		10			0	0	Foggy	Captain F. Hegemann.
Kiel			30.19	766.9	30.2	— 1.0	78	SE			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.33	770.4	18.3	— 7.6	82	SE			2		2			0	0		Prof. E. Luther.
Köslin			30.30	769.7	30.6	— 0.8		NE			1		1			0	0		H. Müller.
Leipsic			30.19	766.9	29.8	— 1.2	80	ENE			2		10			0	0		Prof. Bruhns.
Memel			30.36	771.2	20.1	— 6.6	76	E			2		0			0.004	0.1		Reinbrecht & Skalweit.
Münster			30.04	763.0	35.8	2.1	91	NE			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.33	770.3	28.0	— 2.2	94	NW			1		10			0	0	Light fog	A Lothe.
Posen			29.79	756.7	30.2	— 1.0	74	SE			2		10						Dr. Magener.
Strassburg, (in Alsace)			30.10	764.5	34.9	1.6	87	Calm			0		10			0	0		Dr. Schur.
Stuttgart			30.08	764.1	34.2	1.2	73	N			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.01	762.2	35.8	2.1	76	N			3		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.53	724.7	30.11	764.9	31.6	— 0.2	76	NE	2	1			10	NE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.33	770.3	28.6	— 1.9	72	ESE			2		0			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," Porto Grande, (Cape Verde Islands.)			30.17	766.4	79.3	26.3	70	ENE			3		3		ENE			Squally	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.88	758.9	59.5	15.3		NW										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.97	761.3	45.7	7.6	61	Calm	0	0			8			0	0		Prof. Giovanni Clodi.
Padua			30.00	762.1	44.4	6.9	68	W	9.4	4.2			2	W		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.01	762.2	44.4	6.9	74	SW	6.2	2.8			0			0	0		Alm. Da Schio.
Verona			30.02	762.6	47 3	8.5	69	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.67	728.1	30.02	762.4	43.2	6.2	67	SSW			2		6			0	0		Prof. Trionfini Carlo.
Domodossola			30.02	762.6	44.6	7.0	63	Calm			0		2			0	0.		Prof. Giuseppe Calzi.
Milan			30.07	763.7	40.8	4.9	89	NNW			1		5	SSW		0	0		Ab. Gio. Capelli.
Pavia			30.05	763.2	42.8	6.0	70	SW			1		8	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.07	763.6	42.8	6.0	74	SSE	1.3	0.6			1	NE		0	0		Prof. P. F. Denza.
Mondovi	28.08	713.3	30.06	763.4	39.6	4.2	60	NNE			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			30.07	763.6	52.0	11.1	71	E			2		8	WNW		0.23[illegible]	6.0	Raining	Prof. L. Vassallo
Genoa			30.03	762.8	48.9	9.4	71	N	1.3	0.6			10	S		0.18[illegible]	4.7	Raining	Prof. Garibaldi.
Piacenza			30.06	763.4	42.6	5.9	77	W	2.5	1.1			10	W		0	0		Dott. G. Manzi.
Parma			30.08	763.9	41.4	5.2	78	W			4		3			0	0		Prof. P. Pigorini.
Bologna			30.04	763.1	41.4	5.2	61	W			1		7	S		0	0		Prof. A. Palagi.
Florence			30.05	763.2	49.1	9.5	63	NE			2		10	SW		0	0		Cav. F. Meucci.
Leghorn			30.02	762.5	43.7	6.5	91	ENE	8.7	3.9			10			0	0		Prof. P. Monte.
Siena	28.80	731.5	30.03	762.7	44.1	6.7	59	NW	0	0			10	W		0	0		Prof. L. Toscani.
Urbino	28.46	722.[illegible]	30.06	763.5	41.0	5.0	78	NNE			2		6			0	0		Prof. P. Serpieri.
Pesaro			30.04	763.1	45.5	7.5	71	NW	32.2	14.4			2	NW		0	0		Prof. Luigi Guidi.
Ancona			30.02	762.4	46.8	8.2	74	NW			6		2			0.01[illegible]	0.4		Prof. F. De— Bosis.
Grosseto			30.04	762.9	52.3	11.3	49	S			2		4	SE		0	0		Avv. P. Ponticelli.
Rome			30.02	762.6	52.2	11.2	56	NNE	1.3	0.6			1			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U			30.05	763.3	55.8	13.2	44	WNW			2		1	W		0.11[illegible]	3.0	Raining	Prof. L. Palmieri.
Lecce			30.01	762.2	54.7	12.6	55	NNW	15.4	6.9			3	NW		0.12[illegible]	3.2	Raining	Prof. C. De—Giorgi.
Cosenza			30.05	763.3	54.0	12.2	72	SE	3.1	1.4			7			0.[illegible]6	4.2	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			30.00	761.9	59.9	15.5	57	SE			2		3	NW		0	0		Prof. F. Cafiero.
Palermo			30.02	762.4	61.0	16.1	55	WSW	4.9	2.2			7	WSW		0.024	0.6	Light rain	Prof. G. Cacciatore.
Caltanissetta	28.07	712.9	30.03	762.7	52.7	11.5	66	W			4		4	SE		0	0		Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			30.05	763.3	53.2	11.8	47	SE	1.8	0.8			0			0.087	2.2		Prof. F. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.05	763.2	36.1	2.3		SSE			3								
Groningen			30.06	763.4	34.0	1.1		E			3								
Helder			30.06	763.5	32.0	0.0		E			2								
Utrecht			30.03	762.8	30.9	— 0.6	80	SE			2		10			0	0	Dull	

NOTE.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.21	767.4	35.2	1.8	90	Calm	0	0			5			0	0		
Brönö			30.23	767.9	44.2	6.8	94	SW	18	8			10			2.197	55.8	Light rain	
Christiania			30.25	768.3	31.1	— 0.5	83	SSW	0	0			10			0	0		
Tromsö			29.91	759.6	31.6	— 0.2	81	Calm	0	0			10			0	0	Foggy	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.74	755.3	62.2	16.8	94	WNW	2.5	1.1			5			1.823	46.3		Dr. J. A. Sampaio.
Campo Major			30.21	767.2	50.9	10.5	100	E	3.1	1.4			10			0.020	0.5	Misty	Dr. A. M. R dos Santos.
Funchal, (Madeira,)			30.15	765.7	67.8	19.9	73	Calm	0	0			10			0	0		Capt. D. A. de Cunha.
Lisbon			30.18	766.6	57.4	14.1	88	Calm?	1.3?	0.6?			4	W		0	0		The Observatory.
Ponta Delgada, (Azores)			29.82	757.5	64.4	18.0	90	SW	19.3	8.61			10			0.220	5.6		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.25	768.3	27.9	— 2.3	83	ESE	9	4			10						Astronomical Obs.
Wilna			30.42	772.7	21.4	— 5.9	78	Calm	0	0			9						Astronomical Obs.
Dorpat			30.34	770.5	17.1	— 8.3	94	WSW	9	4			10						Physical Cabinet.
St. Petersburg			30.10	764.6	31.3	— 0.4	93	WSW	16	7			10						Central Physical Obs.
Kuopio			29.92	759.9	34.0	1.1	92	W	7	3			10						Ch. Forsten.
Kieff			30.30	769.7	29.8	— 1.2	74	E	7	3			7						Physical Cabinet.
Nikolaiev			30.22	767.5	34.7	1.5	83	NE	9	4			8						Kurdakof
Kertch			30.20	767.1	40.5	4.7	87	NE	7	3			4						Lagorio.
Moscow			30.41	772.4	18.9	— 7.3	78	S	7	3			2						Meteorological Obs.
Lugan			30.38	771.6	26.6	— 3.0	63	ENE	11	5			3						Meteorological Obs.
Archangel			29.89	759.1	18.0	— 7.8	94	ESE	7	3			10						Ogorodnikof.
Tiflis	29.04	737.5	30.52	775.1	41.0	5.0	81	SE	4	2			10						Physical Observatory.
Astrakhan			30.53	775.4	30.4	— 0.9	67	SE	2	1			0						Sebastianof.
Kasan			30.18	766.6	20.7	— 6.3	95	W	7	3			10					Snowing	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.98	736.0	30.00	762.0	12.0	—11.1	74	WSW	22	10			10						Meteorogical Obs.
Nukuss			30.58	776.7	25.5	— 3.6	78	NNW	7	3			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.05	763.3	16.2	— 8.8	72	SW	13	6			10						Meteorological Obs.
Yeniseisk			29.91	759.7	6.1	—14.4	76	Calm	0	0			9						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.17	766.4	33.8	1.0	80	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.14	765.6	25.0	— 3.9	71	NW	9	4			7			Blank	Blank		
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 366.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.23	767.8	47.8	8.8	87	E	0.7	0.33			10			0	0	Covered	Royal Observatory.
San Fernando			30.16	766.0	64.8	18.2	68	N	4.9	2.2		3	2	N	N	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.84	757.9	33.1	0.6	98	SW			2		10					Raining	
Umea			29.91	759.8	37.0	2.8	86	NW			2		9			0	0		
Hernosand			30.09	764.3	39.6	4.2	71	W			2		8			0	0		
Stockholm			30.21	767.4	27.1	— 2.7	89	WSW			2		9			0	0		
Wisby			30.35	771.0	33.8	1.0	89	W			6		10			0	0		
SUB-SERIES.																			
Upsala			30.21	767.4	31.3	— 0.4	83	WSW	9.6	4.3			9			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.60	726.4	30.04	763.1	48.4	9.1	50	S			1		2			0	0	Clear	The Observatory.
Zurich	28.38	720.9	30.08	763.9	38.1	3.4	83	NW			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —0.3 mm; Thermometer, +3.9 cent.; Relative Humidity, —28 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.84	757.9	60.1	15.6	85	NE	2	1.0			6		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.83	757.7	63.0	17.2		NW			1		5						
Valona			29.95	760.8	51.4	10.8		NW			1		5			Blank	Blank		
Varna			30.00	762.0	50.0	10.0		SE			2		10			Blank	Blank		
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.02	762.6	72.9	22.7	59	N			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.79	756.7	33.7	0.9	95	Calm	0	0			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.02	762.5	27	— 2.8		W	3	1.3			10s		W	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.74	755.4	33	0.6	98	Calm	0	0			10s			0.14	3.6	Light snow	G. A. Blair.
Charlottetown, P. E. Island			29.76	755.9	37	2.8	90	NE	5	2.2			10ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.90	759.4	30.7	— 0.7	78	NW			1	0	3s			0	0	Clearing	James Smith, M. A.
Dalhousie, N. B.			29.81	757.2	32.6	0.3	99	Calm			0					0.05	1.3	Threatening	H. A. Johnson.
Esquimault, B. C.			30.07	763.8	46.3	7.9	100	N					10			0.20	5.1	Cloudy	W. H. Bevis.
Fredericton, N. B.			29.79	756.7	35.1	1.7	92	Calm	0	0			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			29.99	761.7	17	— 8.3	97	W	5	2.2			10n			0.07	1.78	Cloudy	James Stewart.
Goderich, Ontario			30.14	765.5	31.1	— 0.5	81	NW			3		10n			0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.95	735.3	30.11	764.8	26	— 3.3		W			2		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S.			29.71	754.6	40	4.4	97	E	4	1.8			Fog			0.01	0.25	Foggy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.98	761.5	31	— 0.6	92	W	2	0.9			10ks		W	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.75	755.6	40.2	4.6	98	S	4	1.8			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.89	759.2	31	— 0.6	86	W	11	4.9		0	8ks		W	0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.94	760.5	30	— 1.1	78	NW	6	2.7		10k	0	NW		Inap.	Inap.	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.04	763.0	24	— 4.4	87	N	2	0.9		0	2ks		W	0.05	0.5	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.12	765.0	30	— 1.1	89	W	7	3.1		10k	0	W		0	0	Cloudy	H. Morgan.
Port Hastings, N. S.			29.86	758.4	38.4	3.6		SE	3	1.3								Raining	Peter Grant.
Port Stanley, Ontario			30.14	765.5	29	— 1.7	91	W	16	7.2			10n		W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec			29.86	758.4	31	— 0.6	73	Calm	0	0			0			0.01	0.3	Clear	Capt. Ashe, R. N.
St. John, N. B.			29.76	755.9	36	2.2	90	N	4	1.8			10n			0.26	6.6	Light rain	G. Murdoch, C. E.
*Saugeen, Ontario			30.02	762.5	34	1.1	79	W	9	4.0			10n		W	Inap.	Inap.	Cloudy	R. Stewart.
Stayner, Ontario			29.99	761.7	30	— 1.1	90	NW	6	2.7			10n		NW	Inap.	Inap.	Light snow	R. J. Cole.
Stratford, Ontario	28.75	730.2	30.09	764.3	26.5	— 3.1	93	SW	12	5.4			10s			0.15	3.8	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.80	756.9	39	3.9	95	SE	5	2.2			10n			0.07	1.8	Cloudy	T. C. Hill.
*Toronto, Ontario			30.06	763.5	31	— 0.6	79	W	9	4.0		5 k	5s	W	W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.13	765.3	27.5	— 2.5	88	W	9	4.0			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.11	764.8	37	2.8	81	E	2	0.9		10c	10s			0	0		John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.89	759.2	35	1.7	79	NW	15	6.7		2k	2ks	NW	NW	Inap.	Inap.	Fair	
Alpena, Mich.			30.05	763.3	26	— 3.3	76	SW	11	4.9		0	5s		SW	Inap.	Inap.	Fair	
Atlantic City, N. J.			30.00	762.0	34	1.1	69	W	10	4.5		0	0			0.06	1.5	Clear	
Augusta, Ga.			30.24	768.1	36	2.2	80	NW	2	0.9			10s			0	0	Cloudy	
Baltimore, Md.			30.10	764.5	36	2.2	62	NW	2	0.9		Haze	Sm'e			0	0	Smoky	
Barnegat, N. J.			29.97	761.2	36	2.2	70	NW	22	9.8		0	0			0	0	Clear	
Bismarck, Dakota	28.24	717.3	30.03	762.7	11	—11.7	60	NW	3	1.3		5ck	0	NW		0	0	Fair	
Boston, Mass.			29.76	755.9	37	2.8	71	NW	18	8.0			10s		N	0	0	Cloudy	
Breckenridge, Minn.			30.02	762.5	19	— 7.2	85	W	2	0.9			10s			0	0	Cloudy	
Buffalo, N. Y.			30.05	763.3	31	— 0.6	79	NW	17	7.6		5k	0	W		0.35	8.9	Fair	
Burlington, Vt.			29.91	759.7	36	2.2	70	N	4	1.8			10s		NW	0.07	1.8	Cloudy	
Cairo, Ill.			30.20	767.1	34	1.1	51	SE	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.06	763.5	43	6.1	67	N	18	8.0		0	2s		N	Inap.	Inap.	Fair	
Cape Henry, Va.			30.10	764.5	41	5.0	57	NW	30	13.4		2k	0	NW		Inap.	Inap.	Clear	
Cape Lookout, N. C.			30.17	766.3	42	5.6	62	N	24	10.7		0	Haze			0	0	Clear	
Cape May, N. J.			30.02	762.5	39	3.9	63	NW	42	18.8		0	0			0.06	1.5	Clear	
Charleston, S. C.			30.22	767.6	44	6.7	51	N	8	3.6		2cs	0			0	0	Fair	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	30	— 1.1	67	W	8	3.6		0	2s			0	0	Fair	
Chicago, Ill.			30.08	764.0	29	— 1.7	78	SE	5	2.2			10s			Inap.	Inap.	Cloudy	
Cincinnati, Ohio			30.19	766.8	27	— 2.8	77	S	3	1.3		0	0			0.01	0.3	Clear	
Cleveland, Ohio			30.18	766.6	28	— 2.2	88	SSW	16	7.2			10s		SW	0.02	0.5	Cloudy	
Corsicana, Tex.			30.24	768.1	43	6.1	83	N	1	0.4		2cs	8s			0	0	Cloudy	
Davenport, Iowa			29.99	761.7	31	— 0.6	79	SE	4	1.8			10s			0	0	Cloudy	
Denison, Tex.			30.24	768.1	40	4.4	72	SW	6	2.7		0	0			0	0	Clear	
Denver, Col.	24.94	633.5	30.16	766.1	34	1.1	69	S	4	1.8		0	5s			0	0	Fair	
Detroit, Mich.			30.13	765.3	29	— 1.7	89	W	4	1.8			10s		W	0.02	0.5	Cloudy	
Dodge City, Kan.	27.51	698.7	29.87	758.7	37	2.8	90	NW	4	1.8		0	2s			0	0	Clear	
Dubuque, Iowa			29.97	761.2	28	— 2.2	88	SE	5	2.2			10s			Inap.	Inap.	Cloudy	
Duluth, Minn.			29.98	761.5	23	— 5.0	73	SW	1	0.4			10s			0.03	0.8	Cloudy	
Eastport, Me.			29.71	754.6	38	3.3	90	N	12	5.4			10n		N	0.11	2.8	Light rain	
Erie, Pa.			30.10	764.5	33	0.6	61	W	14	6.3			10ks		W	0.23	5.8	Cloudy	
Escanaba, Mich.			30.03	762.7	22	— 5.6	78	SW	6	2.7			10s		SW	0.02	0.5	Cloudy	
Fort Gibson, Indian Ter.			30.13	765.3	33	0.6	69	SE	5	2.2		0	2s			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.91	734.3	30.08	764.0	31	— 0.6	48	SW	6	2.7		1ck	0	W		0	0	Clear	
Fort Sully, Dakota	28.37	720.6	30.09	764.3	32	0.0	69	NW	7	3.1		0	0			0	0	Clear	
Florence, Arizona	28.72	729.5	30.30	769.6	42	5.6		NE				0	0			0	0	Clear	
Galveston, Tex.			30.18	766.6	48	8.9	92	N	18	8.0			10n			0.47	11.9	Light rain	
Grand Haven, Mich.			30.07	763.8	33	0.6	79	SW	11	4.9			10s		SW	0.01	0.3	Cloudy	
Indianapolis, Ind.			30.18	766.6	26	— 3.3	64	SE	6	2.7		0	2s			0.01	0.3	Fair	
Indianola, Tex.			30.19	766.8	46	7.8	100	N	24	10.7			10n		N	0.74	18.8	Light rain	
Jacksonville, Fla.			30.20	767.1	48	8.9	42	N	8	3.6		5k	0	SW		0	0	Fair	
Keokuk, Iowa			29.91	759.7	38	3.2	81	SW	10	4.5			10s		SW	0	0	Cloudy	
Key West, Fla.			30.07	763.8	72	22.2	90	NE	8	3.6		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.15	765.8	39	3.9	63	NW	17	7.6		2k	0	NW		0	0	Fair	
Knoxville, Tenn.			30.33	770.4	26	— 3.3	77	Calm	0	0		1c	Fog	SW		0	0	Foggy	
La Crosse, Wis.			29.98	761.5	29	— 1.7	78	S	5	2.2			10s		S	0	0	Cloudy	
Leavenworth, Kan.			30.00	762.0	41	5.0	91	Calm	0	0			10n			0.04	1.0	Light rain	
Louisville, Ky.			30.24	768.1	28	— 2.2	77	SE	3	1.3		0	0			0	0	Clear	
Lynchburg, Va.			30.21	767.3	36	2.2	56	Calm	0	0		2k	0	W		Inap.	Inap.	Clear	
Malone, N. Y.			29.86	758.4	30	— 1.1	89	NW	5	2.2			10s		W	0.09	2.3	Cloudy	
Marquette, Mich.			29.99	761.7	24	— 4.4	74	SW	8	3.6			10s			0	0	Cloudy	
Memphis, Tenn.			30.25	768.3	37	2.8	80	SW	2	0.9		5c	Fog	SW		0	0	Fair	
Milwaukee, Wis.			30.10	764.5	23	— 5.0	86	SW	5	2.2		10s	Fog			0.01	0.3	Cloudy	
Mobile, Ala.			30.21	767.3	50	10.0	53	NE	8	3.6		8c	2s	NW		0	0	Cloudy	
Montgomery, Ala.			30.30	769.6	39.5	4.2	81	N	1	0.4		10cs	Sm'e	W		0	0	Cloudy	
Morgantown, W. Va.	29.12	739.6	30.24	768.1	28	— 2.2	72	SW	4	1.8		0	5s		SW	0.05	1.3	Fair	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	14	—10.0	100	N	36	16.1			Fog			0	0	Foggy	
Nashville, Tenn.			30.27	768.8	28	— 2.2	88	Calm	0	0		2k	Fog			0	0	Fair	
New Haven, Conn.			29.86	758.9	45	7.2	67	N	15	6.7		Haze	0			0	0	Clear	
New London, Conn.			29.81	757.2	37	2.8	71	NW	14	6.3		5k	5s	NW		0	0	Cloudy	
New Orleans, La.			30.17	766.3	50	10.0	51	NE	16	7.2			10s			0.02	0.5	Cloudy	
Newport, R. I.			29.78	756.4	38	3.3	80	NW	18	8.0			8ks		NW	0.10	2.5	Cloudy	
New York, N. Y.			29.94	760.5	36	2.2	62	NW	21	9.4		0	0			0	0	Clear	
Norfolk, Va.			30.16	766.1	38	3.3	63	N	16	7.2		Haze	0			0.02	0.5	Clear	
North Platte, Neb.	27.19	690.6	29.88	758.9	29	— 1.7	89	W	8	3.6		0	0			0.11	2.8	Clear	
Omaha, Neb.	28.89	733.8	30.00	762.0	36	2.2	80	NW	9	4.0			10s			0	0	Cloudy	
Oswego, N. Y.			29.98	761.5	37.5	3.1	58	NW	12	5.4			10ks		NW	0.06	1.5	Threatening	
Pembina, Dakota			29.97	761.2	17	— 8.3	84	Calm	0	0			10s			0.02	0.5	Cloudy	
Philadelphia, Pa.			30.03	762.7	36	2.2	62	NW	23	10.3		0	Sm'e			0	0	Clear	
Pike's Peak, Col.	17.76	451.1	29.97	761.2	10	—12.2	58	N	32	14.3		8cs	0			0.03	0.8	Fair	
Pittsburgh, Pa.			30.19	766.8	28	— 2.2	78	W	6	2.7		1c	2ks	NW	W	0.01	0.3	Fair	
Port Huron, Mich.			30.12	765.0	28	— 2.2	67	W	8	3.6			10s		W	0.04	1.0	Cloudy	
Portland, Me.			29.78	756.4	38	3.3	80	N	10	4.5			10ks,s		NW	0	0	Cloudy	
Portland, Oregon			30.14	765.5	57	13.9	93	S	1	0.4			10s			0.54	13.7	Cloudy	
Punta Rassa, Fla.			30.12	765.0	62.0	16.7	68	NE	13	5.8		0	Haze			0	0	Clear	
Rochester, N. Y.			30.01	762.2	32	0.0	69	W	13	5.8			10s		W	0.04	1.0	Cloudy	
Salt Lake City, Utah	25.93	658.6	30.26	768.6	36	2.2	62	NE	1	0.4			10s			0	0	Cloudy	
Sandy Hook, N. J.			29.92	760.0	38	3.3	63	NW	28	12.5			2ks		NW	0	0	Fair	
San Diego, Cal.			30.21	767.3	53	11.7	23	Calm	0	0			0			0	0	Clear	
San Francisco, Cal.			30.26	768.6	53	11.7	79	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.35	593.1	29.89	759.2	27	— 2.8	77	N	4	1.8		0	0			0	0	Clear	
Savannah, Ga.			30.23	767.8	40	4.4	63	N	6	2.7		5c	Haze			0	0	Fair	
Shreveport, La.			30.27	768.8	42	5.6	83	N	3	1.3			10s			0	0	Cloudy	
Smithville, N. C.			30.20	767.1	40	4.4	56	N	3	1.3		0	0			0	0	Clear	
Springfield, Mass.			29.85	758.2	36	2.2	70	N	8	3.6		2ck	5s			0	0	Fair	
St. Louis, Mo.			30.09	764.3	37	2.8	62	SW	12	5.4		0	8s			0	0	Cloudy	
St. Marks, Fla.			30.19	766.8	47	8.3	77	N	10	4.5		2cs	0			0	0	Clear	
St. Paul, Minn.			29.91	759.7	24	— 4.4	88	SE	4	1.8			10s			Inap.	Inap.	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.76	755.9	41	5.0	73	N	28	12.5			10s		NE	0	0	Cloudy	
Toledo, Ohio			30.14	765.5	32	0.0	69	SW	6	2.7			10s		SW	Inap.	Inap.	Cloudy	
Tucson, Arizona	27.79	705.8	30.24	768.1	31	— 0.6		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.25	768.3	42.5	5.8	70	E	4	1.8			10s			0.06	1.5	Cloudy	
Virginia City, M. T.	24.39	619.5	29.87	758.7	53	11.7	61	Calm	0	0			10ks		W	0.01	0.3	Cloudy	
Washington, D. C.			30.14	765.5	34	1.1	61	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Wilmington, N. C.			30.19	766.8	39	3.9	55	N	8	3.6		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er c—10.	Clouds. Amount. Low'r c—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			29.75	755.6	38	3.3	80	N	18	8.0			10s			1.08	27.4	Cloudy	
Yankton, Dakota	28.76	730.5	30.09	764.3	33	0.6	89	NW	16	7.2			10s			0	0	Cloudy	
Yuma, Arizona			30.15	765.8	59	15.0		Calm				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.15	765.8	77	25.0	86	Calm	0	0		8c	8n		S	0.62	15.7		James Gall.
Navassa, W. I.					79	26.1		NE			2					0	0	Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.13	689.1	29.90	759.4	67	19.4	94	NE	1.0	0.4			10k			1.20	30.5	Very dull	C. Partridge.
Paramaribo, D. Guiana, S. A			29.92	760.0	83	28.3	83	E			2	4k	5k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A	30.02	762.6			83.8	28.8		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.25	641.3			65.0	18.3	85	Calm			0	1cs	8n			1.17	29.7	Cloudy	Thomas Herran.
York Factory, B. A.			29.61	752.1	14.0	—10.0	92	S	9	4.0			10n			0.03*	*0.8		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.02	762.5	73.5	23.1		NE			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Bishop and Clerk Light.			29.68	753.9	41.5	5.3	87	NW	17	7.6			10ks		N			Threatening	Capt. James Jorgensen.
Steamer Berlin, N. 41°, 35′, W. 54°, 6′.	E by N	6	29.66	753.4	55.6	13.1		ENE			6		d			Rough		Misty	Capt. C. Pohle.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. * Amount of precipitation from 4 a. m. until 9 a. m.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 25, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.12	765.1	68.9	20.5	50	Calm			0		3			0	0	Fair	Charnot.
Algiers			30.13	765.4	66.2	19.0	72	NW			1		5			0.157	4.0	Fair	Peter.
La Calle			30.14	765.5	63.3	17.4	67	ENE			3		1			0	0	Clear	Fleury.
Tunis			30.17	766.3	64.4	18.0	69	W			2		2			0.028	0.7	Clear	Jacques.
Sfax			30.23	767.8															
Bona			30.21	767.3	71.8	22.1	29	SSW			1		2			0	0	Clear	Millot.
Tebessa			30.17	766.2	56.8	13.8		SW			1		2			0	0	Clear	Bourgeois.
Geriville					57.6	14.2	56	NNW			3		0			0	0	Clear	Lemaillot.
Laghouat			30.21	767.2	66.2	19.0	38	S			2		0			0	0	Clear	Guyot.
Biskra			30.21	767.4	67.5	19.7	53	NW			1		6			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.11	764.8	37.8	3.2	85	NE			2		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.21	767.4	30.6	— 0.8	98	NE			1		10			0.051	1.3		Dr. Wierzbiski.
Eperies			30.07	763.7	33.8	1.0	79	Calm			0		10		N	0	0		Julius Mikolik.
Gratz	28.82	732.1	30.14	765.5	32.9	0.5	84	S			1		10			0	0		Andreas Rospini.
Hermannstadt	28.48	723.4	29.97	761.1	33.6	0.9	90	SE			1		10			1.012	25.70	Snowing	Prof. Reissenberger.
Kremsmünster	28.74	730.0	30.16	766.1	28.0	— 2.2	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.13	765.2	27.7	— 2.4	94	NE			1		4			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			30.10	764.4	49.1	9.5	75	WNW			1		1k			0	0		I.R.Hydrographic Of'ce
Szegedin			30.00	762.1	37.0	2.8	60	N			2		10			0.400	10.15		Karl Stancel.
Trieste			30.12	765.0	48.2	9.0	70	S			1		0			0	0		Prof. V. Farolfi.
Vienna			30.13	765.4	33.6	0.9	80	N			2		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.71	754.6	43.2	6.2	94	SSE			6		10		SW	0.130	3.30	Raining	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.67	753.6	41.4	5.2		SSE	19	8.5			10					Raining	William Boswell.
Ardrossan			29.53	750.0	43	6.1		E			3		8					Misty	William McNeil.
Armagh, Observatory			29.44	747.8	44.1	6.7		E	8	3.6			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.41	747.0	45.8	7.7		SW			1		10					*D. clouds	J. Dreyer.
Bradford			29.41	747.0	41.9	5.5		E			3		10			0.18	4.6	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.98	761.5	85.0	29.4		NE			1		9					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.34	745.2	50.0	10.0		SE			2		10					Raining	H. Todd.
Cardington			29.32	744.7	51.4	10.8		SE			2		10					Raining	John McLaren. [H.C.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.42	747.3	53.4	11.9		SW			2		8					Showery	Capt. Fellowes, R. E.
Dartmoor																			R. E. Power.
Davos Platz, (Switzerland)	24.84	630.9			35.2	1.8	71	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.48	748.8	44	6.7		SE			5		10					Raining	J. Mac Gowan.
Dover			29.46	748.3	52	11.1		SW			5		10					Overcast	J. Costello.
Eccles, (near Manchester)			29.33	745.0	44.0	6.7		ENE	5.2	2.3			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.51	749.5	50.0	10.0		W			3		8					Overcast	The Staff.
Fort Napier, (Natal)	27.45	697.2	29.68	753.9	83.2	28.4		NE			3		1					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		W			0		4					*D. clouds	
Galway, Queen's College			29.69	754.1	45	7.2		SW			1		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.11	764.8	67.0	19.4		Calm			0		9					Overcast	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.53	750.0	40.7	4.8		NE			1		10					Gloomy	Lewis Stuart.
Great Yarmouth			29.50	749.3	46	7.8		SE			7		10					Raining	G. T. Watson.
Greenwich, Royal Obs'y			29.38	746.2	53.7	12.1		SSW			4		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.54	750.3	51.5	10.8		SW			5		8					Squally	Dr. S. E. Hoskins.
Helston			29.46	748.3	52	11.1		SW			4		6c,h			0.33	8.4		M. P. Moyle.
Holyhead			29.35	745.5	43	6.1		ENE			2		10					Misty	John Tilston.
Kew, Observatory			29.37	746.0	53.5	11.9		SSW	30	13.4			10					Overcast	The Staff.
Kingstown			29.42	747.3	48	8.9		ESE			3		10			Blank	Blank	Overcast	George Mitchell.
Leicester Museum			29.30	744.2	45.5	7.5		E			2		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.11	764.8	64.6	18.1		NW			3		6c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.58	751.3	43	6.1		SSE			2		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			29.44	747.8	74.6	23.3		SE			3		8			Blank	Blank		Surg. Maj. Henry.
Nottingham, Observatory			29.33	745.0	43.3	6.3		ENE			4		10d		ENE	0.716	18.0	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.30	744.2	43.1	6.2		NE			2		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.31	744.5	53	11.7		SW			3		10					Gloomy	J. Lucas.
Plymouth			29.47	748.5	48.8	9.3		WSW			4		10					Overcast	John Merrifield.
Roche's Point			29.44	747.8	48	8.9		WSW			3		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.40	746.7	49	9.4		WNW			4		10					Showery	John C. Walker.
Saint Helier, (Jersey)			29.55	750.6	53.0	11.7		W			6		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.68	753.9	44	6.7		SE	25	11.2			5					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.90	759.4	53.0	11.7		NE			2		2			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.37	746.0	43.2	6.2		SE			1		10			0.476	12.07	Raining	W. F. Cooper.
Silloth Rectory			29.45	748.0	40.5	4.6	98	SW			3		10			0	0	Overcast	Rev. Francis Redford.
Stonyhurst, Observatory			29.38	746.2	42.0	5.6		E					10					Raining	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.53	750.0	45	7.2		SE			2		8					*D. clouds	John Smith.
Stratfield Turgiss			29.35	745.5	54.1	12.3		S			2		10					Raining	Rev. Charles H. Griffith.
Thurso			29.66	753.4	44	6.7		SE			2		7					Gloomy	John Trotter.
Truro, Royal Institution			29.61	752.1	51	10.6		W			4		4					*D. clouds	W. Newcombe.
Valencia, Observatory			29.44	747.8	46.1	7.8		SSW	12	5.4			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		E			6		10			0.40	10.2		Henry Mercer.
Cape Good Hope, Obs'y			29.72	760.0	69.0	20.6	71	WNW	19	8.5		5	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.04	763.0	61.5	16.4	87	S			1		10ka			0.02	0.5	Hazy	Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.57	751.1	43.0	6.1		SE			2		10s			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				NE	18.8	8.4						0	0		C. Meldrum.
Melbourne, Observatory			30.03	762.7	52.3	11.3	78	SE	10	4.5			3			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.48	748.8	46	7.8		SE			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.90	759.4	42	5.6		S			6	3	7	SE		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.19	766.8	34.7	1.5	87	SE			4		10						
Fanöe			30.06	763.4	32.9	0.5	85	ESE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.63	752.6	39.0	3.9	97	E			6		8						
Thorshavn, (Faröe)			29.72	754.8	44.1	6.7	86	SE			6		10						
Vestervig			30.07	763.6	32.4	0.2	92	E			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co peration of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.68	753.8	48.2	9.0	89	SW			4		10			0.457	11.6	Covered	Normal School.
Amiens			29.64	752.9	48.9	9.4	95	W			4		10			0.295	7.5	Covered	Normal School.
Avignon			30.05	763.3	47.1	8.4	75	NE			1		10			0	0	Covered	Normal School.
Bar-sur-Seine			29.85	758.2	52.0	11.1	77	S			2		10		SW	0.165	4.2	Covered	C. Saillard.
Beaumette, (near Angers)			29.76	755.9	54.1	12.3	71	S	24.2	10.8					SW	0.157	4.0		Beaumette Observ'tory.
Beauvais			29.74	755.4	50.0	10	86	S			3		10			0.457	11.60	Covered	Normal School.
Besançon			29.96	761.0	48.2	9	86	E			3		5		W	0	0	Cloudy	Normal School.
Bourg en Bresse			29.99	761.8	52.9	11.6	54	S			4		10n			0	0	Covered	Normal School.
Bourges			30.08	764.0	51.8	11	80	SE			2		5		S	0	0	Cloudy	Normal School.
Brest			29.54	750.4	55.2	12.9	76	WSW			3		5		W	0.640	6.25	Squally	Naval Observatory.
Carcassonne			29.92	760.0	53.6	12	76	E			4		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.69	754.1	52.9	11.6	93	SSW			2		10		SSW	0.35	9.	Covered	Normal School.
Châlons-sur-Marne			29.82	757.5	47.8	8.8	97	SSE			3		10			0.441	11.2	Light rain	Normal School.
Clermont			29.87	758.7	56.3	13.5	47	S			3		10		SW	0	0		Puy de Dome Obs'y.
Commercy			29.95	760.8	43.3	6.3	94	SE			2		10			0.35	9.	Covered	Normal School.
Commune de Gréasque*			30.11	764.9	49.1	9.5	50	NE			2		10		NE	0	0		M. Kina.
Grenoble			30.05	763.2	45.1	7.3	71	NE			2		5ck		SW	0	0	Cloudy	Normal School.
La Roche-sur-Yon					47.1	8.4	97	SE			2		10			0.177	4.5	Covered	Normal School.
Le Mans			29.70	754.4	50.9	10.5	84	SSW			4		10			0.285	7.25	Covered	Normal School.
Lons-Le-Saulnier			29.95	760.7	52.2	11.2	54	S			1		2		NW	0	0	Slightly cl'dy	Normal School.
Lorient			29.63	752.7	55.4	13.0	77	W			1		8		SW	0.874	22.2	Very cloudy	Naval Observatory.
Mâcon			30.01	762.2	44.6	7	85	S			8		0			0	0	Clear	Normal School.
Metz			30.00	761.9	41.5	5.3	91	ESE			2		10			0	0		M. Schuster.
Mirecourt			29.93	760.3	47.1	8.4	81	SSW					10		N	0	0	Covered	Normal School.
Nismes			30.04	762.9	51.4	10.8	73	E			2		2		S	0	0	Slightly cl'dy	Normal School.
Orleans			29.75	755.6	53.2	11.8	80	SSW					10			0	0	Covered	Normal School.
Paris, Observatory			29.72	755.0	51.1	10.6	83	S			2		10			0.304	7.73	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.05	763.2	49.3	9.6		NW			2		10		NW	0	0	Covered	Normal School.
Rochefort, Observatory			29.75	755.6	55.8	13.2	79	S			4		10			0.079	2.0	Raining	Naval Observatory.
Rouen			29.63	752.7	54.3	12.4	74	SSE			2		10			0.402	10.2	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.97	735.8	30.05	763.2	55.4	13		W			2		5		E	0	0	Cloudy	Normal School.
Villefranche			30.02	762.5	50.0	10	86	S			1		8			0	0	Very cloudy	Normal School.
SUB-SERIES.																			
Fort de France, Martinique			29.84	757.8	80.6	27													L'Abbé Marchési.
Marseilles			30.07	763.6	56.7	13.7	72	ESE			1		10					Rainy	Marseilles Observatory.
Mont-Louis	24.82	630.3	30.19	766.9	43.0	6.1	69	SW	16.8	7.50			8		WSW	0	0		—. Falguère.
Montsouris, Paris			29.72	754.8	52.0	11.1	79	S			2		10			0.354	9.0	Covered	Montsouris Observatory
Perpignan			29.96	761.0	52.0	11.1	81	NE	5.6	2.50			10		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.12	536.4			25.7	— 3.5		NW			3		10					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.42	569.5			32.7	0.4		W			4		10			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.73	755.2	51.8	11.0	97	S			2		10			0.289	7.2	Raining	E. Renou.
Toulouse			29.91	759.8	54.0	12.2	80	SSE			3		7			0	0		Toulouse Observatory.
Tours			30.13	765.3	52.2	11.2	62	SSW			2		10		W	0.248	6.3		C. Marquet.
Versailles, (near Paris)			29.72	754.9	51.8	11.0	83	SSW			2		10			0.341	8.65	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.3	44.6	7.0	91	E	3.7	1.66			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.08	763.9	38.3	3.5	70	E			2		3	E		0	0		Prof. T. Hoh.
Berlin			30.21	767.3	31.3	— 0.4	83	SE			1		10			0	0		Prof. Arndt.
Breslau			30.22	767.6	29.5	— 1.4	85	N			2		10			0.059	1.5		Royal University Obs'y.
Carlsruhe			30.00	762.1	44.2	6.8	80	S			1		2			0	0		A. Senz.
Cassel			30.08	764.1	39.2	4.0	64	SE			7		1	SE		0	0		Dr. H. Möhl.
Emden			30.00	762.1	34.3	1.3	76	SE			3		5			0	0		Prof. Prestel.
Frankfort on the Main			30.05	763.2	41.7	5.4	56	ESE			2		7			0	0		Physical Society.
Friedrichshafen			30.08	764.1	39.2	4.0	87	WSW			5		3			0	0		M. Wilhelm.
Hamburg			30.10	764.4	31.6	— 0.2	85	SSE			5		8ks			0	0		Captain F. Hegemann.
Kiel			30.10	764.5	31.5	— 0.3	82	ESE			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.30	769.7	25.7	— 3.5	78	SE			2		8			0	0		Prof. E. Luther.
Köslin			30.27	768.8	31.5	— 0.3		Calm			0		4			0	0		H. Müller.
Leipsic			30.17	766.4	31.6	— 0.2	89	E			3		7	ENE		0	0	Foggy	Prof. Bruhns.
Memel			30.33	770.3	26.8	— 2.9	68	Calm			0		0			0	0	Smoke-haze.	Reinbrecht & Skalweit.
Münster			29.87	758.6	42.6	5.9	75	NE			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.29	769.4	33.1	0.6	82	Calm			0		10			0	0	Smoke-haze.	A Lothe.
Posen			30.25	768.3	31.3	— 0.4	97	SE			2		10						Dr. Magener.
Strassburg, (in Alsace)			30.02	762.5	40.8	4.9	84	Calm			0		10			0	0		Dr. Schur.
Stuttgart			30.02	762.6	42.3	5.7	77	E			1		0			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.84	757.9	40.1	4.5	92	NE			1		10			0.165	4.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.54	725.0	30.10	764.6	36.9	2.7	74	SSE	2	1			1			0	0		Dr. von Bebber.
Wustrow, Naval School			30.26	768.6	28.6	— 1.9	95	SE			3		7			0	0		E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," N. 14°, 4′, W. 25°, 30′.			30.11	764.8	81.3	27.4	69	E			4		3		E				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.96	760.9	55.6	13.1		W										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.07	763.8	45.9	7.7	60	S	0.7	0.3			0			0	0		Prof. Giovanni Clodi.
Padua			30.08	764.1	39.2	4.0	93	WSW	1.3	0.6			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.05	763.3	45.3	7.4	63	E	0.7	0.3			0			0	0		Alm. Da Schio.
Verona			30.05	763.2	46.4	8.0	79	W			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.72	729.5	30.07	763.8	45.0	7.2	66	SSW			2		0			0	0		Prof. Trionfini Carlo.
Domodossola			30.10	764.6	41.9	5.5	63						9			0	0		Prof. Giuseppe Calza.
Milan			30.14	765.5	45.1	7.3	78	WSW			2		5	WNW		0	0		Ab. Gio. Capelli.
Pavia			30.11	764.8	44.6	7.0	71	SW			1		9			0	0		Prof. Gio. Cantoni.
Moncalieri			30.13	765.4	42.6	5.9	77	ENE	0	0			7	NW		0	0		Prof. P. F. Denza.
Mondovi	28.15	715.1	30.13	765.2	41.4	5.2	58	NNW			2		6			0	0		Prof. C. Bruno.
Porto Maurizio			30.14	765.6	55.9	13.3	70	E			2		7	WSW		0	0		Prof. L. Vassallo
Genoa			30.10	764.6	54.0	12.2	61	SE	1.3	0.6			10	S		0	0		Prof. Garibaldi.
Piacenza			30.12	765.0	44.1	6.7	75	W	5.6	2.5			4			0	0		Dott. G. Manzi.
Parma			30.11	764.8	46.4	8.0	74	SW			2		1			0	0		Prof. P. Pigorini.
Bologna			30.13	765.4	44.8	7.1	41	W			1		3	E		0	0		Prof. A. Palagi.
Florence			30.14	765.6	49.1	9.5	64	Calm			0		0			0	0		Cav. F. Meucci.
Leghorn			30.11	764.9	52.5	11.4	57	NNE	4.9	2.2			4	N		0	0		Prof. P. Monte.
Siena	28.88	733.6	30.11	764.8	46.9	8.3	59	NNW	0	0			1			0	0		Prof. L. Toscani.
Urbino	28.54	724.9	30.14	765.5	44.1	6.7	79	SW			2		10			0	0		Prof. P. Serpieri.
Pesaro			30.13	765.4	45.5	7.5	79	NW	16.1	7.2			0			0	0		Prof. Luigi Guidi.
Ancona			30.14	765.5	47.5	8.6	69	W			4		0			0	0		Prof. F. De—Bosis.
Grosseto			30.14	765.6	54.9	12.7	56	S			2		3	SE		0.008	0.2	Light rain	Avv. P. Ponticelli.
Rome			30.11	764.8	55.0	12.8	46	NNE	3.8	1.7			0			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.13	765.3	56.8	13.8	39	N			4		1			0.079	2.0	Raining	Prof. L. Palmieri.
Lecce			30.06	763.4	54.7	12.6	51	N	18.6	8.3			5			0	0		Prof. C. De—Giorgi.
Cosenza			30.09	764.2	55.0	12.8	61	N	6.3	2.8			3			0.154	3.9	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			30.04	762.9	60.8	16.0	57	N			2		4			0	0		Prof. F. Cafiero.
Palermo			30.07	763.8	61.2	16.2	56	WNW	6.3	2.8			9			0.028	0.7	Light rain	Prof. G. Cacciatore.
Caltanissetta	28.11	713.9	30.07	763.7	53.4	11.9	65	WNW			6		7	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.10	764.6	53.2	11.8	42	NE	0	0			0			0.185	4.7		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.67	753.6	43.3	6.3		SSE			5								
Groningen			29.81	757.2	36.1	2.3		E			5								
Helder			29.72	755.0	37.2	2.9		ESE			5								
Utrecht			29.73	755.2	36.9	2.7	89	SSE			5		10			0.413	10.5	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.07	763.6	32.4	0.2	87	Calm	0	0			0			0	0		
Brône			30.08	763.9	39.6	4.2	80	Calm	0	0			10			0.126	3.2		
Christiania			30.25	768.4	28.4	— 2.0	88	SW	0	0			10			0	0		
Tromsö			30.04	762.9	27.7	— 2.4	87	Calm	0	0			10			0.079	2.0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.91	759.7	59.4	15.2	89	E	5.6	2.5			7			0	0		Dr. J. A. Sampaio.
Campo Major			30.08	763.9	55.8	13.2	82	S	4.9	2.2			10	SSW		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.07	763.6	69.8	21.0	82	SW	9.8	4.4			10			0.630	16.0		Capt. D. A. de Cunha.
Lisbon			30.02	762.4	62.8	17.1	84	SSW	18.6	8.3			10			Inap.	Inap.	Light rain	The Observatory.
Ponta Delgada, (Azores)			29.93	760.2	61.2	16.2	85	NE	1.3	0.56			10			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.23	767.7	33.3	0.7	89	ESE	4	2			7						Astronomical Obs.
Wilna			30.37	771.4	23.9	— 4.5	79	Calm	0	0			2						Astronomical Obs.
Dorpat			30.36	771.2	31.5	— 0.3	97	WSW	2	1			10						Physical Cabinet.
St. Petersburg			30.28	769.1	32.5	0.3	98	NW	4	2			10						Central Physical Obs.
Kuopio			30.24	768.2	30.9	— 0.6	100	W	7	3			10					Snowing	Ch. Forsten.
Kieff			30.21	767.3	32.7	0.4	71	ENE	7	3			2						Physical Cabinet.
Nikolaiev			30.08	764.0	30.7	— 0.7	88	ENE	18	8			10						Kurdakof.
Kertch			30.02	762.4	39.6	4.2	92	ENE	9	4			9						Lagorio.
Moscow			30.28	769.0	24.8	— 4.0	91	NNW	4	2			10						Meteorological Obs.
Lugan			30.16	766.1	30.7	— 0.7	56	ESE	9	4			6						Meteorological Obs.
Archangel			30.21	767.4	1.8	—16.8	82	SW	9	4			10						Ogorodnikof.
Tiflis	28.71	729.2	30.17	766.3	43.5	6.4	68	SE	4	2			7						Physical Observatory.
Astrakhan			30.24	768.1	31.3	— 0.4	89	E	7	3			6						Sebastianof.
Kasan			30.02	762.4	20.7	— 6.3	93	NNW	2	1			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.83	732.2	29.85	758.2	9.9	—12.3	85	Calm	0	0			10					Snowing	Meteorogical Obs.
Nukass			30.45	773.5	29.1	— 1.6	68	ESE	4	2			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.37	771.4	10.9	—11.7	78	SW	9	4			10						Meteorological Obs.
Yeniseisk			29.95	760.6	5.9	—14.5	76	Calm	0	0			1						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.25	768.4	41.2	5.1	68	Calm	0	0			6						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.20	767.1	28.2	— 2.1	79	NW	7	3			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.10	764.4	59.5	10.3	84	E	3.0	1.33		0	8			0.016	0.4	Cloudy	Royal Observatory.
San Fernando			30.14	765.5	65.5	18.6	78	SSW	7.2	3.2		2	8	N	SSW	0.051	1.3		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.25	768.4	19.8	— 6.8	94	N			2		10			0.35	9.		
Umea			30.30	769.5	25.5	— 3.6	100	Calm			0		10			0	0		
Hernosand			30.27	768.9	33.8	1.0	100	Calm			0		10			0.024	0.6	Raining	
Stockholm			30.26	768.7	27.3	— 2.6	85	SSW			2		10			0	0	Foggy	
Wisby																			
SUB-SERIES.																			
Upsala			30.26	768.5	27.0	— 2.8	92	WSW	8.3	3.7			2			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.59	726.1	30.04	763.0	45.3	7.4	58	N			1		8			0	0	Covered	The Observatory.
Zurich	28.40	721.3	30.09	764.3	37.8	3.2	86	W			1		2			0	0	Clear	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —0.6 mm; Thermometer, +2.3 cent.; Relative Humidity, —20 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.94	760.5	51.1	10.6	74	NW	4	2.0			5		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.93	760.3	59.7	15.4		NW			1		10						
Valona			29.98	761.5	51.6	10.5		NW			2		10			Blank	Blank		
Varna																			
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.00	762.0	70.0	21.1	78	SW					9n		SW	0	0	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B.			29.73	755.1	31.9	— 0.1	88	NW	3	1.3			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.97	761.2	28	— 2.2		Calm	0	0		0	2s			0	0	Fair	W. R. Bigg.
*Chatham, N. B.			29.70	754.4	32	0.0	96	N	12	5.4			10s		N	0.02	0.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.57	751.1	39	3.9	97	N	16	7.2			10n			0.450	11.43	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario			29.87	758.7	25.1	— 3.8	81	NE			1	3cs	0	NW		0	0	Fair	James Smith, M. A.
Dalhousie, N. B.			29.78	756.4	30.2	1.0	74	W			1					0	0	Threatening	H. A. Johnson.
Esquimault, B. C.			30.07	763.8	51.3	10.7	86	Calm					10			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			29.74	755.4	32.0	0.0	71	NW	8	3.6			10s			0.100	2.54	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.12	765.0	22	— 5.6	97	NW	14	6.3			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.83	757.7	30.9	— 0.6	84	Calm			0		10n			Inap.	Inap.	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.66	728.0	29.81	757.2	28	— 2.2		Calm			0		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			29.47	748.5	38	3.3	92	N	30	13.4			10n			1.217	30.91	Light rain	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.92	760.0	29	— 1.7	94	Calm	0	0		10ck	0			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.40	746.7	39.0	3.9	100	SE	10	4.5			10n			0.70	17.8	Raining	C. H. Rigby.
*Montreal, Quebec			29.90	759.4	25	— 3.9	84	N	3	1.3		2k	5s	NW	NW	0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.86	758.4	24	— 4.4	80	E	2	0.9		5k	0	W		0	0	Fair	J. B. Haney.
*Parry Sound, Ontario			29.80	756.9	31	— 0.6	92	S	5	2.2		2k	8n	SW	SW	0.31	7.9	Light snow	Rev. R. Mosley.
Port Dover, Ontario			29.83	757.7	32	0.0	96	N	2	0.9			10n		N	0.02	0.5	Light snow	H. Morgan.
Port Hastings, N. S.			29.44	747.8	42.4	5.5		Calm	0	0						2.10	53.3	Raining	Peter Grant.
Port Stanley, Ontario			29.84	757.9	31	— 0.6	93	NW	2	0.9			10n		W	0.04	1.0	Light snow	M. Payne.
*Quebec, Quebec			29.50	759.4	29	— 1.7	78	Calm	0	0			10n			0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.69	754.1	34	1.1	79	N	11	4.9			10n			0.04	1.0	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.79	756.7	30	— 1.1	89	S	2	0.9			10as			0.08	2.0	Cloudy	K. Stewart.
Stayner, Ontario			29.81	757.2	29	— 1.7	95	SE	3	1.3			10ks		NW	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.48	723.4	29.81	757.2	27.7	— 2.4	96	Calm	0	0			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			29.46	748.3	40	4.4	95	NE	14	6.3			10n			0.94	23.9	Light snow	T. C. Hill.
*Toronto, Ontario			29.85	758.2	31	— 0.6	95	N	2	0.9			10n		S	0.01	0.3	Light snow	Magnetic Observatory.
Woodstock, Ontario			29.84	757.9	28.7	— 1.8	98	Calm	0	0			10s			0.06	1.5	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.71	754.6	39.0	3.9	100	NE	3	1.3			10n			0.20	5.1	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.88	758.9	30	— 1.1	89	Calm	0	0		8k	Haze	NW		0	0	Cloudy	
Alpena, Mich.			29.77	756.1	29	— 1.7	78	W	6	2.7			10s		W	Inap.	Inap.	Cloudy	
Atlantic City, N. J.			29.94	760.5	32	0.0	79	W	6	2.7		10cs	0	W		0	0	Cloudy	
Augusta, Ga.			29.98	761.5	43	6.1	75	N	2	0.9			10s		N	0	0	Cloudy	
Baltimore, Md.			29.98	761.5	36	2.2	62	N	5	2.2		2c	2s		N	0	0	Fair	
Barnegat, N. J.			29.94	760.5	33	0.6	79	NW	12	5.4		10k	0	W		0	0	Cloudy	
Bismarck, Dakota	28.31	719.1	30.10	764.5	13	—10.6	44	Calm	0	0		5ck	0	SE		0	0	Fair	
Boston, Mass.			29.86	758.4	30	— 1.1	88	NW	8	3.6		2c	5s	W	W	0	0	Fair	
Breckenridge, Minn.			30.10	764.5	16	— 8.9	100	NW	12	5.4			Fog		NW	0	0	Foggy	
Buffalo, N. Y.			29.82	757.4	32	0.0	79	S	4	1.8			10n			Inap.	Inap.	Light snow	
Burlington, Vt.			29.89	759.2	31	— 0.6	68	E	1	0.4			10s			0	0	Cloudy	
Cairo, Ill.			30.04	763.0	36	2.2	70	N	16	7.2			10s			Inap.	Inap.	Cloudy	
Cape Hatteras, N. C.			29.90	759.4	43	6.1	67	N	5	2.2			10s			0	0	Cloudy	
Cape Henry, Va.			29.95	760.7	36	2.2	80	Calm	0	0		2c	5s			0	0	Fair	
Cape Lookout, N. C.			29.95	760.7	44	6.7	60	NE	10	4.5			10s			0	0	Cloudy	
Cape May, N. J.			29.95	760.7	37	2.8	71	NW	12	5.4		8k	0	NW		0	0	Fair	
Charleston, S. C.			29.96	761.0	46	7.8	54	NE	8	3.6			10s			Inap.	Inap.	Threatening	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	42	5.6	42	W	20	8.9		0	0			0	0	Clear	
Chicago, Ill.			29.87	758.7	30	— 1.1	78	W	8	3.6			10s			Inap.	Inap.	Cloudy	
Cincinnati, Ohio			29.80	756.9	41	5.0	73	W	5	2.2			10s		W	0	0	Cloudy	
Cleveland, Ohio			29.81	757.2	34	1.1	79	S	9	4.0			10n		S	0.06	1.5	Light snow	
Corsicana, Tex.			30.21	767.3	40	4.4	82	NW	6	2.7		2cs	0			0	0	Clear	
Davenport, Iowa			29.96	761.0	31	— 0.6	79	NW	8	3.6			10s			0	0	Cloudy	
Denison, Tex.			30.20	767.1	40	4.4	81	NW	7	3.1		0	0			0	0	Clear	
Denver, Col.	24.88	631.9	30.10	764.5	37	2.8	54	S	4	1.8			8s			0	0	Cloudy	
Detroit, Mich.			29.78	756.4	31	— 0.6	89	Calm	0	0			10n			0.07	1.8	Light snow	
Dodge City, Kan.	27.49	698.2	29.89	759.2	30	— 1.1	78	NW	10	4.5		2c	2s	NW	NW	0	0	Fair	
Dubuque, Iowa			29.94	760.5	28	— 2.2	77	W	3	1.3			10s			0	0	Cloudy	
Duluth, Minn.			29.94	760.5	27	— 2.8	77	NW	4	1.8			10s			0	0	Cloudy	
Eastport, Me.			29.69	754.1	34	1.1	69	N	18	8.0			10s		N	0.03	0.8	Cloudy	
Erie, Pa.			29.80	756.9	34	1.1	90	SE	14	6.3			10n			Inap.	Inap.	Light snow	
Escanaba, Mich.			29.76	755.9	27	— 2.8	77	W	8	3.6			10s		NW	0.04	1.0	Cloudy	
Fort Gibson, Indian Ter.			30.16	766.1	25	— 3.9	75	S	1	0.4		0	Fog			0.02	0.5	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.93	734.8	30.09	764.3	35	1.7	61	W	2	0.9		1c	0	W		0	0	Clear	
Fort Sully, Dakota	28.39	721.1	30.14	765.5	27	— 2.8	77	NW	4	1.8		0	0			0	0	Clear	
Florence, Arizona	28.67	728.2	30.26	768.6	40	4.4		NW				0	0			0	0	Clear	
Galveston, Tex.			30.19	766.8	45	7.2	92	NW	12	5.4		0	1s			0.56	14.2	Clear	
Grand Haven, Mich.			29.78	756.4	32	0.0	89	E	2	0.9			10n			0.02	0.5	Light snow	
Indianapolis, Ind.			29.88	758.9	34	1.1	90	W	8	3.6			10n		W	0.04	1.0	Light rain	
Indianola, Tex.			30.21	767.3	44	6.7	83	N	4	1.8		0	0			0.09	2.3	Clear	
Jacksonville, Fla.			29.93	760.2	46	7.8	92	NW	10	4.5			10n			0.67	17.0	Light rain	
Keokuk, Iowa			29.97	761.2	33	0.6	69	NW	6	2.7			10s		NW	0.08	2.0	Cloudy	
Key West, Fla.			29.83	757.7	74	23.3	90	NE	12	5.4			10ks			0	0	Threatening	
Kittyhawk, N. C.			30.00	762.0	39	3.9	72	Calm	0	0			10s			0	0	Cloudy	
Knoxville, Tenn.			30.00	762.0	29	— 1.7	78	Calm	0	0		10cs	Haze	SW		0	0	Cloudy	
La Crosse, Wis.			29.92	760.0	30	— 1.1	78	SW	6	2.7		2k	Haze	SW		0	0	Hazy	
Leavenworth, Kan.			30.05	763.3	29	— 1.7	89	E	1	0.4		5c	0			0.01	0.3	Fair	
Louisville, Ky.			29.92	760.0	37	2.8	80	W	16	7.2			10s		W	Inap.	Inap.	Threatening	
Lynchburg, Va.			29.96	761.0	30	— 1.1	89	Calm	0	0		0	Sm'e			0	0	Smoky	
Malone, N. Y.			29.86	758.4	28	— 2.2	88	S	2	0.9		5ck	0	NW		0	0	Fair	
Marquette, Mich.			29.76	755.9	28	— 2.2	77	W	6	2.7			10n			Inap.	Inap.	Light snow	
Memphis, Tenn.			30.03	762.7	40	4.4	83	Calm	0	0		0	Haze		NW	0	0	Fair	
Milwaukee, Wis.			29.89	759.2	27	— 2.8	88	NW	10	4.5			10s			0.04	1.0	Cloudy	
Mobile, Ala.			30.06	763.5	42	5.6	91	N	8	3.6			10s		N	0.99	25.1	Cloudy	
Montgomery, Ala.			30.05	763.3	39.5	4.	91	W	1	0.4		0	Fog		W	0.19	4.8	Foggy	
Morgantown, W. Va.	28.80	731.5	29.88	758.9	33	0.6	89	S	4	1.8			10s		SW	0	0	Threatening	
Mt. Washington, N. H.	23.33	592.6	29.69	754.1	7	—13.9	77	NW	20	8.9		0	2s		NW	0	0	Fair	
Nashville, Tenn.			29.96	761.0	40	4.4	91	SW	3	1.3		8k	Fog	W		0.02	0.5	Cloudy	
New Haven, Conn.			29.90	759.4	35	1.7	61	NW	5	2.2		2c	Haz	NW		0	0	Fair	
New London, Conn.			29.90	759.4	35	1.7	61	NW	4	1.8		2c	2ck	W	W	0	0	Fair	
New Orleans, La.			30.07	763.8	45	7.2	80	N	8	3.6		1k	0	N		1.08	27.4	Clear	
Newport, R. I.			29.89	759.2	34	1.1	61	W	10	4.5		5ck	2s	NW	NW	Inap.	Inap.	Cloudy	
New York, N. Y.			29.93	760.2	35	1.7	62	Calm	0	0		5ck	2s	SW	SW	0	0	Fair	
Norfolk, Va.			29.97	761.2	39	3.9	72	Calm	0	0		10s	Fog			0	0	Cloudy	
North Platte, Neb.	27.13	689.1	29.80	756.9	29	— 1.7	89	W	12	5.4			10ks		W	0	0	Cloudy	
Omaha, Neb.	28.85	732.8	29.97	761.2	30	— 1.1	89	NW	1	0.4		2c	0			0	0	Fair	
Oswego, N. Y.			29.89	759.2	37	2.8	70	S	4	1.8		8s	2ks		SW	0.22	5.6	Threatening	
Pembina, Dakota			30.10	764.5	20	— 6.7	84	N	8	3.6			10s			0	0	Cloudy	
Philadelphia, Pa.			29.96	761.0	33	0.6	69	NW	12	5.4		2ck	1s	NW	W	0	0	Fair	
Pike's Peak, Col.	17.81	452.4	30.02	762.5	13	—10.6	62	NW	34	15.2		10cs	0			0	0	Cloudy	
Pittsburgh, Pa.			29.86	758.4	32	0.0	89	S	5	2.2			10n			0.01	0.3	Light snow	
Port Huron, Mich.			29.77	756.1	28	— 2.2	88	W	3	1.3			10s		SW	0.05	1.3	Threatening	
Portland, Me.			29.84	757.9	32	0.0	61	NW	2	0.9		8c,ck	0	NW		0	0	Cloudy	
Portland, Oregon			30.10	764.5	58	14.4	87	SW	12	5.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			29.76	755.9	72.5	22.5	90	SW	26	11.6			10s		SW	1.27	32.3	Threatening	
Rochester, N. Y.			29.84	757.9	33	0.0	84	SW	5	2.2			10n		W	Inap.	Inap.	Light snow	
Salt Lake City, Utah	25.92	658.4	30.25	768.3	35	1.7	70	NE	4	1.8		0	0			0	0	Clear	
Sandy Hook, N. J.			29.90	759.4	35	1.7	70	N	6	2.7			10ks		NW	0	0	Cloudy	
San Diego, Cal.			30.17	766.3	54	12.2	43	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.28	769.1	53	11.7	79	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.41	594.6	29.95	760.7	28	— 2.2	67	N	21	9.4		0	0			0	0	Clear	
Savannah, Ga.			29.95	760.7	52	11.1	86	NE	4	1.8			10s			0.25	6.3	Cloudy	
Shreveport, La.			30.18	766.6	38	3.3	90	W	4	1.8		1c	0	S		0	0	Clear	
Smithville, N. C.			29.95	760.7	40	4.4	63	N	3	1.3			10ks			0	0	Cloudy	
Springfield, Mass.			29.88	758.9	31	— 0.6	78	NW	2	0.9		3c,cs	2s			0	0	Fair	
St. Louis, Mo.			30.03	762.7	32	0.0	79	N	8	3.6			10s			0.06	1.5	Cloudy	
St. Marks, Fla.			29.94	760.5	44	6.7	96	N	8	3.6			10s		N	0.86	21.8	Cloudy	
St. Paul, Minn.			29.91	759.7	22	— 5.6	85	NW	8	3.6		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.86	758.4	33	0.6	61	NW	20	8.9		5c	2k	W	W	0	0	Fair	
Toledo, Ohio			29.77	756.1	36	2.2	90	SW	4	1.8			10n			0.09	2.3	Light snow	
Tucson, Arizona	27.76	705.1	30.31	769.9	35	1.7		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.11	764.8	37	2.8	100	SW	6	2.7		1c	Fog		SW	0.02	0.5	Foggy	
Virginia City, M. T.	24.35	618.5	29.83	757.7	42	5.6	57	SW	8	3.6		3k	0	NW		0	0	Fair	
Washington, D. C.			29.98	761.5	32	0.0	72	Calm	0	0		5cs	Sm'e	W		0	0	Fair	
Wilmington, N. C.			29.95	760.7	41	5.0	56	N	4	1.8			10s			0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.89	759.2	34	1.1	61	NW	12	5.4		0	0			0	0	Clear	
Yankton, Dakota	28.76	730.5	30.11	764.8	27	— 2.8	82	NW	13	5.8		5cs	0	NW		0	0	Fair	
Yuma, Arizona			30.24	768.1	51	10.6		W				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.09	764.3	77	25.0	86	Calm	0	0		8c	2s			0.23	5.8		James Gall.
Navassa, W. I.					79	26.1		SE			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.15	689.6	29.92	760.0	67	19.4	83	SE	1.0	0.4		5c	2k	SE		0.60	15.2	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	83	28.3	79	NE			2	5k	7ks	NE		0.700	17.78	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.7			84.2	29.0		SE								0.260	6.75		Dr. H. Groot.
Medellin, Colombia, S. A.	25.20	640.1			65.5	18.6	87	Calm			0		10s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			29.95	760.7	—14.5	—25.8	72	NW	7	3.1		1c	0	S		0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.89	759.2	74	23.3		S			3					1.25	31.7		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Hyannis, Mass.			29.79	756.7	32	0.0	90	NW	6	2.7		2c	2s	NW				Fair	Capt. James Jorgensen.
Steamer Berlin, N. 41°, 54', W. 51°, 14'.	E¾N	6	29.04	737.6	51.1	10.6		S			3		..k,d			Long swells		Squally	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Farenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 26, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer, corrected for instrumental errors. Inches.	Barometer, corrected for instrumental errors. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.08	763.9	69.8	21.0	45	Calm			0		9			0	0	Hidden	Charnot.
Algiers			30.02	762.0	66.6	19.2	70	N			1		10			0	0	Hidden	Peter.
La Calle			30.02	762.5	68.7	20.4	58	N			2		3			0	0	Fair	Fleury.
Tunis			30.10	764.4	65.5	18.6	66	WSW			3		4			0	0	Fair	Jacques.
Sfax			30.17	766.4															
Sajda			30.16	766.0	71.2	21.8	24	SW			2		2			0	0	Clear	Millot.
Tebessa			30.10	764.6	58.1	14.5		S			1		2			0	0	Clear	Bourgeois.
Geriville			30.18	766.5	55.6	13.1	50	SSE			3		0			0	0	Clear	Lemaillot.
Laghouat			30.18	766.5	68.0	20.0	33	N			2		1			0	0	Clear	Guyot.
Biskra			30.15	765.9	68.5	20.3	41	NW			1		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer, corrected for instrumental errors. Inches.	Barometer, corrected for instrumental errors. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.19	766.7	30.7	— 0.7	94	Calm			0		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.20	767.0	27.5	— 2.5	96	NE			2		7			0	0		Dr. Wierzbiski.
Eperies			30.20	767.0	33.1	0.6	78	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.84	732.6	30.17	766.4	29.1	— 1.6	94	SSE			2		10			0	0		Andreas Rospini.
Hermannstadt	28.72	729.5	30.21	767.4	33.6	0.9	84	SE			2		4			0	0		Prof. Reissenberger.
Kremsmünster	28.65	727.7	30.07	763.6	28.8	— 1.8	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.26	768.4	30.7	— 0.7	94	SE			3		3			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.10	764.4	48.9	9.4	82	WNW			1		3c's			0	0		I.R.Hydrographic Of'ce
Szegedin			30.20	767.1	36.7	2.6	77	Calm			0		10			0.014	0.35		Karl Stancel.
Trieste			30.10	764.5	47.5	8.6	83	Calm			0		0			0	0		Prof. V. Farolfi.
Vienna			30.11	764.8	30.9	— 0.6	96	SE			2		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer, corrected for instrumental errors. Inches.	Barometer, corrected for instrumental errors. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.81	757.1	48.2	9.0	88	WSW			3	0	4k		SW	0.287	7.30		Royal Observatory

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES.

Furnished by the co-operation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.41	747.0	40.7	4.8		S	10	4.5			2			0.390	9.91	Blue sky	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.41	747.0	36.7	2.6		SSW	1	0.4			5					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.33	745.0	46.3	7.9		SE			1		10					Misty	J. Dreyer.
Bradford																0.23	5.8		J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.2	29.0		NE			1		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.64	752.8	51.5	10.8		SSW			2		7					*D. clouds	H. Todd. [H.C.
Cardington			29.63	752.6	51.4	10.8		S			1		2					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.66	753.4	52.0	11.1		SW			2		3					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.17	715.5	29.68	753.9	47.6	8.7		SW			6		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.81	630.2			38.5	3.6	68	Calm			0		8			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.40	746.7	45	7.2		S			2		7					*D. clouds	J. Mac Gowan.
Dover			29.62	752.3	51	10.6		SW			4		5					Squally	J. Costello.
Eccles, (near Manchester)			29.46	748.3	47.9	8.8		SSW	10.6	4.7			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.58	751.3	50.2	10.1		SSW			4		8					Overcast	The Staff.
Fort Napier, (Natal)	27.46	697.2	29.69	754.1	76.0	24.4		E			1		9					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		Calm?			1?		3					*D. clouds	
Galway, Queen's College			29.40	746.7	43	6.1		SW			3		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.99	761.7	69.8	21.0		E			1		8					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.40	746.7	41.6	5.3		ENE			1		7					*D. clouds	Lewis Stuart.
Great Yarmouth			29.67	753.6	49	9.4		SW			3		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y			29.68	753.9	52.3	11.3		SSW			3		6					*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.69	754.1	53.5	11.9		SSW			4		3					*D. clouds	Dr. S. E. Hoskins.
Helston			29.53	750.0	53	11.7		SW			6		8k			0.6	15.2		M. P. Moyle.
Holyhead			29.40	746.7	49	9.4		SSW			2		10					Raining	John Tilston.
Kew, Observatory			29.68	753.9	48.6	9.2		SSW	17	7.6			8					Hazy	The Staff.
Kingstown			29.39	746.5	47	8.3		SE			1		9			Blank	Blank	Overcast	George Mitchell.
Leicester Museum			29.59	751.6	50.6	10.3		S			3		6					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.17	766.3	64.2	17.9		NW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.36	745.7	40	4.4		Calm			0		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			29.83	757.7	69.6	20.9		W			7		7					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.55	750.6	50.3	10.2		S			5		10k,d		SSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.54	750.3	49.0	9.4		S			5		9					Misty	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.61	752.1	52	11.1		S			2		9					Overcast	J. Lucas.
Plymouth			29.58	751.3	54.5	12.6		SW			4		10					Overcast	John Merrifield.
Roche's Point			29.32	744.7	52	11.1		SSW			5		8					Showery	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.71	754.6	53.8	12.1		SW			5		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.26	743.2	44.5	6.9		WSW	19	8.5			6					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.02	762.5	40.4	4.7		NNE			3		10					Raining	Sergt. W. H. Lyne.
Sheffield			29.49	749.0	49.1	9.5		SW			2		8			0.140	3.71	Overcast	W. F. Cooper.
Silloth Rectory			29.44	747.8	40.4	4.7	95	SW			1		10			0.370	9.40	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			29.44	747.8	45.8	7.7		S					10					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.34	745.2	42	5.6		W			1		5					*D. clouds	John Smith.
Stratfield Turgiss			29.65	753.1	52.4	11.3		S			2		3			Blank	Blank	*D. clouds	Rev. Charles H. Griffith
Thurso			29.28	743.7	40	4.4		SW			3		7					Showery	John Trotter.
Truro, Royal Institution			29.57	751.1	56	13.3		S			6		6					*D. clouds	W. Newcombe.
Valencia, Observatory			29.21	741.9	50.2	10.1		SSW	27	12.1			8					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		SE			3		10			0.20	5.1		Henry Mercer.
Cape Good Hope, Obs'y			29.88	758.9	66.0	18.9	81	NW	21	9.4		4	5						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.84	757.9	64.5	18.1	82	S			2		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.46	748.3	36.2	2.3		W			1		7k			0.23	5.8	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.06	763.5				ENE	14.4	6.4						0	0		C. Meldrum.
Melbourne, Observatory			29.90	759.4	56.8	13.8	76	SW	4	1.8			3			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.39	746.5	47	8.3		N			3	5	3	N		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.25	742.9	45	7.2		SSE			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.88	759.0	35.2	1.8	91	SSE			4		10						
Faröe			29.74	755.5	34.7	1.5	96	S			4		10					Raining	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.85	758.3	26.8	— 2.9	96	NE			7		10						
Thorshavn, (Faröe)			29.38	746.2	40.6	4.8	86	NE			4		10					Raining	
Vestervig			29.67	753.7	34.5	1.4	96	SSE			4		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.85	758.3	48.2	9.0	97	SW			4		10			0.291	7.4	Covered	Normal School.
Amiens			29.82	757.4	51.8	11.0	83	S			3		0			0.295	7.5	Clear	Normal School.
Avignon			29.98	761.5	59.2	15.1	70	SE			1		8		S	0	0	Very cloudy	Normal School.
Bar-sur-Seine			29.90	759.5	52.3	11.3	72	SW			1		5		WSW	0.299	7.6	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.84	757.8	54.1	12.3	69	SW	13.2	5.9					SW	0.020	0.5		Beaumette Observ'tory.
Beauvais			29.87	758.8	47.3	8.5	86	SW			2		8		WSW	0.63	16.	Very cloudy	Normal School.
Besançon			29.98	761.4	52.2	11.2	86	S			2		10			0.130	3.3	Covered	Normal School.
Bourg en Bresse			30.01	762.3	51.3	10.7	82	S			1		10n		N	0.24	6.	Covered	Normal School.
Bourges			29.93	760.2	51.1	10.6	86	SW			2		2		S	0.185	4.7	Slightly cl'dy	Normal School.
Brest			29.61	752.1	57.0	13.9	73	SSW			4		8		SSW	0.0.0	0.5	Squally	Naval Observatory.
Carcassonne			29.92	760.0	54.3	12.4	78	E			2		5		W	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.83	757.7	46.8	8.2	96	S			2		10		S	0.59	15.	Covered	Normal School.
Châlons-sur-Marne			29.89	759.1	50.4	10.2	72	SW			2		5k		E	0.181	4.6	Cloudy	Normal School.
Clermont			29.89	759.3	55.2	12.9	65	SSE			1		8		SW	0.012	0.3		Puy de Dome Obs'y.
Commercy			29.96	761.0	48.0	8.9	81	W			2		5kn		W	0.20	5.	Partly cl'dy	Normal School.
Commune de Gréasque*			30.04	763.0	53.1	11.7	87	E			1		10		SE	0.055	1.4		M. Kina.
Grenoble			30.07	763.7	44.8	7.1	88	NNE			2		5		SW	0.098	2.5	Cloudy	Normal School.
La Roche-sur-Yon					52.5	11.4	93	SW			1		5		N	0.276	7.0	Partly cl'dy	Normal School.
Le Mans			29.85	758.3	49.6	9.8	95	SW			2		5		SW	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.94	760.4	52.7	11.5	85	S			1		10					Sprinkling	Normal School.
Lorient			29.76	756.0	56.5	13.6	62	SSW			5		8		SW	0.126	3.2	Very cloudy	Naval Observatory.
Mâcon			30.03	762.8	51.1	10.6	93	Calm			0		10			0.291	7.4	Covered	Normal School.
Metz			29.99	761.7	44.8	7.1	83	W			2		5		SW	0.291	7.4		M. Schuster.
Mirecourt			29.94	760.5	48.6	9.2	97	SSW					10		NNE	0.16	4.	Covered	Normal School.
Nismes			30.04	763.1	61.2	16.2	72	S			2		2		S	0.047	1.2	Slightly cl'dy	Normal School.
Orleans			29.90	759.4	49.6	9.8	89	SSE			2		5		S	0.031	0.8	Cloudy	Normal School.
Paris, Observatory			29.89	759.1	45.5	7.5	94	SSE			2		10			0.221	5.6	Misty	National Observatory.
Parthenay																			Normal School.
Privas			30.01	762.3	50.0	10		NE			2		10		NE	0.102	2.6	Covered	Normal School.
Rochefort, Observatory			29.88	758.9	55.8	13.2	77	SW			2		10			0.394	10.0	Covered	Naval Observatory.
Rouen			29.84	758.0	49.8	9.9	82	SSE			2		5		NW	0.236	6.0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.97	735.8	30.05	763.2	55.4	13		NE			2		5		E	0	0	Cloudy	Normal School.
Villefranche			30.12	765.0	50.0	10	83	SE			2		8			0.24	6.	Very cloudy	Normal School.
SUB-SERIES.																			
Fort de France, Martinique			29.82	757.3	80.6	27													L'Abbé Marchési.
Marseilles			29.98	761.5	59.5	15.3	83	ESE			1		10			0.118	3.0	Raining	Marseilles Observatory.
Mont-Louis	24.78	629.3	30.15	765.7	41.5	5.3	86	WSW	13.0	5.83			5		SW	0	0		—. Falguère.
Montsouris, Paris			29.87	758.7	45.0	7.2	91	SSW			2		10		SW	0.228	5.8		Montsouris Observatory
Perpignan			29.94	760.4	57.0	13.9	77	E	5.6	2.50			7		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.09	535.6			28.4	— 2.0		W			3		9					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.39	568.7			35.6	2.0		W			3		9			0.098	2.5	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.88	759.0	44.2	6.8	94	SSW			1		10			0.337	8.5	Covered	E. Renou.
Toulouse			29.93	760.1	56.3	13.5	84	SSE			4		7			0.016	0.4		Toulouse Observatory.
Tours			29.84	758.0	53.2	11.8	78	SSW			1		3		W	0.079	2.0		C. Marquet.
Versailles, (near Paris)			29.88	758.9	46.4	8.0	97	SW			1		10			0.324	8.25	Foggy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.32	770.0	45.0	7.2	97	E	0.4	0.20			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.95	760.8	39.2	4.0	75	SE			2		9	S		0	0		Prof. T. Hoh.
Berlin			29.99	761.7	36.5	2.5	82	SE			1		9			0	0		Prof. Arndt.
Breslau			30.08	764.0	29.5	— 1.4	92	SE			6		10			0	0	Smoke-haze.	Royal University Obs'y.
Carlsruhe			29.93	760.3	44.6	7.0	84	S			1		10			0	0		A. Senz.
Cassel			29.94	760.4	41.7	5.4	88	S			2		8	SSW		0.016	0.4		Dr. H. Möhl.
Emden			29.69	754.1	42.4	5.8	96	WSW			1		1			0.197	5.0		Prof. Prestel.
Frankfort on the Main			29.95	760.8	40.1	4.5	78	SSW			1		10			0.075	1.9	Rain & fog	Physical Society.
Friedrichshafen			30.05	763.3	41.5	5.3	86	SSE			3		6			0	0		M. Wilhelm.
Hamburg			29.84	757.8	34.2	1.2	92	SE			4		10			0.055	1.4	Raining	Captain F. Hegemann.
Kiel			29.79	756.7	36.1	2.3	82	SE			2		10			0.035	0.9		Prof. G. Karsten.
Königsberg, (Prussia.)			30.22	767.5	29.3	— 1.5	76	SE			2		0			0	0		Prof. E. Luther.
Köslin			30.06	763.5	33.4	0.8		SE			6		2			0	0		H. Müller.
Leipsic			29.99	761.7	38.1	3.4	73	SE			2		9	S		0	0		Prof. Bruhns.
Memel			30.26	768.7	28.6	1.9	74	SE			3		0			Inap.	Inap.	Smoke-haze.	Reinbrecht & Skalweit.
Münster			29.75	755.6	36.5	2.5	79	SW			1		0			0	0		Prof. E. Heis.
Neufahrwasser			30.17	766.2	30.9	— 0.6	85	SSW			4		0			0	0	Smoke-haze.	A Lothe.
Posen			30.13	765.3	31.5	— 0.3	95	SE			7		0						Dr. Magener.
Strassburg, (in Alsace)			29.95	760.7	48.4	9.1	88	Calm			0		10	SW		Inap.	Inap.		Dr. Schur.
Stuttgart			29.93	760.2	44.6	7.0	78	N			2		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.84	757.8	50.5	10.3	78	WSW			5		4			0.189	4.8		Prof. Flesch.
Weissenburg, (Bavaria,)	28.46	722.8	30.00	762.1	39.9	4.4	70	SE	2	1			10	SE		0	0		Dr. von Bebber.
Wustrow, Naval School			29.94	760.5	33.1	0.6	88	SSE			4		10			0	0		E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," N. 11°, 49′, W. 25°, 47′.			30.07	763.6	82.8	28.2	76	E			4		3		E				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 1—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.08	764.1	53.2	11.8		NE										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 1—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.06	763.5	47.7	8.7	50	SW	0.7	0.3			7			0	0		Prof. Giovanni Clodig.
Padua			30.08	763.9	44.4	6.9	73	NNW	0.7	0.3			5			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.08	763.9	46.6	8.1	66	E	0	0			5			0	0		Alm. Da Schio.
Verona			30.05	763.2	46.4	8.0	79	W			2		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.73	729.7	30.08	764.0	44.2	6.8	74	NW			1		10			0	0		Prof Trionfini Carlo.
Domodossola			30.10	764.4	41.9	5.5	67	Calm			0		6			0	0		Prof. Giuseppe Calza.
Milan			30.14	765.5	40.6	4.8	92	WNW			2		8	NNE		0.118	3.0	Raining	Ab. Gio. Capelli.
Pavia			30.11	764.8	44.6	7.0	71	SW			1		9			0	0		Prof. Gio. Cantoni.
Moncalieri			30.12	765.0	42.3	5.7	75	ENE	0.7	0.3			7	NW		0	0		Prof. P. F. Denza.
Mondovi	28.15	714.9	30.12	765.0	44.4	6.9	55	NNW			1		10			0	0		Prof. C. Bruno.
Porto Maurizio			29.72?	754.9?	52.3	11.3	84	N			2		10			0.056	1.4	Raining	Prof. L. Vassallo.
Genoa			30.06	763.5	51.4	10.8	87	N	1.8	0.8			10	E		.068	42.9		Prof. Garibaldi.
Piacenza			30.11	764.8	43.9	6.6	82	W	2.5	1.1			10			0.110	2.8	Raining	Dott. G. Manzi.
Parma			30.11	764.8	45.7	7.6	79	SSW			4		6			0	0		Prof. P. Pigorini.
Bologna			30.13	765.3	45.7	7.6	51	SW			1		6	N		0	0		Prof. A. Palagi.
Florence			30.14	765.6	44.6	7.0	87	E			2		10			0	0		Cav. F. Meucci.
Leghorn			30.09	764.3	51.3	10.7	66	ENE	6.8	2.8			10	S		0	0		Prof. P. Monte.
Siena	28.87	733.2	30.10	764.4	47.7	8.7	72	NNW	0	0			10	N		0	0		Prof. L. Toscani.
Urbino	28.54	724.9	30.14	765.5	46.0	7.8	65	SW			2		5			0	0		Prof. P. Serpieri.
Pesaro			30.13	765.2	47.3	8.5	85	N	13.0	5.8			10			0	0		Prof. Luigi Guidi.
Ancona			30.12	765.1	47.5	8.6	75	W			4		6			0	0		Prof. F. De— Bosis.
Grosseto			30.13	765.3	55.9	13.3	66	W			2		7	SE		0	0		Avv. P. Ponticelli.
Rome			30.12	765.0	55.8	13.2	53	Calm	0	0			6			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.15	765.9	58.3	14.6	48	SE			2		2	N		0	0		Prof. L. Palmieri.
Lecce			30.13	765.2	54.0	12.2	55	NNW	12.6	5.6			3			0.051	1.3		Prof. C. De—Giorgi.
Cosenza			30.13	765.4	54.7	12.6	51	SW	0	0			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			30.06	763.5	62.6	17.0	55	S			2		3			0	0		Prof. F. Cafiero.
Palermo			30.08	764.0	61.7	16.5	70	E	1.8	0.8			10			0	0		Prof. G. Cacciatore.
Caltanissetta	28.12	714.3	30.08	764.1	54.3	12.4	61	W			1		6	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.14	765.5	54.3	12.4	55	E	1.8	0.8			2	SE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 1—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 1—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.81	757.2	48.2	9.0		SSW			3								
Groningen			29.71	754.5	44.4	6.9		WSW			3								
Helder			29.74	755.3	48.2	9.0		SSW			4								
Utrecht			29.76	755.9	49.8	9.9	86	SW			3		5			0.146	3.7	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 1—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.59	751.5	41.0	5.0	75	SE	13	6			10			0	0		
Brône			29.68	753.9	38.1	3.4	50	SSE	4	2			3			0	0		
Christiania			29.87	758.6	31.6	— 0.2	92	ENE	0.9	0.4			10			Inap.	Inap.	Light snow	
Tromsö			29.65	753.2	37.4	3.0	69	Calm	0	0			10			0.118	3.0		

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

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Dom Luiz at Lisbon.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.88	759.0	65.8	18.8	92	W	2.5	1.1			8			0.260	6.6		Dr. J. A. Sampaio.
Campo Major			29.97	761.2	58.1	14.5	95	SSW	7.4	3.3			10	SSW		0.780	19.8	Raining	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.04	763.0	72.0	22.2	68	WSW	11.2	5.0			2			1.047	26.6		Capt. D. A. de Cunha.
Lisbon			29.92	760.0	59.7	15.4	98	SSE	4.9	2.2			10			0.516	13.1	Raining	The Observatory.
Ponta Delgada, (Azores)			29.93	760.2	68.0	20.0	91	S	0.2	0.08			3			0.008	0.2		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.24	768.1	28.4	— 2.0	92	SE	16	7			0						Astronomical Obs.
Wilna			30.41	772.3	28.2	— 2.1	47	SE	2	1			0						Astronomical Obs.
Dorpat			30.35	770.9	23.0	— 5.0	87	S	4	2			0						Physical Cabinet.
St. Petersburg			30.29	769.3	29.8	— 1.2	93	WSW	11	5			10						Central Physical Obs.
Kuopio			30.08	764.0	31.5	— 0.3	90	WSW	18	8			10						Ch. Forsten.
Kieff			30.37	771.5	32.9	0.5	29	NNE	2	1			0					Smoke-haze	Physical Cabinet.
Nikolaiev			30.23	767.8	31.5	— 0.3	60	NE	22	10			8						Kurdakof.
Kertch			30.10	764.4	39.2	4.0	98	ENE	16	7			5						Lagorio.
Moscow			30.49	774.4	26.2	— 3.2	94	S	9	4			10						Meteorological Obs.
Lugan			30.27	768.9	33.1	0.6	44	ENE	9	4			0						Meteorological Obs.
Archangel			30.13	765.3	14.0	—10.0	94	SE	13	6			10					Snowing	Ogorodnikof.
Tiflis	28.70	728.9	30.15	765.8	45.3	7.4	74	Calm	0	0			10						Physical Observatory.
Astrakhan			30.32	770.2	27.1	— 2.7	64	NE	11	5			2						Sebastianof.
Kasan			30.26	768.6	18.1	— 7.7	92	NW	4	2			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.88	733.5	29.91	759.6	6.8	—14.3	74	WSW	27	12			10						Meteorological Obs.
Nukuss			30.23	767.9	37.8	3.2	47	E	4	2			1						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.98	761.5	16.3	— 8.7	75	SSW	38	17			10						Meteorological Obs.
Yeniseisk			29.92	760.0	8.1	—13.3	71	S	9	4			5						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.30	769.6	37.4	3.0	83	Calm	0	0			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.29	769.4	27.7	— 2.4	69	NW	2	1			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.00	762.0	51.3	10.7	98	SW	0.7	0.33			10			0.308	7.7	Rainy	Royal Observatory.
San Fernando			30.02	762.6	65.3	18.5	79	S	11.2	5.0		0	10		S	0.472	12.0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.88	759.0	32.4	0.2	92	SW			2		10			0	0		
Umea			29.94	760.4	33.4	0.8	85	SW			4		9			0	0		
Hernosand			29.98	761.5	31.6	— 0.2	85	SSW			4		8			0	0		
Stockholm			30.01	762.2	37.4	3.0	87	S			2		10			0	0		
Wisby			30.15	765.9	37.8	3.2	80	S			4		0			0	0		
SUB-SERIES.																			
Upsala			30.00	761.9	35.4	1.9	88	SSE	8.7	3.9			10		S	0.008	0.20		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.58	725.8	30.04	762.9	42.8	6.0	94	WSW			1		10			0.051	1.3	Covered	The Observatory.
Zurich	28.36	720.3	30.04	762.9	42.8	6.0	85	S			1		10			0.020	0.5	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —0.9 mm; Thermometer, +1.0 cent.; Relative Humidity, +16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.07	763.6	41.0	5.0	93	NNW	13	6.0			10		N	0.756	19.2	Raining	
Fao, (Persian Gulf)			30.35	771.0	71.6	22.0		NW			1		10						
Salonica			30.14	765.5	56.3	13.5		N			1		0						
Valona			30.02	762.6	51.8	11.0		NW			1		0						
Varna			29.88	759.0	37.4	3.0		N			3		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.00	762.1	70.5	21.4	65	SW			3		2ks		SW	0.05	1.3	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario			29.76	755.9	25	— 3.9		NE	10	4.5			8s		NE	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			29.52	749.8	31	— 0.6	89	Calm	0	0		2s	8ks	NE	NE	0.07	1.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.45	748.0	36	2.2	95	N	13	5.8			10n			0.330	8.38	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.70	754.4	23.3	— 4.8	82	NE			2	2c	3s	S		0	0	Fair	James Smith, M. A.
Dalhousie, N. B								W			1					0.07	1.8	Overcast	H. A. Johnson.
Esquimault, B. C			30.21	767.3	45.3	7.4	84	SW					10n			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.60	751.8	28.0	— 2.2	88	W	8	3.6			10s			0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba			29.47	748.5	22	— 5.6	99	NW	10	4.5			10n			0.170	4.32	Cloudy	James Stewart.
Goderich, Ontario			29.71	754.6	21.9	— 5.6		Calm			0	0	3s			0.20	5.1	Fine	H. J. Strang, M. A.
Granton, Ontario	28.49	723.6	29.64	752.8	25.2	— 3.8		NW			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.43	747.5	36	2.2	91	NW	12	5.4			8n		NW	0.264	6.70	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weecon.
*Kingston, Ontario			29.69	754.1	27	— 2.8	93	NE	13	5.8			10n		NE	0.04	1.0	Light snow	S. Woods, M. A.
Little Glace Bay, N. S			29.21	741.9	38.0	3.3	100	SE	6	2.7			10n			0.34	8.6	Overcast	C. H. Rigby.
*Montreal, Quebec			29.75	755.6	25	— 3.9	94	NE	11	4.9		9cs	2s		N	0	0	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			29.74	755.4	25	— 3.9	74	E	4	1.8		10cs	0	S		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.70	754.4	27	— 2.8	90	N	12	5.4		2s	5ks	E	E	0.03	0.8	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.62	752.3	28	— 2.2	100	NW	6	2.7			10n		NW	0.17	4.3	Threatening	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario			29.66	753.4	30	— 1.1	97	W	8	3.6			10ks		NW	0.12	3.0	Cloudy	M. Payne.
*Quebec, Quebec			29.75	755.6	21	— 6.1	71	Calm	0	0		9s	2ks	NE		0	0	Fair	Capt. Ashe, R. N.
St. John, N. B			29.56	750.8	32	0.0	89	NW	5	2.2			10ks			0	0	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.64	752.8	30	— 1.1	89	Calm	0	0			10n			0.05	1.3	Cloudy	R. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.31	719.1	29.63	752.6	28.7	— 1.8	95	Calm	0	0			10s			0.10	2.5	Light snow	C. J. MacGregor, M. A
*Sydney, C. B			29.29	744.0	39	3.9	97	NW	6	2.7			10n			0.57	14.5	Cloudy	T. C. Hill.
*Toronto, Ontario			29.63	752.6	30	— 1.1	93	NE	11	4.9			10n		NE	0.49	12.4	Light snow	Magnetic Observatory.
Woodstock, Ontario			29.68	753.9	29.8	— 1.2	96	N	4.7	2.0			10s			0.06	1.52	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.48	748.8	39.0	3.9	100	NE	4	1.8			10n			1.50	38.1	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.65	753.1	31	— 0.6	89	NW	2	0.9			10s			0	0	Threatening	
Alpena, Mich.			29.71	754.6	30	— 1.1	89	NW	5	2.2			10n		NW	0.11	2.8	Light snow	
Atlantic City, N. J.			29.66	753.4	37	2.8	80	NW	1	0.4			10s			Inap.	Inap.	Cloudy	
Augusta, Ga.			29.87	758.7	37	2.8	81	NW	4	1.8		0	Haze			0	0	Clear	
Baltimore, Md.			29.66	753.4	38	3.3	90	S	3	1.3			10n			0.06	1.5	Light rain	
Barnegat, N. J.			29.66	753.4	37	2.8	80	W	4	1.8			10n			Inap.	Inap.	Light rain	
Bismarck, Dakota	27.90	708.6	29.56	750.8	30	— 1.1	60	NW	9	4.0		2c	2s	NW	NW	0.03	0.8	Fair	
Boston, Mass.			29.68	753.9	26	— 3.3	76	NW	8	3.6		2cs	2s	W		0	0	Fair	
Breckenridge, Minn.			29.53	750.0	31	— 0.6	89	W	4	1.8			10s		SW	0	0	Cloudy	
Buffalo, N. Y.			29.54	750.3	32	0.0	89	NW	3	1.3			10n			0.17	4.3	Light snow	
Burlington, Vt.			29.73	755.1	22	— 5.6	72	Calm	0	0		0	2s			0	0	Fair	
Cairo, Ill.			29.91	759.7	34	1.1	79	N	1	0.4		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.64	752.8	42	5.6	65	NW	10	4.5		2c	2s			0.16	4.1	Fair	
Cape Henry, Va.			29.65	753.1	37	2.8	71	SW	4	1.8			10s		SW	0	0	Cloudy	
Cape Lookout, N. C.			29.72	754.9	43	6.1	59	NW	14	6.3		0	Haze			0.06	1.5	Fair	
Cape May, N. J.			29.66	753.4	41	5.0	73	W	6	2.7			10s		W	0	0	Cloudy	
Charleston, S. C.			29.81	757.2	40	4.4	73	W	10	4.5		0	0			0.02	0.5	Clear	
Cheyenne, Wyoming	23.78	604.0	29.72	754.9	43	6.1	30	W	36	16.1		0	1s			0	0	Clear	
Chicago, Ill.			29.79	756.7	31	— 0.6	68	NW	3	1.3			10s			Inap.	Inap.	Cloudy	
Cincinnati, Ohio			29.74	755.4	34	1.1	79	NW	6	2.7			10ks		NW	0.01	0.3	Cloudy	
Cleveland, Ohio			29.67	753.6	34	1.1	79	NW	14	6.3			10s		W	0.42	10.7	Cloudy	
Corsicana, Tex.			29.95	760.7	42	5.6	83	SW	1	0.4		0	0			0	0	Clear	
Davenport, Iowa			29.82	757.4	29	— 1.7	78	SW	5	2.2			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			29.87	758.7	47	8.3	69	SW	12	5.4		0	0			0	0	Clear	
Denver, Col.	24.59	624.6	29.81	757.2	45	7.2	60	W	8	3.6		0	5s			0	0	Fair	
Detroit, Mich.			29.67	753.6	31	— 0.6	79	W	4	1.8			10s			0.24	6.1	Cloudy	
Dodge City, Kan.	27.13	689.1	29.44	747.8	33	0.6	79	W	6	2.7		0	2s		W	0	0	Clear	
Dubuque, Iowa			29.81	757.2	28	— 2.2	88	SE	2	0.9			10s			0	0	Cloudy	
Duluth, Minn.			29.70	754.4	26	— 3.3	76	S	6	2.7			10s			0	0	Cloudy	
Eastport, Me.			29.57	751.1	30	— 0.6	78	NW	12	5.4			10s		NW	Inap.	Inap.	Cloudy	
Erie, Pa.			29.58	751.3	34	1.1	90	SW	16	7.2			10n			0.10	2.5	Light snow	
Escanaba, Mich.			29.76	755.9	25	— 3.9	75	W	3	1.3			10s		NW	0.01	0.3	Cloudy	
Fort Gibson, Indian Ter.			29.82	757.4	34	1.1	80	SE	1	0.4		5cs	0	NW		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.61	726.7	29.73	755.1	39	3.9	37	Calm	0	0		0	0			0	0	Clear	
Fort Sully, Dakota	28.01	711.4	29.68	753.9	36	2.2	80	NW	8	3.6			10s			0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.00	762.0	55	12.8		NE				0	0			0	0	Clear	
Galveston, Tex.			30.07	763.8	49	9.4	77	SW	6	2.7		0	0			0	0	Clear	
Grand Haven, Mich.			29.73	755.1	28	— 2.2	88	E	3	1.3		0	5s		N	0.16	4.1	Fair	
Indianapolis, Ind.			29.81	757.2	30	— 1.1	78	Calm	0	0		2ck	Sm'e			Inap.	Inap.	Clear	
Indianola, Tex.			30.08	764.0	49	9.4	85	W	8	3.6		0	0			0	0	Clear	
Jacksonville, Fla.			29.95	760.7	42	5.6	75	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Keokuk, Iowa			29.78	756.4	29	— 1.7	78	SE	4	1.8			10s		SE	0	0	Cloudy	
Key West, Fla.			29.93	760.2	63	17.2	94	NE	20	8.9		0	5ks			0.30	7.6	Fair	
Kittyhawk, N. C.			29.70	754.4	38	3.3	81	NW	2	0.9		0	5s		W	0	0	Fair	
Knoxville, Tenn.			29.91	759.7	30	— 1.1	79	SW	4	1.8			7ks		NW	Inap.	Inap.	Cloudy	
La Crosse, Wis.			29.78	756.4	31	— 0.6	79	S	6	2.7			10s		S	0	0	Cloudy	
Leavenworth, Kan.			29.72	754.9	35	1.7	80	S	8	3.6		0	5s			0	0	Fair	
Louisville, Ky.			29.84	757.9	32	0.0	79	NW	7	3.1			10s			Inap.	Inap.	Cloudy	
Lynchburg, Va.			29.66	753.4	38	3.3	59	W	4	1.8		10k	0	W		0	0	Cloudy	
Malone, N. Y.			29.65	753.1	25	— 3.9	87	NE	1	0.4		8c	0	NW		0	0	Cloudy	
Marquette, Mich.			29.76	755.9	25	— 3.9	75	SW	4	1.8			10s			0.14	3.6	Cloudy	
Memphis, Tenn.			29.93	760.2	38	3.3	71	N	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			29.80	756.9	27	— 2.8	77	NW	4	1.8			10s			0	0	Cloudy	
Mobile, Ala.			30.05	763.3	39	3.9	80	NW	4	1.8		0	Fog			0	0	Clear	
Montgomery, Ala.			30.00	762.0	37	2.8	85	SW	2	0.9		0	Fog			0	0	Clear	
Morgantown, W. Va.	28.61	726.7	29.68	753.9	33	0.6	89	W	2	0.9			10n			0.25	6.3	Heavy snow	
Mt. Washington, N. H.	23.24	590.3	29.60	751.8	8	—13.3	78	NW	14	6.3		0	2s		NW	0	0	Fair	
Nashville, Tenn.			29.88	758.9	30	— 1.1	78	Calm	0	0		2c	Fog			0	0	Fair	
New Haven, Conn.			29.67	753.6	33	0.6	69	N	12	5.4			10s			0	0	Cloudy	
New London, Conn.			29.70	754.4	34	1.1	79	N	4	1.8			10s			0	0	Cloudy	
New Orleans, La.			30.05	763.3	46	7.8	76	Calm	0	0		0	Sm'e		NE	0	0	Clear	
Newport, R. I.			29.69	754.1	32	0.0	79	N	6	2.7			10ks		W	0	0	Cloudy	
New York, N. Y.			29.66	753.4	39	3.9	63	W	2	0.9			10s			0	0	Cloudy	
Norfolk, Va.			29.67	753.6	39	3.9	67	S	5	2.2		5k	5s			0	0	Cloudy	
North Platte, Neb.	26.98	685.3	29.60	751.8	34	1.1	90	W	6	2.7			10ks		W	0	0	Cloudy	
Omaha, Neb.	28.53	724.6	29.62	752.3	34	1.1	79	S	9	4.0			10s		NW	0	0	Cloudy	
Oswego, N. Y.			29.61	752.1	35	1.7	90	SE	9	4.0			10n			Inap.	Inap.	Light snow	
Pembina, Dakota			29.48	748.8	26	— 3.3	88	NW	8	3.6			10s			0.04	1.0	Cloudy	
Philadelphia, Pa.			29.66	753.4	36	2.2	80	W	6	2.7			10n		W	Inap.	Inap.	Light snow	
Pike's Peak, Col.	17.59	446.8	29.80	756.9	12.5	—10.8	91	W	50	22.4		0	0			0	0	Clear	
Pittsburgh, Pa.			29.64	752.8	33	0.6	79	W	6	2.7			10ks		W	0.08	2.0	Cloudy	
Port Huron, Mich.			29.63	752.6	31	— 0.6	89	W	6	2.7		2c	5s	N	NW	0.05	1.3	Cloudy	
Portland, Me.			29.68	753.9	26	— 3.3	64	NW	4	1.8		0	0			0	0	Clear	
Portland, Oregon			30.24	768.1	50	10.0	93	Calm	0	0			10s			1.52	38.6	Cloudy	
Punta Rassa, Fla.			30.00	762.0	51.5	10.8	68	N	14	6.3		0	0			0.04	1.0	Clear	
Rochester, N. Y.			29.55	750.6	32	0.0	94	SE	6	2.7			10s			0.04	1.0	Cloudy	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	43	6.1	58	S	4	1.8			10s			0	0	Cloudy	
Sandy Hook, N. J.			29.63	752.6	40	4.4	73	Calm	0	0			10s			0	0	Cloudy	
San Diego, Cal.			29.99	761.7	57	13.9	34	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.12	765.0	52	11.1	86	Calm	0	0			Fog			0	0	Foggy	
Santa Fé, N. M.	23.20	589.3	29.74	755.4	38	3.3	46	N	23	10.3		5c	0	W		0	0	Fair	
Savannah, Ga.			29.87	758.7	39	3.9	80	W	10	4.5		5c	Haze	W		0	0	Fair	
Shreveport, La.			30.02	762.5	41	5.0	82	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.76	755.9	34	1.1	79	NW	4	1.8		0	0			0	0	Clear	
Springfield, Mass.			29.69	754.1	32	0.0	68	Calm	0	0			10s			0	0	Cloudy	
St. Louis, Mo.			29.90	759.4	30	— 1.1	78	NE	4	1.8		0	5s			0	0	Fair	
St. Marks, Fla.			30.00	762.0	37	2.8	90	NW	6	2.7		0	0			0	0	Clear	
St. Paul, Minn.			29.65	753.1	25	— 3.9	88	SE	12	5.4			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.67	753.6	32	0.0	69	N	12	5.4		0	1k		N	0	0	Clear	
Toledo, Ohio			29.69	754.1	33	0.6	79	W	3	1.3		8k	0	W		0.10	2.5	Clearing	
Tucson, Arizona	27.60	701.0	30.14	765.5	35	1.7		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.02	762.5	40	4.4	73	SW	6	2.7		0	0			0	0	Clear	
Virginia City, M. T.	24.17	613.9	29.65	753.1	35	1.7	61	SW	12	5.4			8ks		W	Inap.	Inap.	Cloudy	
Washington, D. C.			29.66	753.4	37	2.8	100	SW	5	2.2			10n		S	0.04	1.0	Light rain	
Wilmington, N. C.			29.76	755.9	34	1.1	79	NW	5	2.2		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.69	754.1	35	1.7	69	N	4	1.8			10s		SW	0	0	Cloudy	
Yankton, Dakota	28.34	719.8	29.64	752.8	32	0.0	89	Calm	0	0			10n			0.03	0.8	Sleeting	
Yuma, Arizona			30.07	763.8	54	12.2		NE				0	0			0	0	Clear	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.06	763.5	79	26.1	86	Calm	0	0		8c	8n	SW	SW	1.12	28.4		James Gall.
Navassa, W. I.					80	26.7		S			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.13	689.1	29.91	759.7	66	18.9	94	SE	1.0	0.4			10k			1.48	37.6	Very dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.02	762.5	78	25.6	86	E			2	6ks?	7ks	E		0	0	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.8			80.6	27.0		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			66.8	19.3	77	Calm			0	1k	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.29	744.0	15.5	— 9.2	91	S	18	8.0			10n			0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.83	757.7	74	23.3		SSE			4					0.25	6.3		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

MARINE SERIES.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, off Chatam, Mass.	E	2	29.61	752.1	39	3.9	77	NNE	6	2.7		0	2s			swells	NE	Clear	Capt. James Jorgensen
Steamer Berlin, N. 42°, 44′, W. 48°, 15′.	E by S	5	29.03	737.3	54.5	12.5		ENE			6		10c,k			Long swells		Clearing	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 27, 1876.

7:35 A. M. WASHINGTON mean time.

7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.

2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.96	761.0	72.9	22.7	30	Calm			0		3			0	0	Fair	Charnot.
Algiers			29.96	760 9	72.3	22.4	41	NW			1		8			0	0	Cloudy	Peter.
La Calle			29.98	761.4	72.7	22.6	47	SW			2		4			0	0	Fair	Fleury.
Tunis			30.04	762.9	67.3	19.6	67	SSE			1		7			0	0	Cloudy	Jacques.
Sfax			30.11	764.7															
Saïda			30.07	763.7	67.5	19.7	31	W			1		2			0	0	Clear	Millot.
Tebessa			30.06	763.5	62.2	16.8		SW			1		2			0	0	Clear	Bourgeois.
Geriville					56.1	13.4	84	W			1		2			0	0	Clear	Lemaillot.
Laghouat			30.12	765.0	68.0	20.0	27	S			1		2			0	0	Clear	Guyot.
Biskra			30.10	764.5	66.7	19.3	39	Calm			0		6			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.02	762.6	34.7	1.5	90	SW			1		9			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.00	762,1	27.3	— 2.6	94	NE			2		6			0	0		Dr. Wierzbiski.
Eperies			30.08	764.0	33.8	1.0	89	S			2		10			0	0		Julius Mikolik.
Gratz	28.70	729.0	30.02	762.5	28.8	— 1.8	93	S			2		10			0	0		Andreas Rospini.
Hermannstadt	28.66	727.9	30.17	766.2	30.6	— 0.8	81	SE			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.43	722.2	29.84	757.8	29 5	— 1.4	96	NE			3		10			0	0		Prof. C. Wagner.
Lemberg			30.05	763.2	28.8	— 1.8	96	SE			3		3			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.01	762.2	54.3	12.4	86	SSE			2		10s			0	0		I.R.Hydrographic Of'ce
Szegedin			30.08	763.9	38.8	3.8	65	S			2		10			0	0		Karl Stancel.
Trieste			30.02	762.5	49.3	9.6	96	Calm			0		10			0.380	9.65	Rain and fog	Prof. V. Faroili.
Vienna			29.94	760.5	31.5	— 0.3	96	SSE			2		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.47	748.5	50.0	10.0	85	S			3		10n		SSW	0.002	0.05	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.34	745.2	35.9	2.2		W	12	5.4			9			0	0	Misty	William Boswell.
Ardrossan			29.37	746.0	41	5.0		ENE			2		3					Hazy	William McNeil.
Armagh, Observatory			29.39	746.5	42.4	5.8		NNW	6	2.7			4					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.41	747.0	45.4	7.4		NW			1		9					*D. clouds	J. Dreyer.
Bradford			29.27	743.4	47.3	8.5		SE			1		8			0.17	4.3	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	85.0	29.4		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.29	744.0	48.0	8.9		SE			1		10					Overcast	H. Todd. [H.C.
Cardington			29.29	744.0	47.6	8.7		S			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.30	744.[illegible]	47.7	8.7		SSW			1		10					Raining	Capt. Fellowes, R. E.
Dartmoor	27.80	706.1	29.35	745.5	44.6	7.0		SW			5		10					Threatening	R. F. Power.
Davos Platz, (Switzerland)	24.63	625.6			42.5	5.8	63	S			1		10			0.12	3.17	Overcast	Francis Redford, M. A.
Donaghadee			29.34	745.2	46	7.8		NNE			3		4					*D. clouds	J. Mac Gowan.
Dover			29.34	745.2	50	10.0		SSW			5		7					Showery	J. Costello.
Eccles, (near Manchester)			29.26	743.2	49.7	9.8		SE	2.[illegible]	1.0			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.27	743.4	48.6	9.2		WNW			5		10					Overcast	The Staff.
Fort Napier, (Natal)	27.44	697.0	29.67	753.6	79.8	26.6		E			2		4					*D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.90	759.4	85.0	29.4		Calm?			1?		4					*D. clouds	
Galway, Queen's College			29.39	746.5	45	7.2		W			1		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.98	761.5	64.2	17.9		W			1		9					Raining	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.35	745.5	35.8	2.1		NE			1		5					Hazy	Lewis Stuart.
Great Yarmouth			29.36	745.7	48	8.9		S			3		6					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.30	744.2	48.0	8.9		S			1		10			B[illegible]	dark	Overcast	The Staff, for G. B. Airy.
Guernsey			29.34	745.2	52	11.1		SW			6		8			dark	Blue	Squally	Dr. S. F. Hoskins.
Helston			29.26	743.2	49	9.4		NW			6		10n			0.32	8.1		M. P. Moyle.
Holyhead			29.27	743.4	47	8.3		N			5		10					Overcast	John Tilston.
Kew, Observatory			29.30	744.2	48.5	9.2		SSW	8	3.6			10					Drizzling	The Staff.
Kingstown			29.35	745.5	45	7.2		NW			4		2					Blue sky	George Mitchell.
Leicester Museum			29.30	744.2	47.4	8.6		Calm			0		7					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.06	763.[illegible]	67.4	19.7		S			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.35	745.5	36	2.2		W			1		5					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.0[illegible]	762.5	65.5	18.6		NW			0		7						Surg. Maj. Henry.
Nottingham, Observatory			29.28	743.7	50.1	10.1		S			3		8k		S	0.10	2.5	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.[illegible]3	742.4	47.1	8.4		SSE			1		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.26	743.2	48	8.9		SE			1		10					Misty	J. Lucas.
Plymouth			29.21	741.9	52	11.1		SW			4		10					Raining	John Merrifield.
Roche's Point			29.42	747.3	45	7.2		N			4		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.25	742.9	47	8.3		N			5		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.36	745.7	53.2	11.2		SW			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.3[illegible]	744.7	43.8	6.6		NW	8	3.6			3					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.16	766.1	41.8	5.4		N			1		10					Gloomy	Sergt. W. H. Lyne.
Sheffield			29.29	744.0	48.9	9.3		S			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory			29.30	744.2	42.8	6.0	91	SW			1		6			0.16	4.0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.[illegible]8	743.7	46.6	8.1		NE					10					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.34	745.2	37	2.8		NNW			3		10					Raining	John Smith.
Stratfield Turgiss			29.31	744.5	46.2	7.9		SE			1		10					Raining	Rev. Charles H. Griffith
Thurso			29.31	744.5	42	5.6		SSW			1		5					*D. clouds	John Trotter.
Truro, Royal Institution			29.31	744.5	53	11.7		NW			6		10					Raining	W. Newcombe.
Valencia, Observatory			29.51	749.5	49.8	9.9		NNW	19	8.5			5					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					44	6.7		N			6		5			0.30	7.6		Henry Mercer.
Cape Good Hope, Obs'y			30.05	763.3	66.5	19.2	71	NW	11	4.9		5	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.74	755.4	70.5	21.4	88	SE			1		10kn			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.39	746.5	39.0	3.9		W			1		10n			0.52	13.2	Overcast	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				E	12.3	5.5						0	0		C. Meldrum.
Melbourne, Observatory			29.89	758.4	61.3	16.3	93	SW	7	3.1			1			0	0	Fine, h'y dew	R. L. J. Ellery.
Monach L't-house, (Hebrides			29.43	747.5	45	7.2		N			7		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.27	743.4	45	7.2		W			4	7	4	W					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.07 meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.64	752.9	39.6	4.2	97	SSE			2		10					Misty	
Fanöe			29.30	751.9	37.0	2.8	100	SE			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.87	758.8	24.6	— 4.1	94	NE			4		5						
Thorshavn, (Faröe)			29.43	747.6	36.5	2.5	85	N			6		0					Raining	
Vestervig			29.58	751.4	35.6	2.0	100	SE			4		0					Misty	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co peration of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.49	749.0	48.2	9.0	89	SW			3		2ck		SW	0.031	0.8	Slightly cl'dy	Normal School.
Amiens			29.45	748.0	49.6	9.8	89	SW			3		5		SW	0.008	0.2	Cloudy.. ...	Normal School.
Avignon			29.73	755.2	54.9	12.7	95	SE			1		10		S	0.413	10.5	Raining	Normal School.
Bar-sur-Seine			29.62	752.3	53.1	11.7	70	SW			2		8		WSW	0.106	2.7	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.56	750.7	51.3	10.7	74	SW	32.7	14.6			10		SW	0.150	3.8	Raining	Beaumette Observ'tory.
Beauvais			29.49	749.1	50.0	10	82	SW			4		8		SW	0	0	Very cloudy	Normal School.
Besançon			29.72	754.9	50.4	10.2	97	SE			2		8		SW	0.091	2.3	Very cloudy	Normal School.
Bourg en Bresse			29.77	756.1	50.9	10.5	95	S			1		10n		NW	0.63	16.	Raining	Normal School.
Bourges			29.66	753.3	51.8	11	83	S			4		8		W	0	0	Very cloudy	Normal School.
Brest			29.39	746.4	50.5	10.3	79	WSW			5		8		WSW	0.335	8.50	Squally	Naval Observatory.
Carcassonne			29.81	757.2	55.4	13	83	E			2		5		W	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.45	748.1	51.8	11	97	S			6		8		S	0.106	2.7		Normal School.
Châlons-sur-Marne			29.58	751.4	53.2	11.8	71	SW			3		10n		NE	0.142	3.6	Covered	Normal School.
Clermont			29.69	754.0	54.7	12.6	59	SW			3		8		SW	0.012	0.3		Puy de Dome Obs'y.
Commercy			29.69	754.0	48.0	8.9	97	SSW			4		8kn		SSW	0.207	5.25	Very cloudy	Normal School.
Commune de Gréasque*			29.80	756.8	52.0	11.1	95	NE			2		10		SW	0.965	24.5	Raining	M. Kina.
Grenoble			29.77	756.1	52.3	11.3	85	SW			6		2ks		SE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					54.0	12.2	72	S			2		5		WNW	0.295	7.5	Partly cl'dy.	Normal School.
Le Mans			29.53	750.1	48.2	9	89	WSW			4		5		WSW	0.213	5.4	Cloudy	Normal School.
Lons-Le-Saulnier			29.70	754.3	50.5	10.3	93	S			1		10		W	1.22	31.	Raining	Normal School.
Lorient			29.52	749.8	52.9	11.6	69	WSW			5		10			0.374	9.5	Covered	Naval Observatory.
Mâcon			29.93	760.3	50.4	10.2	89	S			1		0			0	0	Clear	Normal School.
Metz			29.71	754.6	47.5	8.6	91	S			3		5		SW	0.232	5.9		M. Schuster.
Mirecourt			29.65	753.1	50.0	10	89	SSW					10		NNW	0.12	3.	Covered	Normal School.
Nismes			29.74	755.3	55.9	13.3	82	S			2		2		S	0.339	8.6	Slightly cl'dy	Normal School.
Orleans			29.56	750.9	50.4	10.2	86	SSW					5		SW	0.04	1.	Cloudy	Normal School.
Paris, Observatory			29.52	749.8	50.9	10.5	81	SW			3		8kn		SW	0	0	Almost cov'd	National Observatory.
Parthenay																			Normal School.
Privas			30.01	762.2	54.3	12.4		SE			2		10		SE	0.386	9.8	Covered	Normal School.
Rochefort, Observatory			29.68	753.9	54.0	12.2	73	SW			4		5		ENE	0.059	1.5	½ covered	Naval Observatory.
Rouen			29.45	748.1	48.9	9.4	79	S			2		10		S	0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.81	731.8	29.90	759.4	52.7	11.5		W			4		0			0	0	Clear	Normal School.
Villefranche			29.69	754.0	53.6	12	94	WSW			2		8		S	0.04	1.	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.91	759.7	81.0	27.2													L'Abbé Marchésl.
Marseilles			29.74	755.4	59.2	15.1	89	SSW			3		10			0.906	23.00	Raining	Marseilles Observatory.
Mont-Louis	24.64	625.8	29.97	761.2	45.1	7.3	89	W	9.3	4.17			8		SW	0.031	0.8		—. Falguère.
Montsouris, Paris			29.50	749.4	50.7	10.4	81	SSW			3		9		SSW	0.008	0.2		Montsouris Observatory
Perpignan			29.78	756.5	60.8	16.0	63	NW	16.8	7.50			7		W	0.063	1.6		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.97	532.6			24.8	— 4.0		SW			3		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.27	565.7			29.8	— 1.2		SW			2		10			0.056	1.4	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.52	749.8	50.0	10.0	87	SSW			3		10			0.008	0.2		E. Renou.
Toulouse			29.86	758.5	52.7	11.5	94	SW			1		10			0.169	4.3		Toulouse Observatory.
Tours			29.58	751.2	53.1	11.7	74	SW			2		7		W	0.071	1.8		C. Marquet.
Versailles, (near Paris)			29.52	749.8	50.7	10.4	84	SW			3		10			0.005	0.12	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.24	768.0	51.4	10.8	86	E	9.3	4.17			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.67	753.6	43.7	6.5	69	SE			4		9	W		0.039	1.0		Prof. T. Hoh.
Berlin			29.69	754.1	41.0	5.0	79	S			1		8			0.031	0.8		Prof. Arndt.
Breslau			29.84	757.9	38.5	3.6	83	SSE			3		4			0	0		Royal University Obs'y.
Carlsruhe			29.66	753.4	49.6	9.8	94	SSW			1		10			0.110	2.8	Raining	A. Senz.
Cassel			29.66	753.3	45.0	7.2	89	S			1		10	SW		0.102	2.6		Dr. H. Möhl.
Emden			29.59	751.6	39.9	4.4	96	SSE			2		10			0.445	11.3		Prof. Prestel.
Frankfort on the Main			29.67	753.6	45.5	7.5	78	S			1		9			0.110	2.8	Foggy	Physical Society.
Friedrichshafen			29.74	755.5	44.8	7.1	91	WSW			4		10			0.126	3.2		M. Wilhelm.
Hamburg			29.61	752.2	36.3	2.4	100	SE			2		10			0.283	7.2	Rain & fog	Captain F. Hegemann.
Kiel			29.59	751.6	37.9	3.3	92	ESE			3		10			0.051	1.3		Prof. G. Karsten.
Königsberg, (Prussia.)			29.94	760.4	27.7	— 2.4	90	SE			7		9			0	0		Prof. E. Luther.
Köslin			29.80	757.0	33.8	1.0		SE			4		4			0	0		H. Müller.
Leipsic			29.71	754.5	44.2	6.8	71	S			4		7	SW		0.012	0.3		Prof. Bruhns.
Memel			29.94	760.4	28.2	— 2.1	73	SSE			5		3c,cs			0	0		Reinbrecht & Skalweit.
Münster			29.48	748.9	48.7	9.3	93	SE			1		10			0.213	5.4		Prof. E. Heis.
Neufahrwasser			29.85	758.3	31.6	— 0.2	92	S			4		10			0	0		A Lothe.
Posen			29.84	757.9	37.8	3.2	81	SE			2		9						Dr. Magener.
Strassburg, (in Alsace)			29.70	754.3	46.9	8.3	94	SSE			1		10			0.102	2.6		Dr. Schur.
Stuttgart			29.68	753.9	50.0	10.0	82	W			2		10			0.461	11.7	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.56	750.8	51.1	10.6	77	WSW			5		2			0.106	2.7		Prof. Flesch.
Weissenburg, (Bavaria,)	28.21	716.4	29.74	755.3	40.5	4.7	77	SE	9	4			10	SW		0	0		Dr. von Bebber.
Wustrow, Naval School			29.75	755.7	35.8	2.1	100	SSE			3		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 9°, 24', W. 25°, 53'.			30.08	764.0	84.4	29.1	74	ESE			3		2		ESE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.16	766.1	55.0	12.8		NE										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.00	762.1	42.3	5.7	92	NE	1.8	0.8			10			0.382	9.7	Raining	Prof. Giovanni Clodig.
Padua			29.98	761.6	43.7	6.5	88	N	6.9	3.1			10	NNE		0.398	10.1	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.99	761.8	43.9	6.6	87	NW	0.7	0.3			10			0.354	9.0	Raining	Alm. Da Schio.
Verona			29.98	761.5	46.8	8.2	79	E			1		10			0.303	7.7	Raining	Dott. B. Bertoncelli.
Bergamo	28.60	726.4	29.95	760.6	40.6	4.8	90	NW			1		10			0	0		Prof Trionfini Carlo.
Domodossola			29.97	761.1	38.8	3.8	95	Calm			0		10			0.291	7.4		Prof. Giuseppe Calza.
Milan			30.00	762.0	41.0	5.0	100	ENE			4		10	ESE		0.886	22.5	Raining	Ab. Gio. Capelli.
Pavia			29.95	761.6	42.8	6.0	92	NE			1		10			0.748	19.0	Raining	Prof. Gio. Cantoni.
Moncalieri			30.02	762.4	41.0	5.0	79	WNW	0.7	0.3			10	SE		0.445	11.3	Raining	Prof. P. F. Denza.
Mondovi	28.02	711.8	30.00	761.9	37.6	3.1	98	NW			2		10			0.161	4.1	Raining	Prof. C. Bruno.
Porto Maurizio			29.93	760.2	51.8	11.0	96	N			2		10			0.370	9.4	Raining	Prof. L. Vassallo.
Genoa			29.90	759.5	50.5	10.3	81	NE	3.5	1.7			10	SE		2.724	69.2	Heavy rain	Prof. Garibaldi.
Piacenza			29.98	761.6	41.9	5.5	92	E	6.3	2.8			10			0.193	4.9	Raining	Dott. G. Manzi.
Parma			29.96	761.4	42.8	6.0	85	E			4		10			0.087	2.2	Raining	Prof. P. Pigorini.
Bologna			30.00	761.9	44.8	7.1	46	W			1		10			0	0		Prof. A. Palagi.
Florence			30.00	762.0	51.8	11.0	91	S			2		10			0.094	2.4	Raining	Cav. F. Meucci.
Leghorn			29.92	760.0	54.1	12.3	76	E	10.5	4.7			10	S		0.047	1.2	Raining	Prof. P. Monte.
Siena	28.74	729.5	29.97	761.1	50.0	10.0	74	ESE	1.3	0.6			10	S		0.102	2.6	Raining	Prof. L. Toscani.
Urbino	28.45	722.5	30.04	763.1	51.4	10.8	75	SW			2		10			0	0		Prof. P. Serpieri.
Pesaro			30.00	762.1	48.7	9.3	85	N	19.2	8.6			10	SW		0	0		Prof. Luigi Guidi.
Ancona			30.00	762.0	53.2	11.8	74	SE			4		8			0	0		Prof. F. De— Bosis.
Grosseto			29.98	761.5	55.9	13.3	66	SSE			4		9	S		0.322	8.2	Raining	Avv. P. Ponticelli.
Rome			30.02	762.4	56.5	13.6	74	SE	9.4	4.2			10	S		0.114	2.9	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U			30.10	764.5	60.8	16.0	61	SSE			4		9	SSW		0	0		Prof. L. Palmieri.
Lecce			30.13	765.4	54.0	12.2	63	SE	4.9	2.2			4	SW		0	0		Prof. C. De—Giorgi.
Cosenza			30.13	765.4	55.0	12.8	54	SW	0	0			5			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			30.06	763.5	59.4	15.2	76	Calm			0		8			0	0		Prof. F. Cafiero.
Palermo			29.97	761.1	66.6	19.2	61	Calm	0	0			9			0	0		Prof. G. Cacciatore.
Caltanissetta	28.10	713.8	30.07	763.6	55.4	13.0	79	SSE			2		5	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.09	764.2	56.8	13.8	67	SW	1.8	0.8			10	WSW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The altitude of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.47	748.5	46.8	8.2		S			4								
Groningen			29.47	748.5	40.5	4.7		ESE			3								
Helder			29.45	748.1	41.9	5.5		SSE			2								
Utrecht			29.46	748.3	44.6	7.0	98	SSE			2		10			0.189	4.8	Dull	

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.40	746.8	43.9	6.6	85	S	27	12			10			0.087	2.2		
Bröno			29.45	747.9	37.8	3.2	76	E	4	2			8			0	0		
Christiania			29.66	753.3	34.9	1.6	96	E	0.2	0.1			10			0.213	5.4		
Tromsö			29.42	747.3	31.5	— 0.3	94	Calm	0	0			10			0.079	2.0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.81	757.1	63.5	17.5	88	W	1.8	0.8			3			0.236	6.0		Dr. J. A. Sampaio.
Campo Major			29.98	761.6	55.9	13.3	73	SW	9.4	4.2			8	SSW		0.307	7.8		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.96	761.0	69.3	20.7	89	SW	6.9	3.1			10			0.197	5.0	Raining	Capt. D. A. de Cunha.
Lisbon			30.01	762.3	58.1	14.5	68	ESE	1.3	0.6			10			0.059	1.5		The Observatory.
Ponta Delgada, (Azores)			29.82	757.5	66.6	19.2	87	W					3			0.039	1.0	Light rain	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.98	761.5	29.3	— 1.5	94	SSE	11	5			8						Astronomical Obs.
Wilna			30.16	766.0	26.8	— 2.9	51	SSE	7	3			0						Astronomical Obs.
Dorpat			30.10	764.6	28.6	— 1.9	55	S	13	6			0						Physical Cabinet.
St. Petersburg			30.06	763.4	22.8	— 5.1	65	S	7	3			0					Light fog	Central Physical Obs.
Kuopio			29.82	757.4	29.1	— 1.6	100	S.	13	6			10						Ch. Forsten.
Kieff			30.27	768.9	19.9	— 6.7	100	E	4	2			10					Foggy	Physical Cabinet.
Nikolaiev			30.17	766.3	36.9	2.7	54	NE	13	6			2						Kurdakof.
Kertch			30.07	763.8	34.5	1.4	96	ENE	11	5			10						Lagorio.
Moscow			30.40	772.1	20.1	— 6.6	89	SSW	2	1			10						Meteorological Obs.
Lugan			30.28	769.0	20.8	— 6.2	90	E	20	9			10						Meteorological Obs.
Archangel			29.91	759.8	12.9	—10.6	100	ESE	18	8			10						Ogorodnikof.
Tiflis	28.79	*731.3	30.25	768.4	45.3	7.4	77	Calm	0	0			9						Physical Observatory.
Astrakhan			30.41	772.4	24.1	— 4.4	95	ENE	9	4			10						Sebastianof.
Kasan			30.19	766.9	24.8	— 4.0	95	N	4	2			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.25	742.9	30.32	770.0	— 3.6	—19.8	73	WSW	2	1			10					Snowing	Meteorological Obs.
Nukuss																			
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.96	761.0	5.9	—14.5	91	Calm	0	0			10						Meteorological Obs.
Yeniseisk			29.84	758.0	2.7	—16.3	63	SW	2	1			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.29	769.3	35.6	2.0	82	Calm	0	0			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.22	767.5	32.0	0.0	49	NW	9	4			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.89	759.3	55.4	13.0	54	W	11.2	5.00		2	3	NW		0.319	8.1		Royal Observatory.
San Fernando			30.02	762.5	61.9	16.6	89	N	0	0		0	10		N	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.66	753.4	32.7	0.4	96	S			2		10					Snowing	
Umea			29.64	752.9	33.1	0.6	92	WSW			2		10			0	0		
Hernosand			29.65	753.0	33.8	1.0	80	SW			2		10			0	0		
Stockholm			29.72	755.0	36.1	2.3	98	S			2		10			0.161	4.1	Raining	
Wisby			29.80	757.0	35.6	2.0	93	S			4		10			0	0		
SUB-SERIES.																			
Upsala			29.73	755.2	33.8	1.0	98	SSE	2.9	1.3			10			0.124	3.15	Foggy	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.31	719.0	29.77	756.1	43.2	6.2	97	NW			1		10			0.043	1.1	Foggy	The Observatory.
Zurich	28.10	713.8	29.77	756.1	46.0	7.8	89	W			1		10			0.276	7.0	Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —7.8 mm; Thermometer, +1.4 cent.; Relative Humidity, +19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The altitude of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.19	766.9	42.1	5.6	74	NNW	2	1.0			10		N	0	0		
Fao, (Persian Gulf)																			
Salonica			30.18	766.6	62.1	16.7		SE			1		0						
Valona			30.11	764.7	55.2	12.9		N			1		2						
Varna			30.04	763.0	35.6	2.0		NW			3		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.01	762.3	59.0	15.0	92	SW			1		10n		SW	0.76	19.3	Raining	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.26	768.6	27.7	— 2.4		Calm	0	0			0			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.73	755.1	19	— 7.2		Calm	0	0		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B			29.26	743.2	24	— 4.4	96	SW	1	0.4		5c	0	SW		0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.25	742.9	30	— 1.1	95	NW	3	1.3			10n			0.050	1.27	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.61	752.1	18.8	— 7.3	100	W			1	0	1s			0	0	Bright	James Smith, M. A.
Dalhousie, N. B			29.38	746.2	27	— 2.8	81	W			2					0	0	Overcast	H. A. Johnson.
Esquimault, B. C																0.22	5.6		W. H. Bevis.
Fredericton, N. B			29.38	746.2	28.0	— 2.2	97	NW	14	6.3			10s			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			29.90	759.4	— 2	—18.9	97	N	11	4.9			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			29.58	751.3	30.1	— 1.1		Calm			0		10n			0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.42	721.9	29.55	750.6	29.0	— 1.7		Calm			0		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.30	744.2	34	1.1	93	W	6	2.7			10n		W	Inap.	Inap.	Light snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.70	754.4	21	— 6.1	96	Calm	0	0		0	0			0.01	0.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.14	740.1	35.2	1.8	85	W	3	1.3		0	0			0	0	Clear	C. H. Rigby.
*Montreal, Quebec			29.60	751.8	20	— 6.7	90	W	9	4.0		0	2ks			Inap.	Inap.	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			29.63	752.6	19	— 7.2	77	N	6	2.7		0	0			0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			29.58	751.3	28	— 2.2	86	E	9	4.0		2k	5ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.58	751.3	31	— 0.6	100	NE	4	1.8			10n		NE	0.05	1.3	Light snow	H. Morgan.
Port Hastings, N. S			29.48	748.8	36.4	2.4		NW	16	7.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.59	751.6	31	— 0.6	91	E	8	3.6			10n		S	0.01	0.3	Light snow	M. Payne.
*Quebec, Quebec			29.51	749.5	22	— 5.6	93	W	5	2.2		5k	5ks	W	W	0	0	Fair	Capt. Ashe, R. N.
St. John, N. B			29.40	746.7	29	— 1.7	88	W	6	2.7		0	5ks			0	0		G. Murdoch, C. E.
*Saugeen, Ontario			29.53	750.0	29	— 1.7	89	SE	1	0.4			10n			0.11	2.8	Cloudy	K. Stewart.
Stayner, Ontario			29.58	751.3	25	— 3.9	98	NE	5	2.2			10ks		NE	0.15	3.8	Cloudy	R. J. Cole.
Stratford, Ontario	28.24	717.3	29.55	750.6	28.0	— 2.2	97	SE	4	1.8			10s					Snowing	C. J. MacGregor, M. A
*Sydney, C. B			29.18	741.1	37	2.8	78	W	6	2.7		2k	2s		W	0.02	0.5	Clear	T. C. Hill.
*Toronto, Ontario			29.63	752.6	24	— 4.4	75	N	5	2.2			10n		W	0.22	5.6	Threatening	Magnetic Observatory.
Woodstock, Ontario			29.59	751.6	29.5	— 1.4	99	S	6	2.7			10s			0.508	12.70	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.17	740.9	43.0	6.1	92	S	1	0.4		10ks	10s			0.22	5.6	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The altitude of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.64	752.8	30	— 1.1	89	Calm	0	0			10ks		W	0.02	0.5	Cloudy	
Alpena, Mich.			29.49	749.0	30	— 1.1	89	SW	4	1.8			10s		SW	Inap.	Inap.	Cloudy	
Atlantic City, N. J.			29.75	755.6	32	0.0	79	W	4	1.8		2cs	0	W		0.10	2.5	Fair	
Augusta, Ga.			29.87	758.7	40	4.4	91	SE	4	1.8		5cs	0			0	0	Fair	
Baltimore, Md.			29.74	755.4	33	0.6	69	SW	4	1.8		2ck	5s	W	SW	0.16	4.1	Fair	
Barnegat, N. J.			29.72	754.9	32	0.0	89	W	12	5.4		5c	0	W		0.03	0.8	Fair	
Bismarck, Dakota	28.06	712.7	29.80	756.9	16	— 8.9	66	Calm	0	0			10n		N	0.07	1.8	Light snow.	
Boston, Mass.			29.57	751.1	29	— 1.7	67	W	6	2.7		0	Haze			0	0	Clear	
Breckenridge, Minn.			29.78	756.4	5	—15.0	75	NW	12	5.4		0	1s			0	0	Clear	
Buffalo, N. Y.			29.59	751.6	29	— 1.7	78	E	3	1.3			10s		E	0.05	1.3	Cloudy	
Burlington, Vt.			29.63	752.6	25	— 3.9	64	SE	2	0.9		0	8s		W	0	0	Cloudy	
Cairo, Ill.			29.79	756.7	38	3.3	63	NW	6	2.7		8k	0	N		0	0	Fair	
Cape Hatteras, N. C.			29.84	757.9	36	2.2	80	NW	2	0.9		2ck	0	NW		0	0	Fair	
Cape Henry, Va.			29.82	757.4	32	0.0	69	S	5	2.2		8c	0	W		Inap.	Inap.	Fair	
Cape Lookout, N. C.			29.87	758.7	50	10.0	64	S	14	6.3		5ck	5s	S		0	0	Cloudy	
Cape May, N. J.			29.76	755.9	37	2.8	71	NW	20	8.9		5cs	0	NW		0.06	1.5	Fair	
Charleston, S. C.			29.93	760.2	47	8.3	62	SW	6	2.7		0	0			0	0	Clear	
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	23	— 5.0	85	SW	8	3.6			10n			0.21	5.3	Light snow.	
Chicago, Ill.			29.52	749.8	32	0.0	79	W	9	4.0			10n			0.11	2.8	Light snow.	
Cincinnati, Ohio			29.47	748.5	36	2.2	90	W	9	4.0			10ks		NW	0.28	7.1	Cloudy	
Cleveland, Ohio			29.52	749.8	30	— 1.1	89	SE	9	4.0			10n		SE	0.05	1.3	Light snow.	
Corsicana, Tex.			29.75	755.6	45	7.2	84	N	8	3.6		0	0			0	0	Clear	
Davenport, Iowa			29.69	754.1	20	— 6.7	85	W	8	3.6		0	0			0.20	5.1	Clear	
Denison, Tex.			29.85	758.2	39	3.9	71	NE	10	4.5		1c	0	N		0	0	Clear	
Denver, Col.	24.54	623.3	29.76	755.9	28	— 2.2	88	N	5	2.2			10n			0.60	15.2	Light snow.	
Detroit, Mich.			29.48	748.8	32	0.0	89	SE	1	0.4			10n			0.10	2.5	Light snow.	
Dodge City, Kan.	27.19	690.6	29.50	749.3	36	2.2	90	N	2	0.9			10s			Inap.	Inap.	Cloudy	
Dubuque, Iowa			29.65	753.1	18	— 7.8	84	W	4	1.8			10s			0.10	2.5	Cloudy	
Duluth, Minn.			29.49	749.0	25	— 3.9	87	NW	20	8.9			10s		NW	0.15	3.8	Cloudy	
Eastport, Me.			29.37	746.0	30	— 1.1	78	NW	14	6.3			10s		N	Inap.	Inap	Cloudy	
Erie, Pa.			29.56	750.8	33	0.6	69	S	2	0.9			Fog			0.22	5.6	Foggy	
Escanaba, Mich.			29.46	748.3	24	— 4.4	87	N	4	1.8			10n		NW	0.01	0.3	Light snow.	
Fort Gibson, Indian Ter.			29.81	757.2	34	1.1	79	NW	3	1.3		2c	0	W		0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.6	727.2	29.77	756.1	35	1.7	52	N	7	3.1		5cs	0			0	0	Fair	
Fort Sully, Dakota	28.07	713.0	29.77	756.1	30	— 1.1	78	NW	15	6.7			10s		NW	0	0	Cloudy	
Florence, Arizona	28.32	719.3	29.82	757.4	55	12.8		S				0	0			0	0	Clear	
Galveston, Tex.			29.81	757.2	60	15.6	94	S	4	1.8		0	1s			0	0	Clear	
Grand Haven, Mich.			29.42	747.3	34	1.1	79	NW	6	2.7			10n		NW	0.40	10.2	Light snow.	
Indianapolis, Ind.			29.56	750.8	34	1.1	90	W	7	3.1			10n			0.17	4.3	Light rain.	
Indianola, Tex.			29.81	757.2	55	12.8	87	S	5	2.2		0	0			0	0	Clear	
Jacksonville, Fla.			30.00	762.0	46	7.8	77	SW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			29.71	754.6	22	— 5.6	85	NW	5	2.2			10s		NW	0.12	3.0	Cloudy	
Key West, Fla.			29.98	761.5	60	15.6	88	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			29.88	758.9	36	2.2	80	SW	8	3.6		0	2s		W	0	0	Fair	
Knoxville, Tenn.			29.61	752.1	49	9.4	64	S	20	8.9			10s		SW	0	0	Cloudy	
La Crosse, Wis.			29.57	751.1	24	— 4.4	74	W	6	2.7		5cs	5s		W	0.20	5.1	Cloudy	
Leavenworth, Kan.			29.78	756.4	33	0.6	79	NW	8	3.6		0	2s			0	0	Clear	
Louisville, Ky.			29.61	752.1	37	2.8	80	W	15	6.7			10s		SW	0.09	2.3	Cloudy	
Lynchburg, Va.			29.71	754.6	34	1.1	79	S	1	0.4			10s			Inap	Inap.	Cloudy	
Malone, N. Y.			29.58	751.3	23	— 5.0	86	S	4	1.8		0	0			0	0	Clear	
Marquette, Mich.			29.48	748.8	25	— 3.9	75	SW	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			29.80	756.9	48	8.9	64	N	4	1.8		0	5ks		W	0	0	Fair	
Milwaukee, Wis.			29.50	749.3	29	— 1.7	89	NW	12	5.4			10s		NW	0.14	3.6	Cloudy	
Mobile, Ala.			29.91	759.7	50	10.0	86	SW	2	0.9		0	Fog			0	0	Clear	
Montgomery, Ala.			29.88	758.9	49.7	8.1	80	S	4	1.8		10k	0	W		0	0	Cloudy	
Morgantown, W. Va.	28.45	722.6	29.51	749.5	30	— 1.1	94	SE	3	1.3			10n			0.01	0.3	Heavy snow	
Mt. Washington, N. H.	3.09	586.5	29.45	748.0	4	—15.6	48	N	36	16.1		2s	0	N		0	0	Fair	
Nashville, Tenn.			29.69	754.1	46	7.8	69	NW	7	3.1			10s		W	Inap.	Inap.	Cloudy	
New Haven, Conn.			29.64	752.8	35	1.7	80	Calm	0	0		5ck	Fog			0.02	0.5	Cloudy	
New London, Conn.			29.65	753.1	33	0.6	79	Calm	0	0		5ks	0	W		0	0	Fair	
New Orleans, La.			29.88	758.9	51	10.6	82	Calm	0	0		0	Fg,sm		S	0	0	Smoky	
Newport, R. I.			29.63	752.6	34	1.1	69	W	10	4.5		5k	0	W		0	0	Fair	
New York, N. Y.			29.69	754.1	34	1.1	70	W	8	3.6		8cs	0	W		0.18	4.6	Fair	
Norfolk, Va.			29.81	757.2	33	0.6	74	SE	5	2.2		8k	0	W		0.03	0.8	Fair	
North Platte, Neb.	26.85	682.0	29.46	748.3	31	— 0.6	79	NW	10	4.5			10s			0	0	Cloudy	
Omaha, Neb.	28.59	726.2	29.69	754.1	29	— 1.7	83	W	10	4.5		0	0			0	0	Clear	
Oswego, N. Y.			29.64	752.8	32	0.0	84	S	2	0.9		Haz	2ks		NW	0.03	0.8	Fair	
Pembina, Dakota			29.87	758.7	2	—16.7	86	N	20	8.9			10s		NW	0	0	Cloudy	
Philadelphia, Pa.			29.73	755.1	32	0.0	79	W	10	4.5		2c	2s	NW	W	0.13	3.3	Fair	
Pike's Peak, Col.	17.34	440.4	29.55	750.6	11	—11.7	100	W	46	20.6			Fog			0.05	1.3	Light snow.	
Pittsburgh, Pa.			29.55	750.6	32.0	0.3	84	SE	4	1.8			10n			Inap.	Inap.	Light sleet.	
Port Huron, Mich.			29.47	748.5	30	— 1.1	89	SE	3	1.3			10n		SE	Inap.	Inap.	Light snow.	
Portland, Me.			29.52	749.8	25	— 3.9	77	W	4	1.8		0	0			0	0	Clear	
Portland, Oregon			30.10	764.5	44	6.7	91	SE	2	0.9			10s			0.14	3.6	Cloudy	
Punta Rassa, Fla.			30.04	763.0	50.5	10.3	74	NE	6	2.7		0	0			0	0	Clear	
Rochester, N. Y.			29.60	751.8	29	— 1.7	89	SW	2	0.9			10s			0.06	1.5	Cloudy	
Salt Lake City, Utah	25.47	646.9	29.80	756.9	36	2.2	100	NW	2	0.9			10n			0.18	4.6	Light rain	
Sandy Hook, N. J.			29.66	753.4	35	1.7	80	NW	14	6.3		Haz	5s		NW	0.30	7.6	Fair	
San Diego, Cal.			29.84	757.9	55	12.8	34	E	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.01	762.2	53	11.7	86	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.03	585.0	29.57	751.1	32	0.0	60	E	4	1.8		0	5s			0	0	Fair	
Savannah, Ga.			29.95	760.7	46	7.8	60	SW	8	3.6		1c	Sm'k			0	0	Clear	
Shreveport, La.			29.80	756.9	48	8.9	92	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.88	758.9	58	14.4	64	SW	12	5.4		8c,1	0	SW		0	0	Cloudy	
Springfield, Mass.			29.63	752.6	30	— 1.1	78	SW	4	1.8		2ck	2s, fg	W		0	0	Fair	
St. Louis, Mo.			29.76	755.9	32	0.0	89	N	4	1.8		0	0			0.04	1.0	Clear	
St. Marks, Fla.			29.97	761.2	38	3.3	90	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minn.			29.54	750.3	25	— 3.9	75	W	4	1.8			10s			0.01	0.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.55	750.6	28	— 2.2	57	NW	16	7.2		0	0			0	0	Clear	
Toledo, Ohio			29.46	748.3	32	0.0	89	SE	1	0.4			10n		SW	0.20	5.1	Light snow.	
Tucson, Arizona	27.45	697.2	30.00	762.0	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			29.84	757.9	51.0	10.8	90	SW	7	3.1		1c	0	SW		0	0	Clear	
Virginia City, M. T.	24.03	610.4	29.51	749.5	26	— 3.3	64	Calm	0	0			10ks		NW	0	0	Cloudy	
Washington, D. C.			29.74	755.4	34	1.1	69	SW	4	1.8			10s		W	0.07	1.8	Cloudy	
Wilmington, N. C.			29.88	758.9	39	3.9	71	SE	2	0.9		8ck	Sm'k	W		0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.63	752.6	36	2.2	70	NW	16	7.2		Haze	0			0	0	Hazy	
Yankton, Dakota	28.44	722.4	29.75	755.6	30	— 1.1	83	NW	14	6.3			10s		NW	0.02	0.5	Cloudy	
Yuma, Arizona			29.91	759.7	52	11.1		Calm				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.09	764.3	77	25.0	82	Calm	0	0		5c	2s			0.43	10.9		James Gall.
Navassa, W. I.					79	26.1		E			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.14	689.3	29.92	760.0	65	18.3	84	SE	2.0	0.9		5c	5k	SE		0	0	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	81	27.2	87	E			2	5k	5ks	E		0.510	12.95	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.8			83.3	28.5		E								0.679	17.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8			65.0	18.3	83	NW			2	5cs	2ks			0.52	13.2	Cloudy	Thomas Herran.
York Factory, B. A.			29.99	761.7	—21.5	—29.7		NW	2	0.9		0	0			0.14	3.6		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.90	759.4	74	23.3		S			3					0.22	5.6	Overcast	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, off Cape Cod, Mass.	N	3	29.52	749.8	38	3.3	72	WNW	12	5.4		0	Haze			Short sea		Clear	Capt. James Jorgensen.
Steamer Berlin, N. 44°, 26′, W. 43°, 29′.	NEby E¾E	9	29.32	744.7	64.6	18.1		ESE			5		..k,cs			Rough		Clearing	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The altitude of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 28, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.89	759.1	70.0	21.1	39	Calm			0		8			0	0	Cloudy	Charnot.
Algiers			29.91	759.7	68.0	20.0	76	N			1		7			0	0	Cloudy	Peter.
La Calle			29.93	760.1	67.6	19.8	51	N			2		1			0	0	Clear	Fleury.
Tunis			29.98	761.6	69.8	21.0	50	WSW			3		0			0	0	Clear	Jacques.
Sfax			30.08	764.0															
Saida			29.99	761.7	69.4	20.8	19	SW			4		2			0	0	Clear	Millot.
Tebessa			30.05	763.3	63.0	17.2		ESE			2		2			0	0	Clear	Bourgeois.
Geriville					61.9	16.6	93	WNW			2		3			0	0	Fair	Lemaillot.
Laghouat			30.06	763.5	67.1	19.5	16	S'			2		0			0	0	Clear	Guyot.
Biskra			30.07	763.7	67.8	19.9	36	NNE			1		6			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.78	756.4	44.2	6.8	84	NE			2		9			0.382	9.7	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.80	757.0	35.6	2.0	98	W			1		10			0.094	2.4		Dr. Wierzbiski.
Eperies			29.91	759.6	35.6	2.0	89	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.55	725.1	29.83	757.7	37.0	2.8	93	NNW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.54	725.0	30.06	763.5	25.2	— 3.8	84	SE			1		6			0	0		Prof. Reissenberger.
Kremsmünster	28.43	722.2	29.82	757.3	36.0	2.2	93	Calm			0		10			0.276	7.0		Prof. C. Wagner.
Lemberg			29.88	758.9	27.7	— 2.4	96	S			3		8			0.220	5.6		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.76	755.8	56.1	13.4	96	SSE			4		10s			0.587	14.9		I.R.Hydrographic Of'ce
Szegedin			29.87	758.8	41.4	5.2	78	S			3		10			0	0		Karl Stancel.
Trieste			29.78	756.4	50.9	10.5	100	Calm			0		10			0.638	16.2	Rain and fog	Prof. V. Farolfi.
Vienna			29.81	757.2	36.7	2.6	89	S			1		10			0.059	1.5	Rain and fog	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.50	749.2	45.7	7.6	74	W			3	0	6ks		WSW	0.270	6.85		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.33	745.0	35.4	1.9		WNW	15	6.7			9			0.035	0.89	Raining	William Boswell.
Ardrossan			29.40	746.7	43	6.1		NW			2		3					Blue sky	William McNeil.
Armagh, Observatory			29.46	748.3	40.6	4.9		SW	5	2.2			3					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.49	749.0	42.4	5.8		SSW			1		10					*D. clouds	J. Dreyer.
Bradford			29.39	746.5	43.0	6.1		W			4		4			0.01	0.3	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			30.04	763.0	83.0	28.6		NE			3		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.46	748.3	44.8	7.2		W			2		10					Overcast	H. Todd. [H.C.
Cardington			29.47	748.5	46.0	7.8		W			1		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.51	749.5	45.2	7.3		SW			1		3					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.14	714.7	29.05	753.1	45.6	7.6		NW			3		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.59	624.6			35.2	1.9	90	E			1		7			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.40	746.7	43	6.1		WNW			3		0					Blue sky	J. Mac Gowan.
Dover			29.50	749.3	47	8.3		WSW			3		5					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.39	746.5	42.7	5.9		SW	5.8	2.6			10					Misty	Thomas Mackereth.
Falmouth, Observatory			29.61	752.1	50.4	10.2		WSW			2		4					*D. clouds	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.90	759.4	68.8	20.4		E			2		10					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		N			1		5					*D. clouds	
Galway, Queen's College			29.42	747.3	47	8.3		NW			1		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.76	755.9	63.0	17.5		SE			3		10					Raining	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.37	746.0	34.8	1.6		NE			1		8					*D. clouds	Lewis Stuart.
Great Yarmouth			29.40	746.7	43	6.1		W			4		3					Hazy	G. T. Watson.
Greenwich, Royal Obs'y			29.50	749.3	46.3	7.9		W			4		2			000	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.62	752.3	50	10.0		WNW			2		3					*D. clouds	Dr. S. E. Hoskins.
Helston			29.56	750.8	50	10.0		SW			4		3c			0.11	2.8		M. P. Moyle.
Holyhead			29.46	748.3	45	7.2		W			4		4					*D. clouds	John Tilston.
Kew, Observatory			29.51	749.5	46.9	8.3		W	16	7.2			1					Blue sky	The Staff.
Kingstown			29.50	749.3	42	5.6		W			3		7					*D. clouds	George Mitchell.
Leicester Museum			29.46	748.3	44.0	6.7		W			1		8					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.00	762.0	70.0	21.1		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.36	745.7	40	4.4		W			1		5					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	68.0	20.0		NE			4		10					Raining	Surr. Maj. Henry.
Nottingham, Observatory			29.43	747.5	45.0	7.2		WNW			2		7k,d		WNW	0.020	0.51	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.44	747.8	43.8	6.6		WNW			3		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.49	749.0	46	7.8		WSW			1		6					*D. clouds	J. Lucas.
Plymouth			29.58	751.3	47.5	8.6		WNW			2		2					*D. clouds	John Merrifield.
Roche's Point			29.52	749.8	45	7.2		WNW			2		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.52	749.8	48	8.9		W			4		7					Showery	John C. Walker.
Saint Helier, (Jersey)			29.61	752.1	49.4	9.7		W			2		5					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.36	745.5	40.8	4.9		N	12	5.4			1					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.14	765.5	50.6	10.3		SW			1		3					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.40	746.7	43.9	6.6		W			1		6			0	0	*D. clouds	W. F. Cooper.
Silloth Rectory			29.39	746.5	40.0	4.7	94	Calm			0		0			0	0	Blue sky	Rev. Francis Redford.
Stonyhurst, Observatory			29.41	747.0	41.2	5.1		SW					5					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.48	748.8	37	2.8		NNW			1		2					Blue sky	John Smith.
Stratfield Turgiss			29.53	750.0	46.0	7.8		NW			1		0					Blue sky	Rev. Charles H. Griffith.
Thurso			29.33	745.0	44	6.7		NNW			4		6					*D. clouds	John Trotter.
Truro, Royal Institution			29.58	751.3	53	11.7		W			5		4					*D. clouds	W. Newcombe.
Valencia, Observatory			29.56	750.8	48.1	8.9		NW	13	5.8			10					Showery	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					43	6.1		NNW			6		0			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.95	760.7	73.0	22.8	52	W	18	8.0		1	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.84	757.9	63.0	17.2	82	W			3		4k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.40	746.7	42.3	5.7		W			2		9k		N	0.18	4.6	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				ESE	16.1	7.2						0	0		C. Meldrum.
Melbourne, Observatory			30.12	765.0	55.8	13.2	59	SW	22	9.8			4			0.04	1.0	Fine, boisterous.	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.42	747.3	45	7.2		NE			4	3	0	NE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.37	746.0	43	6.1		NE			4	5	3	NE					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The altitude of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.35	745.4	41.5	5.3	94	S			2		10					Raining	
Fanöe			29.26	743.3	40.5	4.7	100	S			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.75	755.6	26.8	— 2.9	96	NE			7		5						
Thorshavn, (Faröe)			29.48	748.8	33.6	0.9	70	N			2		2						
Vestervig			29.27	743.5	36.1	2.3	100	NE			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
Alençon			29.69	754.1	48.2	9.0	84	W			3		8ck		W	0.252	6.4	Very cloudy	Normal School.
Amiens			29.59	751.5	45.0	7.2	83	SW			3		5		W	0.165	4.2	Cloudy	Normal School.
Avignon			29.88	759.0	51.4	10.8	77	WNW			1		5		WSW	0.087	2.2	Cloudy	Normal School.
Bar-sur-Seine			29.74	755.3	49.8	9.9	69	SW			3		5		W	0	0	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.69	754.2	51.6	10.9	68	SW	6.7	3.0			10		SW	0.008	0.2	Raining	Beaumette Observ'tory.
Beauvais			29.65	753.0	49.1	9.5	71	WSW			3		8		W	0.020	0.50	Very cloudy	Normal School.
Besançon			29.83	757.7	49.3	9.6	89	SSW			4		2		SW	1.54	39.	Slightly cl'dy	Normal School.
Bourg en Bresse			29.89	759.1	51.4	10.8	68	SW			1		5ks		NE	0	0	Cloudy	Normal School.
Bourges			29.84	757.8	49.6	9.8	79	SSW			4		5		W	0.094	2.4	Cloudy	Normal School.
Brest			29.61	752.1	55.6	13.1	71	W			1		3k		W	0.354	9.00		Naval Observatory.
Carcassonne			29.85	758.3	53.6	12	73	W			2		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.62	752.4	51.8	11	86	SW			2		5		SW	0.283	7.2		Normal School.
Châlons-sur-Marne			29.68	753.9	47.8	8.8	71	WSW			4		5k		E	0	0	Cloudy	Normal School.
Clermont			29.82	757.3	50.5	10.3	60	SW			3		5		SW	0.020	0.5		Puy de Dome Obs'y.
Commercy			29.77	756.2	45.3	7.4	83	WSW			6		8kn		WSW	0.059	1.5	Raining	Normal School.
Commune de Gréasque*			29.91	759.6	52.0	11.1	61	W			2		8		W	1.016	25.8		M. Kina.
Grenoble			29.85	758.2	46.9	8.3	77	NE			2		0			0.171	4.35	Clear	Normal School.
La Roche-sur-Yon					50.7	10.4	80	S			2		2		NW	0.354	9.0	Slightly cl'dy	Normal School.
Le Mans			29.71	754.7	48.7	9.3	71	SW			4		5		SW	0.049	1.25	Cloudy	Normal School.
Lons-Le-Saulnier			30.03	762.7	48.6	9.2	76	SW			1		2		N	0	0	Slightly cl'dy	Normal School.
Lorient			29.69	754.2	50.7	10.4	74	WSW			1		8		SW	0.150	3.8	Very cloudy	Naval Observatory.
Mâcon			29.78	756.3	36.9	2.7	93	Calm			0		0			0.126	3.2	Clear	Normal School.
Metz			29.76	756.0	45.1	7.3	93	SW			3		10		SW	0.213	5.4		M. Schuster.
Mirecourt			29.74	755.5	47.5	8.6	80	SSW					8		ENE	0.16	4.	Very cloudy	Normal School.
Nismes			29.85	758.1	57.0	13.9	69	NE			2		0			0	0	Clear	Normal School.
Orleans			29.71	754.6	50.0	10	79	SW			2		5		W	0.016	0.4	Cloudy	Normal School.
Paris, Observatory			29.67	753.6	49.8	9.9	69	SW			3		5ck		WSW	0.073	1.85	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.83	757.6	53.1	11.7		SE			2		0			0.126	3.2	Clear	Normal School.
Rochefort, Observatory			29.76	755.8	51.4	10.8	77	S			3		8		ENE	0.118	3.0	¾ covered	Naval Observatory.
Rouen			29.63	752.7	49.8	9.9	70	WSW			2		5		SW	0.213	5.4	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.93	734.7	30.01	762.2	55.4	13		W			2		5		E	0	0	Cloudy	Normal School.
Villefranche			29.82	757.5	43.7	6.5	94	W			1		8			0.311	7.9	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.89	759.3	81.0	27.2													L'Abbé Marchési.
Marseilles			29.91	759.7	59.7	15.4	68	W			1		9			0.126	3.20	Very cloudy	Marseilles Observatory.
Mont-Louis	24.65	626.2	30.02	762.6	39.4	4.1	77	SSW	29.8	13.33			5		SW	0	0		—. Falguère.
Montsouris, Paris			29.66	753.3	49.6	9.8	82	WSW			3	7c		WNW		0.075	1.9		Montsouris Observatory
Perpignan			29.87	758.6	57.4	14.1	59	E	9.3	4.17			8		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.94	531.8			19.9	—6.7		SW			2		9					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.24	564.9			25.7	—3.5		SW			3		9			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.67	753.6	50.7	10.4	72	SW			2–3		4			0.035	0.9	Light rain	E. Renou.
Toulouse			29.87	758.7	50.4	10.2	77	SE			1		3			0	0	Fair	Toulouse Observatory.
Tours			29.73	755.1	51.4	10.8	59	SW			1		3		W	0.059	1.5		C. Marquet.
Versailles, (near Paris)			29.67	753.6	49.6	9.8	72	W			3		7			0.004	0.10	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.19	766.9	51.8	11.0	97	E	4.1	1.83			2		W	0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The altitude of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
Bamberg			29.67	753.5	46.4	8.0	66	WSW			5		7	SW		0.236	6.0		Prof. T. Hoh.
Berlin			29.50	749.4	46.4	8.0	74	S			2		3			0.154	3.9		Prof. Arndt.
Breslau			29.70	754.4	37.8	3.2	84	SSE			3		10			0	0	Foggy	Royal University Obs'y.
Carlsruhe			29.69	754.1	48.2	9.0	71	SW			5		10			0.287	7.3		A. Senz.
Cassel			29.55	750.6	46.8	8.2	66	WSW			8		8	WSW		0.098	2.5		Dr. H. Möhl.
Emden			29.38	746.2	43.7	6.5	91	WSW			1		10			0.008	0.2		Prof. Prestel.
Frankfort on the Main			29.61	752.1	48.7	9.3	57	SW			5		5			0.053	1.4		Physical Society.
Friedrichshafen			29.80	756.9	46.8	8.2	76	SW			8		4			0	0		M. Wilhelm.
Hamburg			29.34	745.2	42.8	6.0	96	S			1		10			0.067	1.7	Drizzling	Captain F. Hegemann.
Kiel			29.30	744.2	44.2	6.8	79	ESE			2		10			0.173	4.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.65	753.2	32.5	0.3	89	SE			5		10			0.008	0.2		Prof. E. Luther.
Köslin			29.55	750.6	37.4	3.0		S			4		3			0.134	3.4		H. Müller.
Leipsic			29.56	750.9	47.5	8.6	70	SSW			4		8	WSW		0.244	6.2	Raining	Prof. Bruhns.
Memel			29.67	753.6	30.2	—1.0	82	S			4		9cr, ks			Inap.	Inap.		Reinbrecht & Skalweit.
Münster			29.30	744.3	43.7	6.5	97	S			3		10			0.083	2.1		Prof. E. Heis.
Neufahrwasser			29.61	752.1	34.5	1.4	89	SW			3		10			0.051	1.3		A Lothe.
Posen			29.67	753.5	39.2	4.0	81	SE			2		10						Dr. Magener.
Strassburg, (in Alsace)			29.74	755.4	49.1	9.5	59	SW			4		10	W		0.327	8.3		Dr. Schur.
Stuttgart			29.71	754.7	47.1	8.4	67	W			2		5			0.016	0.4	Light rain	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.58	751.4	47.3	8.5	70	W			7		10			0.016	0.4		Prof. Flesch.
Weissenburg, (Bavaria,)	28.19	715.9	29.70	754.3	45.5	7.5	75	SW	2	1			9	SW		0.142	3.6		Dr. von Bebber.
Wustrow, Naval School			29.45	748.0	38.5	3.6	91	SSE			2		10			0.150	3.8		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 7°, 18', W. 25°, 43'.			30.04	762.9	82.6	28.1	74	SSE			1		7		SSE			Raining	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.16	766.1	57.9	14.4		W										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.73	755.1	48.9	9.4	95	Calm	0	0			10			4.134	105.0		Prof. Giovanni Clodig.
Padua			29.73	755.2	49.6	9.8	88	WSW	7.4	3.3			5	SW		0.677	17.2		Prof. Dott. Lorenzoni.
Vicenza			29.75	755.6	50.2	10.1	88	SW	3.1	1.4			4	W		0.807	20.5		Alm. Da Schio.
Verona			29.78	756.5	49.6	9.8	74	E			2		8			0.394	10.0	Raining	Dott. B. Bertoncelli.
Bergamo	28.42	721.8	29.77	756.1	44.2	6.8	88	SW			1		9			0	0		Prof. Trionfini Carlo.
Domodossola			29.81	757.1	43.7	6.5	94	Calm			0		0			0.295	7.5		Prof. Giuseppe Calza.
Milan			29.82	757.3	45.1	7.3	91	WSW			4		7	WNW		0	0		Ab. Gio. Capelli.
Pavia			29.82	757.3	45.3	7.4	78	SW			4		8	SW		0.177	4.5	Raining	Prof. Gio. Cantoni.
Moncalieri			29.84	757.9	43.7	6.5	85	SSE	1.3	0.6			3	NW		0	0		Prof. P. F. Denza.
Mondovi	27.88	708.0	29.85	758.1	40.8	4.9	75	NW			2		4			0	0.		Prof. C. Bruno.
Porto Maurizio			29.83	757.7	56.5	13.6	78	E			4		7	SW		1.717	43.6	Raining	Prof. L. Vassallo.
Genoa			29.79	756.7	52.7	11.5	70	Calm	0	0			8	SW		0.189	4.8		Prof. Garibaldi.
Piacenza			29.81	757.1	45.3	7.4	80	NW	13.7	6.1			4			0.138	3.5		Dott. G. Manzi.
Parma			29.82	757.3	46.8	8.2	83	SW			2		9			0.083	2.1	Raining	Prof. P. Pigorini.
Bologna			29.84	757.9	46.6	8.1	49	W			6		7	S		0	0		Prof. A. Palagi.
Florence			29.83	757.6	59.0	15.0	73	WSW			2		10	SW		0.240	6.1	Raining	Cav. F. Meucci.
Leghorn			29.81	757.2	59.0	15.0	68	W	5.6	2.5			6	WSW		0	0		Prof. P. Monte.
Siena	28.6	726.4	29.83	757.6	55.6	13.1	70	NW	3.4	1.4			7	W		0.386	9.9	Raining	Prof. L. Toscani.
Urbino	28.2[illegible]	717.2	29.84	757.8	54.5	12.5	85	SSW			2		10			0	0		Prof. P. Serpieri.
Pesaro			29.81	757.2	47.3	8.5	93	NW	19.2	8.6			10	NW		0	0		Prof. Luigi Guidi.
Ancona			29.80	756.9	51.4	10.8	89	W			4		10			0.161	4.1	Raining	Prof. F. De— Bosis.
Grosseto			29.84	757.8	61.2	16.2	66	NW			2		4	N		0.130	3.3	Raining	Avv. P. Ponticelli.
Rome			29.85	758.1	60.8	16.0	85	SW	4.3	1.9			10			0.417	10.6	Raining	Prof's. P. Secchi & L. Respighi.
Naples, O. U.			29.93	760.3	64.0	17.8	82	SSW			6		10	SW		0.102	2.6	Raining	Prof. L. Palmieri.
Lecce			30.04	762.9	60.4	15.8	85	S	13.7	6.1			9			0	0		Prof. C. De—Giorgi.
Cosenza			30.00	762.1	59.2	15.1	76	SW	3.8	1.7			4			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.8	64.4	18.0	73	N			2		2			0	0		Prof. F. Cafiero.
Palermo			29.88	759.0	70.5	21.4	53	SW	3.1	1.4			3			0	0		Prof. G. Cacciatore.
Caltanissetta	28.05	712.4	30.01	762.2	59.5	15.3	73	S			2		5	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.93	760.3	60.8	16.0	86	SW	6.9	3.1			10	WSW		0.039	1.0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 879.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urolno, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Observer.
Mexico	Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Flushing			29.50	749.3	45.7	7.6		W			4							
Groningen			29.24	742.6	44.8	7.1		SW			4							
Helder			29.31	744.4	46.8	8.2		WSW			5							
Utrecht			29.35	745.6	46.0	7.8	90	WSW			5		8			0.130	3.3	Very cloudy

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Bergen			29.34	745.2	40.6	4.8	78	Calm	0	0			3			0	0	
Brönö			29.42	747.3	31.3	— 0.4	78	Calm	0	0			2			0	0	
Christiania			29.39	746.4	35.1	1.7	90	NNE	0.4	0.2			10			0.063	1.6	Rain & snow
Tromsö			29.55	750.6	29.8	— 1.2	80	E	4	2			5			0	0	

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.46	748.2	62.2	16.8	96	SW	7.4	3.3			8			0.520	13.2	Raining	Dr. J. A. Sampaio.
Campo Major			29.74	755.5	48.7	9.3	97	NE	16.1	7.2			10	NE		0.276	7.0	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.77	756.1	67.6	19.8	90	W	3.8	1 7			10			1.721	43.7		Capt. D. A. de Cunha.
Lisbon			29.71	754.5	51.8	11.0	98	NE	21.0	9.4			10			0.862	21.9	Light rain	The Observatory.
Ponta Delgada, (Azores)			29.55	750.5	62.6	17.0	90	S	9.9	4.44			10			0.185	4.7		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.74	755.3	32.4	0.2	94	SSE	7	3			8						Astronomical Obs.
Wilna			29.87	758.8	25.3	— 3.7	86	SSE	4	2			10						Astronomical Obs.
Dorpat			29.81	757.2	24.4	— 4.2	94	SE	7	3			10						Physical Cabinet.
St. Petersburg			29.89	759.1	19.6	— 6.9	94	SSE	18	8			10						Central Physical Obs.
Kuopio			29.72	754.8	26.1	— 3.3	100	S	13	6			10						Ch. Forsten.
Kleff			30.13	765.3	21.0	— 6.1	100	SSE	7	3			10					Light fog	Physical Cabinet.
Nikolaiev			30.21	767.3	27.5	— 2.5	87	Calm	0	0			9						Kurdakof.
Kertch			30.16	766.0	34.0	1.1	96	NNE	4	2			10						Lagorio.
Moscow			30.28	769.1	19.4	— 7.0	94	S	9	4			10						Meteorological Obs.
Lugan			30.22	767.6	21.6	— 5.8	80	E	20	9			10						Meteorological Obs.
Archangel			29.82	757.4	19.0	— 7.2	95	SE	7	3			10						Ogorodnikof.
Tiflis	28.72	729.4	30.19	766.8	38.8	3.8	88	Calm	0	0			10					Raining	Physical Observatory.
Astrakhan			30.29	769.4	30.6	— 0.8	81	ENE	13	6			3						Sebastianof.
Kasan			30.38	771.6	11.8	—11.2	93	SW	2	1			1						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.50	749.3	30.59	777.0	—11.7	—24.3	78	Calm	0	0			2						Meteorogical Obs.
Nukuss			30.39	771.8	31.6	— 0.2	96	NNE	4	2			1						
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.59	776.9	—17.1	—27.3	77	SW	9	4			2						Meteorological Obs.
Yeniseisk			30.14	765.5	— 8.5	—22.5	65	SW	16	7			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.50	774.8	30.6	— 0.8	54	Calm	0	0			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.23	767.7	27.1	— 2.7	85	NW	2	1			2			Blank	Blank		
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.88	759.0	41.9	5.5	97	NE	6.7	3.00			10			0.248	6.3	Rainy	Royal Observatory.
San Fernando			29.78	756.4	62.8	17.1	96	S	17.0	7.6		4	6	SW	S	0.862	21.9	Raining	Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.66	753.3	31.6	— 0.2	100	SW			2		10			0.16	4.		
Umea			29.58	751.2	33.8	1.0	100	S			2		10			0	0		
Hernosand			29.50	749.3	32.2	0.1	94	NE			2		10			0	0		
Stockholm			29.43	747.5	33.8	1.0	96	SSE			2		10			0.185	4.7		
Wisby			29.52	749.7	38.1	3.4	98	S			4		10			0.110	2.8	Raining	
SUB-SERIES.																			
Upsala			29.43	747.6	32.4	0.2	99	ESE	7.6	3.4			10			0.191	4.85	Snow & fog	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.40	721.3	29.83	757.6	52.5	11.4	50	SW			2		8			0.319	8.1	Cloudy	The Observatory.
Zurich	28.16	715.2	29.81	757.2	49.3	9.6	62	W			4		3			0	0	Fair	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —5.5 mm; Thermometer, +6.7 cent.; Relative Humidity, —28 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.17	766.2	47.5	8.6	73	SSE	2	1.0			6		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.19	766.8	58.6	14.8		SW			1		2						
Valona			30.03	762.7	62.4	16.9		NE			2		10						
Varna			30.00	762.0	44.6	7.0		N			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.10	764.6	65.1	18.4	55	W			2		7k		SW	0.01	0.3	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.18	766.6	25.7	— 3.5		SW	3	1.3			10			0	0		Hon. J. Ferguson.
Brockville, Ontario			29.78	756.4	27	— 2.8		Calm	0	0			10s		NW	0.03	0.8	Cloudy	W. R. Bigg.
*Chatham, N. B			29.19	741.4	25	— 3.9	93	SW	10	4.5			10s		SW	Inap.	Inap.	Light snow	G. A. Blair.
Charlottetown, P. E. Island			29.24	742.7	28	— 2.2	70	Calm	0	0		2k	0			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.66	753.4	27.0	— 2.8	83	W			1		10s			Inap.	Inap.	Threatening	James Smith, M. A.
Dalhousie, N. B			29.16	740.7	23	— 5.0	97	W			2							Snowing	H. A. Johnson.
Esquimault, B. C			30.08	764.0	32.1	0.1	100	Calm				0	0			0	0	Frosty	W. H. Bevis.
Fredericton, N. B			29.36	745.7	25.0	— 3.9	78	W	16	7.2		7cs	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.16	766.1	—16	—26.7	94	Calm	0	0		Haz	Fog			0	0	Foggy	James Stewart.
Goderich, Ontario			29.77	756.1	32.9	0.5		W			2		10n					Dull	H. J. Strang, M. A.
Granton, Ontario	28.59	726.2	29.73	755.1	27.2	— 2.7		W			1	3cs	0	E		0.20	5.08	Clear	James Grant.
*Halifax, N. S			29.33	745.0	27	— 2.8	82	W	10	4.5		2cs	2k			Inap.	Inap.	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.71	754.6	28	— 2.2	94	Calm	0	0		10k	Smk			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.24	742.7	30.0	— 1.1	96	SW	4	1.8		3c	0	SW		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			29.65	753.1	24	— 4.4	85	W	16	7.2		2k	8ks	W		0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.68	753.9	26	— 3.3	78	W	4	1.8			10ks		W	0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.65	753.1	29	— 1.7	92	N	6	2.7		5k	5ks	W	W	0.22	5.6	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.76	755.9	30	— 1.1	89	W	12	5.4		2k	0	W		0.14	3.6	Fair	H. Morgan.
Port Hastings, N. S			29.41	747.0	31.0	— 0.6		NW	20	8.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.78	756.4	29	— 1.7	97	W	24	10.7			10n		W	0.14	3.6	Cloudy	M. Payne.
*Quebec, Quebec			29.49	749.0	24	— 4.4	87	SW	20	8.9			10n		SW	Inap.	Inap.	Light snow	Capt. Ashe, R. N.
St. John, N. B			29.39	746.5	25	— 3.9	81	W	10	4.5		5cs	0			0	0		G. Murdoch, C. E.
*Saugeen, Ontario			29.65	753.1	34	1.1	75	NW	5	2.2			10n			0.20	5.1	Cloudy	R. Stewart.
Stayner, Ontario			29.68	753.9	31	— 0.6	96	SW	8	3.6		8k	0	W		Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.38	720.8	29.71	754.6	27.0	— 2.8	88	SW	15	6.7			10n			0.25	6.35	Snowing	C. J. MacGregor, M. A
*Sydney, C. B			29.27	743.4	31	— 0.6	73	SW	3	1.3		2	2ks	SW	SW	0	0	Clear	T. C. Hill.
*Toronto, Ontario			29.73	755.1	28	— 2.2	89	W	9	4.0		2c	2s	SW	W	0.45	11.4	Fair	Magnetic Observatory.
Woodstock, Ontario			29.75	755.6	27.7	— 2.4	86	W	12	5.4		0	3s			0	0	Fair	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.52	749.8	33.0	0.6	90	SW	2	0.9		10c	10s			0	0		John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.73	755.1	30	— 1.1	89	S	1	0.4			10ks		W	0.09	2.3	Cloudy	
Alpena, Mich.			29.57	751.1	26	— 3.3	76	W	4	1.8		0	7s		W	0.02	0.5	Fair	
Atlantic City, N. J.			29.92	760.0	34	1.1	69	W	4	1.8		10cs	0	W		0.24	6.1	Cloudy	
Augusta, Ga.			29.92	760.0	49	9.4	93	SE	2	0.9			10s		SE	0	0	Cloudy	
Baltimore, Md.			29.95	760.7	36	2.2	62	W	4	1.8			10s		W	0.11	2.8	Cloudy	
Barnegat, N. J.			29.89	759.2	32	0.0	79	W	13	5.8		8k	0	NW		0.15	3.8	Fair	
Bismarck, Dakota	28.06	712.7	29.83	757.7	10	—12.2	79	Calm	0	0			10s			0.08	2.0	Cloudy	
Boston, Mass.			29.71	754.6	29	— 1.7	67	SW	10	4.5		0	Haze			0.03	0.8	Clear	
Breckenridge, Minn.			30.09	764.3	—14	—25.6	73	Calm	0	0		8cs	0			0	0	Cloudy	
Buffalo, N. Y.			29.72	754.9	32	0.0	79	NW	11	4.9			10s		W	0.13	3.3	Cloudy	
Burlington, Vt.			29.67	753.6	32	0.0	69	W	5	2.2		0	8s			0	0	Cloudy	
Cairo, Ill.			30.03	762.7	32	0.0	69	N	5	2.2		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.94	760.5	49	9.4	57	NE	10	4.5			10s			Inap.	Inap.	Cloudy	
Cape Henry, Va.			30.00	762.0	41	5.0	74	Calm	0	0			10s			0.01	0.3	Cloudy	
Cape Lookout, N. C.			30.00	762.0	49	9.4	64	NE	8	3.6			10s			0	0	Cloudy	
Cape May, N. J.			29.93	760.2	39	3.9	63	NW	24	10.7		5cs	0	W		0.41	10.4	Fair	
Charleston, S. C.			29.96	761.0	55	12.8	80	SW	3	1.3		0	5ks		SW	0	0	Fair	
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	10	—12.2	100	W	4	1.8		0	0			0.09	2.3	Clear	
Chicago, Ill.			29.93	760.2	16	— 8.9	83	W	4	1.8		0	0			Inap.	Inap.	Clear	
Cincinnati, Ohio			29.86	758.4	33	0.6	79	SW	1	0.4		2ck	Fog	W		0	0	Foggy	
Cleveland, Ohio			29.87	758.7	28	— 2.2	88	SW	16	7.2		Haze	2s		SW	0.10	2.5	Hazy	
Corsicana, Tex.			29.87	758.7	37	2.8	71	N	7	3.1		0	0			0	0	Clear	
Davenport, Iowa			30.03	762.7	8	—13.3	78	NW	9	4.0		0	0			0	0	Clear	
Denison, Tex.			29.95	760.7	35	1.7	70	N	4	1.8		0	0			0	0	Clear	
Denver, Col.	24.54	623.3	29.76	755.9	10	—12.2	100	S	4	1.8			Fog			0.30	7.6	Foggy	
Detroit, Mich.			29.78	756.4	27	— 2.8	77	W	9	4.0			10s			0.04	1.0	Cloudy	
Dodge City, Kan.	27.28	692.9	29.64	752.8	31	— 0.6	89	SE	8	3.6			10s			0.02	0.5	Cloudy	
Dubuque, Iowa			29.94	760.5	8	—13.3	55	W	2	0.9		0	Haze			Inap.	Inap.	Clear	
Duluth, Minn.			29.97	761.2	12	—11.1	80	SW	3	1.3		0	2s		W	0	0	Clear	
Eastport, Me.			29.39	746.5	27	— 2.8	66	SW	15	6.7		5c	0	E		0	0	Fair	
Erie, Pa.			29.76	755.9	33	0.6	69	SW	20	8.9			10ks		W	0.21	5.3	Cloudy	
Escanaba, Mich.			29.82	757.4	22	— 5.6	72	NW	12	5.4		2c	2s	W	NW	0.02	0.5	Fair	
Fort Gibson, Indian Ter.			29.94	760.5	37	2.8	54	N	1	0.4			10s		W	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.70	729.0	29.84	757.9	34	1.1	61	NW	9	4.0		2ck	0			0	0	Fair	
Fort Sully, Dakota	28.08	713.2	29.81	757.2	22	— 5.6	72	SE	3	1.3		0	0			0.08	2.0	Clear	
Florence, Arizona	28.32	719.3	29.82	757.4	55	12.8		SW				0	0			0	0	Clear	
Galveston, Tex.			29.84	757.9	61	16.1	100	W	2	0.9			Fog			0	0	Foggy	
Grand Haven, Mich.			29.79	756.7	33	0.6	85	W	19	8.5			10s		W	0.08	2.0	Cloudy	
Indianapolis, Ind.			29.96	761.0	24	— 4.4	74	NW	6	2.7		0	0			Inap.	Inap.	Clear	
Indianola, Tex.			29.80	756.9	60	15.6	88	E	4	1.8			Fog			0	0	Foggy	
Jacksonville, Fla.			30.00	762.0	55	12.8	87	S	10	4.5		5k	0	W		0	0	Fair	
Keokuk, Iowa			30.01	762.2	12	—11.1	80	N	5	2.2		0	0			0	0	Clear	
Key West, Fla.			30.04	763.0	65	18.3	90	NE	8	3.6		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.01	762.2	43	6.1	66	NW	6	2.7			10s		W	0	0	Cloudy	
Knoxville, Tenn.			30.00	762.0	35	1.7	90	N	4	1.8			10n			0.33	8.4	Light rain	
La Crosse, Wis.			30.00	762.0	13	—10.6	62	W	5	2.2		0	0			0	0	Clear	
Leavenworth, Kan.			30.02	762.5	24	— 4.4	88	SE	6	2.7		0	2s			0	0	Clear	
Louisville, Ky.			29.93	760.2	34	1.1	90	SW	4	1.8		0	Fog			0	0	Clear	
Lynchburg, Va.			29.96	761.0	40	4.4	56	W	2	0.9			10s			0	0	Cloudy	
Malone, N. Y.			29.63	752.6	29	— 1.7	88	W	7	3.1			10s		W	0	0	Cloudy	
Marquette, Mich.			29.77	756.1	23	— 5.0	73	W	12	5.4			10s		W	0	0	Cloudy	
Memphis, Tenn.			29.96	761.0	45	7.2	54	NE	4	1.8			8ks		SW	0	0	Cloudy	
Milwaukee, Wis.			29.88	758.9	21	— 6.1	85	NW	12	5.4			10s		NW	0.01	0.3	Cloudy	
Mobile, Ala.			29.88	758.9	58	14.4	93	S	5	2.2		5k	Sm'k	NW	S	0	0	Fair	
Montgomery, Ala.			29.88	758.9	56	13.3	90	S	5	2.2			10n			0.02	0.5	Light rain	
Morgantown, W. Va.	28.84	732.5	29.93	760.2	30	— 1.1	78	S	6	2.7		2c	0	SW		0.05	1.3	Fair	
Mt. Washington, N. H.	22.97	583.4	29.33	745.0	— 1	—18.3	100	NW	84	37.6			Fog			0	0	Foggy	
Nashville, Tenn.			29.96	761.0	40	4.4	82	E	2	0.9			10s		W	0	0	Cloudy	
New Haven, Conn.			29.81	757.2	35	1.7	70	NW	5	2.2		Haze	0			0.03	0.8	Fair	
New London, Conn.			29.79	756.7	33	0.6	69	W	4	1.8		1c	1k	W	W	0.11	2.8	Clear	
New Orleans, La.			29.87	758.7	58.5	14.7	91	S	5	2.2		9k	Fog	W		0	0	Cloudy	
Newport, R. I.			29.76	755.9	33	0.6	79	W	18	8.0		0	0			0.05	1.3	Clear	
New York, N. Y.			29.84	757.9	35	1.7	70	W	21	9.4		8k	0	NW		0.14	3.6	Fair	
Norfolk, Va.			29.99	761.7	41	5.0	65	W	3	1.3			10s			0.01	0.3	Cloudy	
North Platte, Neb.	26.88	682.7	29.50	749.3	30	— 1.1	89	E	8	3.6			10n			0.02	0.5	Light snow	
Omaha, Neb.	28.86	733.0	30.01	762.2	19	— 7.2	84	S	2	0.9		2ck	Sm'k			0	0	Fair	
Oswego, N. Y.			29.71	754.6	34.6	1.4	79	SW	8	3.6		2ck	5ks	W	W	0.05	1.3	Clearing	
Pembina, Dakota			30.07	763.8	— 5	—20.6	88	Calm	0	0			10s			0	0	Cloudy	
Philadelphia, Pa.			29.91	759.7	32	0.0	68	NW	6	2.7		1ck	5s	SW	W	0.06	1.5	Cloudy	
Pike's Peak, Col.	17.30	439.4	29.51	749.5	— 2	—18.9	100	W	36	16.1		0	Fog		W	0.10	2.5		
Pittsburgh, Pa.			29.88	758.9	32	0.0	79	W	5	2.2		0	5s		W	0.01	0.3	Fair	
Port Huron, Mich.			29.73	755.1	29	— 1.7	89	W	12	5.4		2cs	8n		W	0.05	1.3	Light snow	
Portland, Me.			29.62	752.3	29	— 1.7	67	W	4	1.8		0	0			0	0	Clear	
Portland, Oregon			30.12	765.0	43	6.1	91	SW	1	0.4		0	5s			0.17	4.3	Fair	
Punta Rassa, Fla.			30.07	763.8	59.5	15.3	70	E	8	3.6			10s		SW	0	0	Cloudy	
Rochester, N. Y.			29.71	754.6	31	— 0.6	79	SW	8	3.6		0	2s		W	0.04	1.0	Fair	
Salt Lake City, Utah	25.51	647.9	29.84	757.9	33	0.6	61	NW	2	0.9		5k	0			0.13	3.3	Fair	
Sandy Hook, N. J.			29.82	757.4	36	2.2	70	W	28	12.5		2c	0	W		0.25	6.3	Fair	
San Diego, Cal.			29.85	758.2	53	11.7	93	NE	4	1.8		0	2s		NE	0	0	Clear	
San Francisco, Cal.			29.98	761.5	51	10.6	93	Calm	0	0			Fog			0	0	Foggy	
Santa Fé, N. M.	23.02	584.7	29.56	750.8	30	— 1.1	68	Calm	0	0		5k	0			0	0	Fair	
Savannah, Ga.			29.97	761.2	55	12.8	87	SW	6	2.7		2k	Sm'k			0	0	Fair	
Shreveport, La.			29.93	760.2	48	8.9	63	NE	8	3.6			10s			0	0	Cloudy	
Smithville, N. C.			29.97	761.2	52	11.1	64	N	5	2.2		5k	5ks	W	W	0	0	Cloudy	
Springfield, Mass.			29.76	755.9	33.5	0.8	69	W	4	1.8		0	5s			0.06	1.5	Fair	
St. Louis, Mo.			30.03	762.7	23	— 5.0	73	NE	8	3.6		0	0			0	0	Clear	
St. Marks, Fla.			29.95	760.7	60	15.6	94	S	5	2.2		0	8ks		S	0.06	1.5	Cloudy	
St. Paul, Minn.			29.99	761.7	7	—13.9	54	W	5	2.2		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.70	754.4	30	— 1.1	59	W	16	7.2		0	1k		W	0	0	Clear	
Toledo, Ohio			29.83	757.7	28	— 2.2	77	SW	8	3.6		2k	0	SW		0.15	3.8	Clear	
Tucson, Arizona	27.47	697.7	30.02	762.5	40	4.4		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			29.92	760.0	43	6.1	96	NE	7	3.1			10s,sm		NE	0.01	0.3	Cloudy	
Virginia City, M. T.	23.90	607.0	29.38	746.2	22	— 5.6	44	SW	8	3.6		8k	0	NW		0	0	Cloudy	
Washington, D. C.			29.97	761.2	35	1.7	69	SW	5	2.2			10s			0.06	1.5	Cloudy	
Wilmington, N. C.			29.98	761.5	50	10.0	58	NE	6	2.7			10s		W	0.02	0.5	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.76	755.9	35	1.7	80	NW	22	9.8		0	0			0.31	7.9	Clear	
Yankton, Dakota	28.65	727.7	30.03	762.7	16	— 8.9	74	NE	1	0.4			10s			0	0	Cloudy	
Yuma, Arizona			29.92	760.0	60	15.6		NW				2c	0	N		0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.15	765.8	78	25.6	82	Calm	0	0		8c	5s		SE	0	0		James Gall.
Navassa, W. I.					81	27.2		E			3					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.17	690.1	29.95	760.7	64	17.8	88	SE	1.0	0.4		5c	0	SE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.03	762.7	81	27.2	87	SE			2	5k	5k	E		0.20	5.08	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.8			81.5	27.5		N								0.23	6.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.5	18.1	87	NW			2		10n			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			30.24	768.1	—23.0	—30.6		NW	10	4.5		2c	4s	NW		0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.93	760.2	75	23.9		S			3					0.10	2.5		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Provincetown, Mass.			29.65	753.1	36	2.2	80	NW	16	7.2		0	0					Clear	Capt. James Jorgenson.
Steamer Berlin, N. 45°, 43′, W. 39°, 12′.	ENE ½E	5	28.77	730.7	65.8	18.8		ENE			8		10d			Heavy sea.		Raining	Capt. C. Pohle.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Farenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 29, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.84	757.9	74.7	23.7	36	Calm			0		6			0	0	Fair	Charnot.
Algiers			29.85	758.1	71.6	22.0	50	WSW			1		10			0	0	Hidden	Peter.
La Calle			29.88	759.0	75.6	24.2	30	NW			2		4			0	0	Fair	Fleury.
Tunis			29.95	760.7	73.2	22.9	32	W			2		4			0	0	Fair	Jacques.
Sfax			30.05	763 3															
Sfida			29.92	759.9	66.4	19.1	31	SW			1		3			0	0	Clear	Millot.
Tebessa			30.03	762.7	63.5	17.5		S			2		2			0	0	Clear	Bourgeois.
Geriville					64.0	17.8	65	WNW			3		4			0	0	Fair	Lemaillot.
Laghouat			30.04	763.0	63.3	17.4	16	S			3		6			0	0	Fair	Guyot.
Biskra			30.04	763.1	70.3	21.3	30	NNE			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram			29.90	759.5	40.5	4.7	94	Calm			0		10			0.409	10.4	Rain and fog	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.86	758.5	36.3	2.4	89	WSW			1		4			0.035	0.9		Dr. Wierzbiski.
Eperies			29.91	759.6	36.5	2.5	94	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.60	726.3	29.87	758.8	38.5	3.6	95	SW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.48	723.4	29.96	760.9	35.4	1.9	80	SE			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.43	722.0	29.82	757.3	34.2	1.2	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.84	757.9	34.5	1.4	93	SE			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.82	757.4	49.8	9.9	94	ENE			2		10s			0.294	7.47		I.R.Hydrographic Office.
Szegedin			29 90	759.4	40.1	4.5	76	Calm			0		10			0.370	9.40		Karl Stancel.
Trieste			29.87	758.7	50.2	10.1	91	Calm			0		10			0.437	11.1	Rain and fog	Prof. V. Farolfi.
Vienna			29.85	758.1	38.7	3.7	98	SE			1		10			0.012	0.3	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Brussels			29 58	758.3	45.7	7.6	83	SW			3		10k	WSW	SW	0.098	2.50		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.35	745.5	38.5	3.6		WSW	11	4.9			4			0.210	5.33	Blue sky	William Boswell.
Ardrossan			29.41	747.0	38	3.3		E			2		5					Misty	William McNeil.
Armagh, Observatory			29.46	748.3	36.8	2.7		SW	7	3.1			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.49	749.0	44.5	6.9		SW			1		6					*D. clouds	J. Dreyer.
Bradford			29.48	748.8	41.6	5.3		W			2		4			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			30.03	762.7	83.8	28.8		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.56	750.8	45.5	7.5		W			2		1					*D. clouds	H. Todd. [H. C.
Cardington			29.55	750.6	43.0	6.1		W			1		1					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.60	751.8	45.2	7.3		SW			1		0					Blue sky	Capt. Fellowes, R. E.
Dartmoor	28.17	715.5	29.69	754.1	43.4	6.3		W			2		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.60	d24.8			36.2	2.3	65	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.43	747.5	37	2.8		W			3		3					*D. clouds	J. Mac Gowan.
Dover			29.58	751.3	45	7.2		WSW			3		4					⅜ clouded	J. Costello.
Eccles, (near Manchester)			29.47	748.5	43.9	6.6		SW	3.0	1.3			5					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			29.63	752.6	49.1	9.5		WSW			3		4					*D. clouds	The Staff.
Fort Napier, (Natal)	27.52	699.0	29.75	755.6	88.0	31.1		NE			2		1					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	83.0	28.3		N			1		4					*D. clouds	
Galway, Queen's College			29.42	747.3	46	7.8		N			1		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.77	756.1	69.2	20.7		SW			1		7					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.40	746.7	30.2	— 1.0		NW			1							Foggy	Lewis Stuart.
Great Yarmouth			29.55	749.8	40	4.4		W			3		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.60	751.8	46.0	7.8		W			1		0					Hazy	The Staff, for G. B. Airy.
Guernsey			29.66	753.4	51	10.6		W ⅜W			2		4					*D. clouds	Dr. S. E. Hoskins.
Helston			29.57	751.1	50	10.0		NW			4		6k			0.8	20.3		M. P. Moyle.
Holyhead			29.47	748.5	45	7.2		SW			3		5					*D. clouds	John Tilston.
Kew, Observatory			29.60	751.8	46.1	7.8		W	12	5.4			0					Blue sky	The Staff.
Kingstown			29.47	748.5	44	6.9		W			3		5					*D. clouds	George Mitchell.
Leicester Museum			29.56	750.8	43.3	6.3		SW			1		0					Hazy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.01	762.2	70.2	21.2		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.37	746.0	36	2.2		W			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.05	763.3	69.5	20.8		N			0		8						Surg. Maj. Henry.
Nottingham, Observatory			29.53	750.0	44.8	7.1		SW			2		0			0.03	0.8	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.53	750.0	43.3	6.3		WSW			3		8					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.57	751.1	45	7.2		WSW			1		0					Blue sky	J. Lucas.
Plymouth			29.61	752.1	48.5	9.2		SW			1		1					*D. clouds	John Merrifield.
Roche's Point			29.57	749.8	44	6.7		W			3		2					Fine	W. Kennedy.
Saint Ann's Head			29.54	750.3	49	9.4		WSW			4		6					Squally	John C. Walker.
Saint Helier, (Jersey)			29.66	753.4	51.4	10.8		W			4		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.36	745.7	41	5.0		ENE	11	4.9			0					Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.09	764.3	52.2	11.2		SW			2		9					Gloomy	Sergt. W. H. Lyne.
Sheffield			29.47	748.5	42.8	6.0		W			2		7			0.03	0.84	Overcast	W. F. Cooper.
Silloth Rectory			29.46	748.3	39.5	4.2	91	Calm			0		4			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.48	748.8	41.3	5.2		SW					4					*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.39	746.5	38	3.3		NNE			1		5					*D. clouds	John Smith.
Stratfield Turgiss			29.60	751.8	44.6	7.0		SW			1		0					Blue sky	Rev. Charles H. Griffith
Thurso			29.31	744.5	42	5.6		Calm			0		9					Raining	John Trotter.
Truro, Royal Institution			29.60	751.8	52	11.1		W			2		10					Raining	W. Newcombe.
Valencia, Observatory			29.51	749.5	48.2	9.0		W	10	4.5			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					43	6.1		W			6		0			0	0		Henry Mercer.
Cape Good Hope, Ob'y			29.96	761.0	73.2	22.9	66	NW	22	9.8		5	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.22	767.6	65.0	18.3	82	W			1		0			0.07	1.8		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.44	747.8	37.0	2.8		NW			2					0	0	Clear	Andrew Gibb.
Mauritius, Observatory			29.97	761.2				SW	11.3	5.1						0	0		C. Meldrum.
Melbourne, Observatory			30.38	771.6	50.6	10.3	75	SE	6	2.7			2			0.01	0.3	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.47	748.5	41	5.0		E			3	3	0	E		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.39	746.5	45	7.2		NE			4	4	7	NE		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. * Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.41	747.0	41.0	5.0	89	SW			2		10					Misty	
Fanöe			29.37	745.9	41.5	5.3	97	WSW			2		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.07	763.6	28.9	— 1.7	91	E			6		8						
Thorshavn, (Faröe)			29.47	748.5	41.4	5.2	84	E			4		10					Raining	
Vestervig			29.36	745.7	37.8	3.2	100	Calm			0		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the coöperation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.*	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.85	758.2	47.3	8.5	72	SW			3		5k		SW	0.024	0.6	Cloudy	Normal School.
Amiens			29.65	753.0	48.2	9.0	81	SW			3		8		W	0	0	Very cloudy	Normal School.
Avignon			29.81	757.2	54.5	12.5	65	N			2		0			0.366	9.3	Very clear	Normal School.
Bar-sur-Seine			29.78	756.4	47.3	8.5	80	SW			2		5		W	0.012	0.3	Cloudy	C. Saillard.
Beaumette, (near Angers)			30.07	763.6	52.3	11.3	69	SW	5.4	2.4					SW	0	0		Beaumette Observ'tory.
Beauvais			29.70	754.4	47.7	8.7	78	W			3		5		W	0	0	Cloudy	Normal School.
Besançon			29.85	758.2	48.0	8.9	74	S			4		0			0	0	Clear	Normal School.
Bourg en Bresse			29.91	759.6	48.7	9.3	69	SE			1	5c		S		0	0	Cloudy	Normal School.
Bourges			29.70	754.3	50.2	10.1	84	SSW			4		2		NW	0	0	Slightly cl'dy	Normal School.
Brest			29.63	752.5	56.7	13.7	66	SW			3		3		WSW	0.089	2.25	Squally	Naval Observatory.
Carcassonne			29.91	759.7	55.4	13	60	N			2		1		S	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			29.65	753.1	52.9	11.6	80	SW			2		1		SW	0	0		Normal School.
Châlons-sur-Marne			29.71	754.6	48.0	8.9	81	WSW			4		8kn		E	0	0	Very cloudy	Normal School.
Clermont			29.81	757.2	53.1	11.7	46	SSW			1		5		W	0	0		Puy de Dome Obs'y.
Commercy			29.80	756.9	45.3	7.4	91	WSW			6		8kn		WSW	0.24	6.	Very cloudy	Normal School.
Commune de Gréasque*			29.84	758.0	53.8	12.1	65	NE			1		2		SW	0.71	18.		M. Kina.
Grenoble			29.87	758.6	43.2	6.2	76	ENE			1		0			0	0	Clear	Normal School.
La Roche-sur-Yon					52.9	11.6	80	SE			1		5		NW	0	0	Cloudy	Normal School.
Le Mans			29.76	755.8	48.9	9.4	76	SW			2		2		SW	0.016	0.4	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.77	756.2	46.6	8.1	83	SW			1		0			0	0	Clear	Normal School.
Lorient			29.73	755.1	54.7	12.6	63	WSW			2		5		SW	0.039	1.0	Cloudy	Naval Observatory.
Mâcon			29.73	755.2	45.0	7.2	97	S			1		10			0.205	5.2	Covered	Normal School.
Metz			29.80	756.8	44.2	6.8	94	SW			3		10			0.224	5.7		M. Schuster.
Mirecourt			29.79	756.6	46.8	8.2	82	SSW					5		NNE	0	0	Cloudy	Normal School.
Nismes			29.81	757.2	57.9	14.4	65	N			2		0			0.374	9.5	Clear	Normal School.
Orleans			29.72	755.0	50.4	10.2	80	SW					5		W	0	0	Cloudy	Normal School.
Paris, Observatory			29.72	754.9	49.1	9.5	74	SW			2		5k		W	0.015	0.39	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.86	758.4	50.4	10.2		NE			2		0			0	0	Clear	Normal School.
Rochefort, Observatory			29.80	756.8	57.6	14.2	69	S			2		2		NE	0	0	¼ covered	Naval Observatory.
Rouen			29.69	754.2	50.7	10.4	65	W			2		2		W	0	0	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes	28.58	726.0	29.65	753.1	58.1	14.5		E			2		0			0	0	Clear	Normal School.
Villefranche			29.85	758.3	51.8	11	80	SE			1		5			0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.92	759.9	81.3	27.4													L'Abbé Marchési.
Marseilles			29.83	757.6	58.5	14.7	68	SW			2		3			0.331	8.40	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.64	625.9	30.01	762.3	39.2	4.0	81	SSW	1.9	0.83			0			0.169	4.3		—. Falguère.
Montsouris, Paris			29.71	754.5	50.0	10.0	71	WSW			2		7		WSW	0.004	0.1		Montsouris Observatory
Perpignan			29.84	757.8	57.4	14.1	47	E	5.6	2.50			1		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.98	533.0			26.6	— 3.0		SW			1		0			lank	Blank	Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.26	565.4			39.4	4.1		SW			1		0			0.078	2.0	Clear	General de Nansouty.
Saint Maur, (near Paris)			29.72	755.0	48.4	9.1	81	SSW			2		3			0.008	0.2		E. Renou.
Toulouse			29.87	758.7	46.8	8.2	100	E			1		0			0	0	Clear	Toulouse Observatory.
Tours			29.78	756.3	51.6	10.9	75	W			1		7		W	0	0		C. Marquet.
Versailles, (near Paris)			29.72	754.8	49.6	9.8	76	W			3		5			0.018	0.45	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.29	769.4	54.1	12.3	93	NE	11.2	5.00			10		W	0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.*	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.72	754.9	47.8	8.8	59	SW			4		5	SW		0.020	0.5		Prof. T. Hoh.
Berlin			29.62	752.4	44.2	6.8	78	S			2		4			0.055	1.4		Prof. Arndt.
Breslau			29.77	756.1	44.8	7.1	68	S			4		1			0.055	1.4	Foggy	Royal University Obs'y.
Carlsruhe			29.73	755.2	48.9	9.4	66	SW			3		9			0.039	1.0		A. Senz.
Cassel			29.67	753.5	44.4	6.9	82	SW			5		6	WSW		0.035	0.9		Dr. H. Möhl.
Emden			29.48	748.9	41.0	5.0	94	W			5		10			0.106	2.7		Prof. Prestel.
Frankfort on the Main			29.79	756.6	46.0	7.8	71	SW			1		6			0.039	1.0		Physical Society.
Friedrichshafen			29.84	758.0	41.7	5.4	89	SW			4		0			0	0		M. Wilhelm.
Hamburg			29.44	747.8	41.5	5.3	96	SSW			2		10			0.079	2.0	Raining	Captain F. Hegemann.
Kiel			29.43	747.4	41.4	5.2	92	SW			2		10			0.055	1.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.64	752.8	37.8	3.2	81	SW			2		2			0.004	0.1		Prof. E. Luther.
Köslin			29.61	752.2	39.7	4.3		SW			4		3			0	0		H. Müller.
Leipsic			29.69	754.2	45.5	7.5	69	SSW			3		6			0	0		Prof. Bruhns.
Memel			29.59	751.5	38.5	3.6	90	SSW			3		9ks,ck	SW		0.035	0.9		Reinbrecht & Skalweit.
Münster			29.50	749.2	43.3	6.3	79	SW			2		10			0.272	6.9		Prof. E. Heis.
Neufahrwasser			29.65	753.1	39.2	4.0	84	SW			3		4	SW		0	0		A Lothe.
Posen			29.70	754.4	42.6	5.9	79	SW			1		0						Dr. Magener.
Strassburg, (in Alsace)			29.78	756.4	47.1	8.4	74	SW			3		4	SW		0	0		Dr. Schur.
Stuttgart			29.74	755.4	48.2	9.0	57	W			4		4			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.63	752.6	46.6	8.1	81	SW			6		10			0.098	2.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.24	717.2	29.76	755.8	45.0	7.2	66	S	4	2			1			0.051	1.3		Dr. von Bebber.
Wustrow, Naval School			29.55	750.5	40.8	4.9	88	SSW			3		8			0.201	5.1		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 4°, 47′, W. 25°, 41′.			30.07	763.7	76.5	24.7	89	S			1		10		S				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.13	765.3	62.6	17.0		S										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.85	758.1	49.1	9.5	84	Calm	0	0			10			0.197	5.0	Raining	Prof. Giovanni Clodig.
Padua			29.83	757.7	45.7	7.6	97	N	2.5	1.1			10			0.461	11.7	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.85	758.2	46.0	7.8	97	NE	0.7	0.3			10	W		0.327	8.3	Raining	Alm. Da Schio.
Verona			29.86	758.5	48.2	9.0	86	E			2		10			0.232	5.9	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.84	758.0	45.7	7.6	78	Calm			0		0			0	0		Prof. Giuseppe Calza.
Milan			29.88	758.9	45.0	7.2	90	NNE			1		10	ENE		0.142	3.6	Raining	Ab. Gio. Capelli.
Pavia			29.86	758.5	43.9	6.6	88	E			1		10			0.220	5.6	Raining	Prof. Gio. Cantoni.
Moncalieri			29.88	759.0	46.0	7.8	79	NNW	0	0			2			0	0		Prof. P. F. Denza.
Mondovi	27.92	709.1	29.89	759.2	43.7	6.5	77	NW			2		8	NW		0.362	9.2	Raining	Prof. C. Bruno.
Porto Maurizio			29.78	756.5	56 3	13.5	59	NE			2		2	N		0.283	7.2		Prof. L. Vassallo
Genoa			29.75	755.7	49.1	9.5	72	N	13.7	6.1			4			0.642	16.3		Prof. Garibaldi.
Piacenza			29.86	758.5	43.0	6.1	95	NW	0.7	0.3			10			0.335	8.5	Raining	Dott. G. Manzi.
Parma			29.87	758.8	43.9	6.6	94	SE			4		10			0.630	16.0	Raining	Prof. P. Pigorini.
Bologna			29.83	757.7	44.8	7.1	62	NW			1		10			0.984	25.0	Raining	Prof. A. Palagi.
Florence			29.74	755.5	52.7	11.5	91	ENE			2		10			0.992	25.2	Raining	Cav. F. Meucci.
Leghorn			29.71	754.7	54.9	12.7	92	NNE	11.9	5.3			10	W		0.728	18.5	Rain & hail.	Prof. P. Monte.
Siena	28.88	733.6	29.72	754.8	55.4	13.0	96	S	4.9	2.2			10	S		0.689	17.5	Raining	Prof. L. Toscani.
Urbino	28.26	717.7	29.85	758.3	49.8	9.9	84	N			2		10			1.823	46.3	Raining	Prof. P. Serpieri.
Pesaro			29.78	756.4	50.9	10.5	96	SE	0	0			10	SW		0.740	18.8	Raining	Prof. Luigi Guidi.
Ancona			29.77	756.2	56.1	13.4	88	SE			4		10			0.150	3.8	Raining	Prof. F. De— Boris.
Grosseto			29.74	755.4	60.4	15.8	89	SSE			4		10	S		0.118	3.0	Raining	Avv. P. Ponticelli.
Rome			29.81	757.2	62.6	17.0	72	SSE	28.0	12.5			9			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.93	760.2	65.1	18.4	73	SE			6		5	S		0.039	1.0	Light rain	Prof. L. Palmieri.
Lecce			30.02	762.5	62.2	16.8	82	SSE	16.8	7.5			5			0	0		Prof. C. De—Giorgi.
Cosenza			30.00	762.1	64.6	18.1	66	SW	2.5	1.1			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.8	63.0	17.2	81	NE			2		1			0	0		Prof. F. Cafiero.
Palermo			29.87	758.6	70.0	21.1	39	SE	4.3	1.9			9			0	0		Prof. G. Cacciatore.
Caltanissetta	28.01	711.5	29.97	761.3	58.6	14.8	76	S			1		3	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.95	760.6	61.2	16.2	79	W	4.9	2.2			6	SW		0.098	2.5		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Observer.
Mexico	Mariano Barcena.
	Vicente Reyes.
	Miguel Perez.
	(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Flushing			29.59	751.6	46.0	7.8		W			4							
Groningen			29.37	746.0	40.1	4.5		SW			5							
Helder			29.43	747.5	41.7	5.4		WSW			4							
Utrecht			29.47	748.5	45.3	7.4	80	SW			5		5			0.055	1.4	Cloudy

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Bergen			29.31	744.5	33.4	0.8	85	Calm	0	0			3			0.059	1.5	
Brôno			29.37	746.1	28.8	— 1.8	84	Calm	0	0			2			0	0	
Christiania			29.30	744.3	35.4	1.9	84	NNE	4.0	1.8			10			0.067	1.7	
Tromsö			29.48	748.9	25.9	— 3.4	87	Calm	0	0			5			0	0	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.02	737.2	60.4	15.8	83	W	28.0	12.5			10			0.394	10.0	Raining	Dr. J. A. Sampaio.
Campo Major			29.76	755.9	52.0	11.1	97	E	10.5	4.7			10			0.220	5.6		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.55	750.6	68.9	20.5	84	W	11.2	5.0			7			0.559	14.2	Raining	Capt. D. A. de Cunha.
Lisbon			29.66	753.3	54.0	12.2	100	E	4.9	2.2			10	SE		0.193	4.9	Misty	The Observatory.
Ponta Delguda, (Azores)			29.22	742.1	63.3	17.4	76	WSW	29.2	13.06			10			0.343	8.7	Light rain	

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.76	756.0	37.6	3.1	87	SSW	7	3			6						Astronomical Obs.
Wilna			29.75	755.7	35.1	1.7	94	S	4	2			10						Astronomical Obs.
Dorpat			29.56	750.7	32.0	0.0	96	ESE	11	5			10						Physical Cabinet.
St. Petersburg			29.58	751.2	24.6	— 4.1	90	S	16	7			10						Central Physical Obs.
Kuopio			29.49	749.0	22.6	— 5.2	100	SE	13	6			10					Snowing	Ch. Forsten.
Kieff			29.95	760.8	29.5	— 1.4	100	S	7	3			10					Dense fog	Physical Cabinet.
Nikolaiev			30.11	764.7	34.0	1.1	94	SE	7	3			9						Kurdakof.
Kertch			30.24	768.1	35.8	2.1	94	Calm	0	0			10						Lagorio.
Moscow			30.04	762.9	22.1	— 5.5	93	SSW	7	3			10						Meteorological Obs.
Lugan			30.11	764.7	30.9	— 0.6	88	E	4	2			10						Meteorological Obs.
Archangel			29.78	756.5	12.2	—11.0	100	SSE	13	6			10						Ogorodnikof.
Tiflis	28.67	728.2	30.11	764.9	48.9	9.4	55	NW	9	4			7						Physical Observatory.
Astrakhan			30.26	768.7	32.4	0.2	81	ESE	9	4			10						Sebastianof.
Kasan			30.29	769.4	17.2	— 8.2	88	S	9	4			6						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.19	741.3	30.19	766.8	22.6	— 5.2	88	WSW	18	8			10						Meteorogical Obs.
Nukuss			30.31	769.9	31.6	— 0.2	89	ENE	13	6			1						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.93	785.6	—22.5	—30.3	82	SW	4	2			5						Meteorological Obs.
Yeniseisk			30.54	775.8	—29.7	—34.3	76	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.5	29.3	— 1.5	96	Calm	0	0			9			Blank	Ban		Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.36	771.1	18.0	— 7.8	80	NW	7	3			0						
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.86	758.4	46.2	7.9	82	NE	6.0	2.67		3	0	W		0.508	12.9	Light clouds	Royal Observatory.
San Fernando			29.80	756.8	65.7	18.7	75	S	11.2	5.0		1	9	SW	S	0.232	5.9		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.49	749.0	25.3	— 3.8	95	S			2		10					Snowing	
Umea			29.39	746.6	31.6	— 0.2	81	NE			2		10			0.346	8.8	Snowing	
Hernosand			29.34	745.2	31.1	— 0.5	98	NE			2		10			0.438	11.0	Rain & snow	
Stockholm			29.26	743.3	38.5	3.6	100	S			2		10			0.055	1.4	Foggy	
Wisby			29.38	746.3	40.6	4.8	98	WSW			6		10			0.244	6.2	Raining	
Sub-Series.																			
Upsala			29.30	744.1	35.6	2.0	99	N	0	0			10			0.098	2.50	Rain & fog	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.41	721.5	29.84	757.9	51.8	11.0	63	WSW			1		0			0	0	Clear	The Observatory.
Zurich	28.20	716.2	29.86	758.5	45.3	7.4	69	NW			1		1			0	0	Clear	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —5.3 mm; Thermometer, +6.5 cent.; Relative Humidity, —15 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.14	765.6	52.5	11.4	70	SW	7	3.0			10		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.13	765.3	64.8	18.2		NW			1		10						
Valona			30.01	762.3	62.6	17.0		S			2		10						
Varna			29.92	760.0	50.0	10.0		NE			1		2						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.15	765.8	63.9	17.7	73	SE			1	..k	8n	NW	SW	0.04	1.0	Raining	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			29.56	750.8	28.2	— 2.1		NW	8	3.6			5			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.07	763.8	23	— 5.0		Calm	0	0			10s		W	0.02	0.5	Cloudy	W. R. Bigg.
*Chatham, N. B			29.53	750.0	28	— 2.2	86	W	12	5.4		2k	8ks	W	W	0.02	0.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.54	750.3	29	— 1.7	89	W	15	6.7			10ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.97	761.2	21.9	— 5.6	81	W			1	3ck	3s	NW		0	0	Fair	James Smith, M. A.
Dalhousie, N. B			29.63	752.6	26	— 3.3	81	W			2					0.05	1.3	Threatening	H. A. Johnson.
Esquimault, B. C			30.31	769.9	40.1	4.5	92	NE				10ck	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.69	754.1	26.0	— 3.3	63	W	10	4.5		3c	0	NW		0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.52	775.2	— 4	—20.0	93	N	7	3.1		Haze	Haze	N		0	0	Hazy	James Stewart.
Goderich, Ontario			30.06	763.5	31.1	— 0.5		NW			2		10n			0.20	5.1	Cloudy	H. J. Strang, M. A.
Granton, Ontario	28.85	732.8	30.02	762.5	25.7	— 3.5		NW			1	2cs	0	E		0	0	Clear	James Grant.
*Halifax, N. S			29.59	751.6	30	— 1.1	80	W	12	5.4		2cs	2ks			0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.04	763.0	25	— 3.9	100	Calm	0	0			10ks			Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.40	746.7	31.0	— 0.6	96	SW	5	2.2			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.93	760.2	22	— 5.6	77	W	20	8.9		0	0			Inap.	Inap.	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.00	762.0	21	— 6.1	75	W	2	0.9		10k	0	W		Inap.	Inap.	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.97	761.2	24	— 4.4	90	N	8	3.6		2k	5ks	NW	NW	Inap.	Inap.	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.07	763.8	24	— 4.4	87	W	6	2.7		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S			29.49	749.9	32.8	0.4		NW	12	5.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.10	764.5	24	— 4.4	93	W	8	3.6		0	0			0	0	Clear	M. Payne.
*Quebec, Quebec			29.81	757.2	24	— 4.4	87	W	8	3.6			10n		W	Inap.	Inap.	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.73	755.1	26	— 3.3	75	W	8	3.6		1?c	0			0	0	Cloudy?	G. Murdoch, C. E.
*Saugeen, Ontario			29.99	761.7	30	— 1.1	80	W	7	3.1		10k	0	W		0.30	7.6	Cloudy	K. Stewart.
Stayner, Ontario			29.97	761.2	28	— 2.2	78	NW	10	4.5		5k	0	NW		0.28	7.1	Cloudy	R. J. Cole.
Stratford, Ontario	28.69	728.7	30.04	763.0	26.0	— 3.3	75	W	7	3.1			10s			0.400	10.16	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			29.47	748.5	32	0.0	77	W	13	5.8			10n		W	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario			30.03	762.7	23	— 5.0	92	W	4	1.8		2cs	0	W		0.01	0.3	Clear	Magnetic Observatory.
Woodstock, Ontario			30.03	762.7	25.5	— 3.6	87	W	4.5	2.0		4c	3ks	S		0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.25	742.9	33.0	0.6	94	SW	6	2.7		10k	10s			0.48	12.2	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.98	761.5	24	— 4.4	74	NW	6	2.7		0	0			0.02	0.5	Clear	
Alpena, Mich.			30.03	762.7	23	— 5.0	73	W	8	3.6		0	0			0.02	0.5	Clear	
Atlantic City, N. J.			30.05	763.3	30	— 1.1	78	NW	6	2.7		2c	0	W		0	0	Fair	
Augusta, Ga.			29.95	760.7	44	6.7	96	NE	2	0.9			10n			1.42	36.1	Light rain	
Baltimore, Md.			30.09	764.3	34	1.1	69	NW	4	1.8		2ck	5s	W	W	0	0	Fair	
Barnegat, N. J.			30.04	763.0	33	0.6	69	NW	15	6.7		2ck	0			0	0	Clear	
Bismarck, Dakota	28.60	726.4	30.54	775.7	— 9	—22.8	56	NW	3	1.3			10s		NW	0.02	0.5	Threatening	
Boston, Mass.			29.90	759.4	28	— 2.2	67	W	10	4.5		0	Haze			0	0	Clear	
Breckenridge, Minn.			30.41	772.4	1	—17.2	71	NW	12	5.4		8cs	0	N		0	0	Cloudy	
Buffalo, N. Y.			30.02	762.5	29	— 1.7	78	NW	10	4.5		5k	0	W		Inap	Inap.	Fair	
Burlington, Vt.			29.96	761.0	27	— 2.8	66	W	5	2.2		0	2s			0.03	0.8	Fair	
Cairo, Ill.			30.03	762.7	33	0.6	89	N	3	1.3		8ck	0	W		0	0	Fair	
Cape Hatteras, N. C.			29.92	760.0	48	8.9	85	NE	20	8.9			10n			0.59	15.0	Light rain	
Cape Henry, Va.			30.03	762.7	43	5.0	83	NE	12	5.4		10c	0	W		0.19	4.8	Cloudy	
Cape Lookout, N. C.			29.98	761.5	45	7.2	92	NE	20	8.9			10n			0.14	3.6	Light rain	
Cape May, N. J.			30.05	763.3	37	2.8	62	N	12	5.4		8k	0	NW		0	0	Fair	
Charleston, S. C.			29.97	761.2	48	8.9	77	NE	7	3.1			10s			0	0	Cloudy	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	9	—12.8	79	NW	20	8.9		0	0			0	0	Clear	
Chicago, Ill.			30.14	765.5	19	— 7.2	84	SW	4	1.8		5k	Sm'e	W		0	0	Fair	
Cincinnati, Ohio			30.04	763.0	27	— 2.8	77	NE	5	2.2		5ck	Fog	W		0	0	Fair, fog	
Cleveland, Ohio			30.11	764.8	27	— 2.8	82	SW	5	2.2			10s		W	0	0	Cloudy	
Corsicana, Tex.			29.90	759.4	40	4.4	82	N	4	1.8		2cs	Haze			0	0	Fair	
Davenport, Iowa			30.16	766.1	18	— 7.8	84	NE	4	1.8			10s			0	0	Cloudy	
Denison, Tex.			30.06	763.5	37	2.8	80	NW	4	1.8			10s		N	0	0	Cloudy	
Denver, Col.	24.86	631.4	30.08	764.0	21	— 6.1	71	SW	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			30.10	764.5	20	— 6.7	93	N	1	0.4			Fog			0	0	Dense fog	
Dodge City, Kan.	27.46	697.5	29.88	758.9	26	— 3.3	88	N	16	7.2		0	2s			0	0	Clear	
Dubuque, Iowa			30.18	766.6	16	— 8.9	83	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			30.28	769.1	15	— 9.4	82	NW	4	1.8			10s			0	0	Cloudy	
Eastport, Me.			29.72	754.9	26	— 3.3	64	W	12	5.4		0	0			0	0	Clear	
Erie, Pa.			30.05	763.3	33	0.6	79	NW	12	5.4		0	8ks		NW	Inap.	Inap.	Fair	
Escanaba, Mich.			30.15	765.8	19	— 7.2	76	N	6	2.7		0	5s		N	Inap.	Inap.	Fair	
Fort Gibson, Indian Ter.			30.00	762.0	38	3.3	80	NW	3	1.3			10s		NW	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.86	733.0	30.00	762.0	39	3.9	71	N	9	4.0		10cs	0			0	0	Cloudy	
Fort Sully, Dakota	28.58	725.9	30.38	771.6	9	—12.8	78	NW	16	7.2			10s			0.07	1.8	Cloudy	
Florence, Arizona	28.52	724.4	30.04	763.0	55	12.8		W				0	0			0	0	Clear	
Galveston, Tex.			29.89	759.2	61	16.1	97	N	10	4.5			10s			0	0	Cloudy	
Grand Haven, Mich.			30.08	764.0	31	— 0.6	84	Calm	0	0		0	8s		W	0.47	11.9	Clearing	
Indianapolis, Ind.			30.09	764.3	24	— 4.4	87	N	3	1.3			Fog			0	0	Foggy	
Indianola, Tex.			29.88	758.9	61	16.1	100	Calm	0	0			Fog			0	0	Foggy	
Jacksonville, Fla.			29.97	761.2	59	15.0	81	S	8	3.6		5k	0	W		0	0	Fair	
Keokuk, Iowa			30.00	762.0	21	— 6.1	71	NE	6	2.7			10s		NE	0	0	Cloudy	
Key West, Fla.			30.04	763.0	72	22.2	85	SE	4	1.8		0	2ks			0	0	Clear	
Kittyhawk, N. C.			30.02	762.5	47	8.3	69	NE	20	8.9			10ks		NW	0.11	2.8	Cloudy	
Knoxville, Tenn.			29.98	761.5	40	4.4	64	N	4	1.8			10s			0.09	2.3	Cloudy	
La Crosse, Wis.			30.19	766.8	16	— 8.9	83	S	4	1.8			Fog			0	0	Foggy	
Leavenworth, Kan.			30.00	762.0	34	1.1	90	Calm	0	0			10s			0.02	0.5	Threatening	
Louisville, Ky.			30.05	763.3	30	— 1.1	68	NE	10	4.5			10s		NE	0	0	Cloudy	
Lynchburg, Va.			30.04	763.0	36	2.2	90	Calm	0	0			10s		W	0	0	Cloudy	
Malone, N. Y.			29.94	760.5	22	— 5.6	86	NW	4	1.8		2k	0	NW		0.03	0.8	Fair	
Marquette, Mich.			30.14	765.5	25	— 3.9	75	NE	12	5.4			10s			0	0	Cloudy	
Memphis, Tenn.			29.99	761.7	41	5.0	56	N	4	1.8			10s		N	0	0	Cloudy	
Milwaukee, Wis.			30.17	766.3	19	— 7.2	69	NW	9	4.0			10ks		NE	0	0	Cloudy	
Mobile, Ala.			29.89	759.2	61	16.1	100	S	1	0.4			Fog		S	Inap	Inap.	Foggy	
Montgomery, Ala.			29.91	759.7	51	10.6	89	N	4	1.8			10n			0.74	18.8	Light rain	
Morgantown, W. Va.	29.00	736.6	30.11	764.8	26	— 3.3	88	NE	1	0.4		10c	Haze	W		0	0	Cloudy	
Mt. Washington, N. H.	23.17	588.5	29.53	750.0	— 2	—18.9	100	NW	84	37.6			Fog			0	0	Foggy	
Nashville, Tenn.			29.96	761.0	40	4.4	85	N	3	1.3			10s		W	0	0	Cloudy	
New Haven, Conn.			29.98	761.5	34	1.1	69	NW	5	2.2		Haz	0			0	0	Clear	
New London, Conn.			29.96	761.0	31	— 0.6	79	W	4	1.8		0	0			0	0	Clear	
New Orleans, La.			29.87	758.7	65	18.3	100	SW	8	3.6			Fog			0.04	1.0	Dense fog	
Newport, R. I.			29.94	760.5	33	0.6	69	W	9	4.0		0	0			0	0	Clear	
New York, N. Y.			30.03	762.7	31	— 0.6	68	W	11	4.9		5c	0	SW		0	0	Fair	
Norfolk, Va.			30.04	763.0	40	4.4	82	N	4	1.8		8k	Fog	W		0.17	4.3	Fair	
North Platte, Neb.	27.16	689.8	29.89	759.2	22	— 5.6	85	N	16	7.2			10s			0.01	0.3	Cloudy	
Omaha, Neb.	28.86	733.0	29.98	761.5	28	— 2.2	88	NW	9	4.0			10s			0.08	2.0	Cloudy	
Oswego, N. Y.			30.02	762.5	30	— 1.1	73	SE	4	1.8			10n		W	0.02	0.5	Light snow	
Pembina, Dakota			30.50	774.7	— 1	—18.3	84	N	11	4.9			10s			0	0	Cloudy	
Philadelphia, Pa.			30.06	763.5	33	0.6	60	N	12	5.4		1cs	Sm'e	W		0	0	Clear	
Pike's Peak, Col.	17.37	441.2	29.58	751.3	—14	—25.6	100	NW	20	8.9			Fog			0.06	1.5	Heavy snow	
Pittsburgh, Pa.			30.13	765.3	25	— 3.9	75	NW	1	0.4		5cs	0	W		0	0	Fair	
Port Huron, Mich.			30.09	764.3	24	— 4.4	87	W	5	2.2		0	Haze			Inap.	Inap.	Hazy	
Portland, Me.			29.85	758.2	27	— 2.8	67	W	4	1.8		0	0			0	0	Clear	
Portland, Oregon			30.27	768.8	38	3.3	81	NE	3	1.3			10s			0.02	0.5	Cloudy	
Punta Rassa, Fla.			30.06	763.5	62.5	16.9	85	SE	4	1.8		Haze	0	SW		0	0	Clear	
Rochester, N. Y.			29.99	761.7	31	— 0.6	89	W	9	4.0		5k	2s	W	W	0.03	0.8	Fair	
Salt Lake City, Utah	25.86	656.8	30.19	766.8	28	— 2.2	67	NW	6	2.7		5k	0			0	0	Fair	
Sandy Hook, N. J.			29.99	761.7	34	1.1	69	W	15	6.7		1c	0	SW		0	0	Clear	
San Diego, Cal.			30.03	762.7	51	10.6	93	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.06	763.5	51	10.6	72	N	8	3.6		Haze	0			0	0	Hazy	
Santa Fé, N. M.	23.20	589.3	29.74	755.4	31	— 0.6	41	NW	14	6.3		0	0			0	0	Clear	
Savannah, Ga.			29.95	760.7	57	13.9	87	W	3	1.3			Fog			0.02	0.5	Foggy	
Shreveport, La.			29.97	761.2	44	6.7	88	N	3	1.3		0	1s			0	0	Clear	
Smithville, N. C.			29.98	761.5	44	6.7	92	NE	8	3.6			10n		NE	0.29	7.4	Light rain	
Springfield, Mass.			29.95	760.7	31.5	— 0.3	54	NW	12	5.4		0	0			0	0	Clear	
St. Louis, Mo.			30.07	763.8	29	— 1.7	77	E	4	1.8			10s			0	0	Cloudy	
St. Marks, Fla.			29.95	760.7	59	15.0	97	S	4	1.8		5cs	Fog	W		0	0	Fair	
St. Paul, Minn.			30.21	767.3	14	—10.0	82	N	5	2.2			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.90	759.4	30	— 1.1	59	NW	24	10.7		0	0			0	0	Clear	
Toledo, Ohio			30.09	764.3	24	— 4.4	74	SW	1	0.4		5cs	Haze			0	0	Fair	
Tucson, Arizona	27.60	701.0	30.14	765.5	38	3.3		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			29.93	760.2	48	8.9	96	NE	3	1.3			10s,an			0.30	7.6	Cloudy	
Virginia City, M. T.	24.41	620.0	29.89	759.2	6	—14.4	76	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.09	764.3	32	0.0	69	N	4	1.8		1cs	1s,sm'	W		0	0	Fair	
Wilmington, N. C.			30.00	762.0	42	5.6	91	NE	10	4.5			10s		NE	0.31	7.9	Threatening	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.92	760.0	36	2.2	61	NW	18	8.0		Haze	0			0	0	Hazy	
Yankton, Dakota	28.86	733.0	30.25	768.3	16	— 8.9	83	N	18	8.0			10s			0.20	5.1	Cloudy	
Yuma, Arizona			30.08	764.0	50	10.0		Calm				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.16	766.1	77	25.0	76	Calm	0	0		8c	2s		SE	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.21	691.1	30.00	762.0	65	18.3	84	N	1.0	0.4		5c	0	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.02	762.5	83	28.3	79	E			3	5ck	5ck?	E		0.735	18.67	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.07	763.6			80.6	27.0		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.20	640.1			62.5	16.9	72	E			2	1c	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.61	777.5	—22.0	—30.0		NW	7	3.1		0	0			0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.96	761.0	74	23.3		S			3					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Force.	Clouds. Amount. Upper.	Clouds. Amount. Low'r.	Clouds. Direction. Upper.	Clouds. Direction. Lower.	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Provincetown, Mass.			29.84	757.9	35	1.7	80	NNW	16	7.2	2k	0	N				Clear	Capt. James Jorgensen
Steamer Berlin, N. 46°, 30', W. 36°, 6'.	ENE ¼E	7	28.80	731.5	57.9	14.4		SSE		6		k,d			Long swells.		Squally	Capt. C. Fohle.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON NOVEMBER 30, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudéville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.98	761.4	68.9	20.5	61	Calm			0		4			0	0	Fair	Charnot.
Algiers			29.98	761.5	73.4	23.0	45	SW			1		7			0	0	Cloudy	Peter.
La Calle			29.97	761.3	71.6	22.0	44	NNE			2		0			0	0	Clear	Fleury.
Tunis			29.99	761.7	70.7	21.5	39	W			1		0			0	0	Clear	Jacques.
Sfax			30.05	763.2															
Saïda			30.04	763.0	58.1	14.5	76	SW			1		7			0	0	Cloudy	Millot.
Tebessa			30.02	762.5	62.6	17.0		WNW			3		0			0	0	Clear	Bourgeois.
Geriville					53.8	12.1	30	WNW			4		2			0	0	Clear	Lemaillot.
Laghouat			30.14	765.5	66.9	19.4	21	S			6		2			0	0	Clear	Guyot.
Biskra			30.07	763 8	63.0	17.2	37	NNE			1		10			0	0	Hidden	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram			30.01	762.2	42.1	5.6	81	NE			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.92	760.0	40.6	4.8	78	W			1		0			0	0		Dr. Wierzbiski.
Eperies			29.95	760.6	36.7	2.6	91	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.73	729.8	30.03	762.7	36.5	2.5	96	S			1		5			0.185	4.7		Andreas Rospini.
Hermannstadt	28.50	723.9	29.97	761.3	37.4	3.0	88	SE			0		10			0	0		Prof. Reissenberger.
Kremsmünster	28.54	725.0	29.95	760.6	31.1	— 0.5	98	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.86	758.5	28.8	— 1.8	96	NW			2		7			0.002	0.05		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.99	761.7	52.5	11.4	84	WNW			1		10s			0.284	7.22		I.R.Hydrographic Of'ce.
Szegedin			29.94	760.5	42.3	5.7	79	Calm			0		10			0.291	7.40		Karl Stancel.
Trieste			29.99	761.8	49.1	9.5	94	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.97	761.2	34.9	1.6	100	E			1		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 348.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Brussels			29.77	756.2	43.2	6.2	89	S			2	7cs	0	WNW		0.004	0.10		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Upper 0—10.	Lower 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen			29.69	754.1	38.[illegible]	3.6		W	4	1.8			4			0	0	Misty	William Boswell.
Ardrossan			29.65	753.1	37	2.8		ENE			2		7					Foggy	William McNeil.
Armagh, Observatory			29.54	750.3	40.0	4.4		E	9	4.0			9					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.44	747.8	49.4	9.7		ESE			1–2		8					*D. clouds	J. Dreyer.
Bradford			29.66	753.4	37.1	2.8		E			1		10			0.11	2.8	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	84.0	28.9		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.68	753.9	44.0	6.7		S			1		10			Blank		Overcast	H. Todd. [H.C.
Cardington			29.69	754.1	40.4	4.7		E			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.69	754.1	49.[illegible]	9.6		SSE			1		8					Hazy	Capt. Fellowes, R. E.
Dartmoor	28.15	715.0	29.66	753.4	44.0	6.7		SE			6		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.69	627.1			40.2	4.6	68	E			1		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.58	751.3	43	6.1		E			3		7					*D. clouds	J. Mac Gowan.
Dover			29.70	754.4	49	9.4		SE			3		5					½ clouded	J. Costello.
Eccles, (near Manchester)			29.63	752.6	43.[illegible]	6.2		NE	0.8	0.4			10					Misty	Thomas Mackereth.
Falmouth, Observatory			29.41	747.0	49.9	9.9		ESE			6		10					Overcast	The Staff.
Fort Napier, (Natal)	27.38	695.4	29.62	752.3	95.0	35.0		E			1		0					Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.95	760.7	84.0	28.9		N			1		3					*D. clouds	
Galway, Queen's College			29.34	745.2	47	8.3		NE			1		7					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.75	755.6	68.8	20.4		W			5		10					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.64	752.8	32.3	0.2		NE			1		10					Overcast	Lewis Stuart.
Great Yarmouth			29.70	754.4	45	7.2		S			1		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.68	753.9	48.0	8.9		SE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			29.51	749.5	48.5	9.2		SE			6		10					Squally	Dr. S. F. Hoskins.
Helston			29.39	746.5	50	10.0		SE			6		10n			0	0		M. P. Moyle.
Holyhead			29.52	749.8	47	8.3		ESE			2		5					*D. clouds	John Tilston.
Kew, Observatory			29.67	753.6	47.0	8.7		SE	9	4.0			10					Misty	The Staff.
Kingstown			29.48	748.8	53	11.7		SE			4		8					Overcast	George Mitchell.
Leicester Museum			29.68	753.9	43.[illegible]	6.4		S			1		8			†3.00	†76.2	Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.95	760.7	71.0	22.0		SW			2		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.68	753.9	34	1.1		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.01	762.[illegible]	74.[illegible]	23.6		SW			2		8					Overcast	Surg. Maj. Henry.
Nottingham, Observatory			29.66	753.4	42.0	5.6		ENE			1		10s,d			0.016	0.26	Foggy	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.64	752.8	43.2	6.2		ESE			2		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.63	752.6	46	7.8		Calm			0		10					Foggy	J. Lucas.
Plymouth			29.18	748.8	49.5	9.7		ESE			4		4?					Raining	John Merrifield.
Roche's Point			29.33	745.0	51	10.6		SSE			6		10					Overcast	W. Kennedy.
Saint Ann's Head			29.46	748.3	49	9.4		ESE			4		10					Misty	John C. Walker.
Saint Helier, (Jersey)			29.53	750.0	45.0	8.9		SSE			6		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.70	754.4	38.[illegible]	3.4		Calm?	1?	0.4?			0					Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.00	762.0	56.0	13.7		SSW			2		5					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.67	753.6	37.3	2.9		S			1		10			0.083	2.11	Foggy	W. F. Cooper.
Siloth Rectory			29.60	751.8	37.[illegible]	3.0	90	SE			1		5			0.266	6.60	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.64	752.8	40.4	4.7		NE					10					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.59	751.6	37	2.8		NW			1		2					Blue sky	John Smith.
Stratfield Turgiss			29.67	753.6	45.4	7.4		SE			1		Fog					Foggy	Rev. Charles H. Griffith.
Thurso			29.65	753.1	40	4.4		Calm			0		6					*D. clouds	John Trotter.
Truro, Royal Institution			29.45	748.0	52	11.1		E			6		10					Raining	W. Newcombe.
Valencia, Observatory			29.23	742.4	52.5	11.4		SE	33	14.8			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					43	6.1		E			4		0			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.92	760.0	72.5	22.5	64	NW	14	6.3		1	3						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.14	765.5	66.0	18.9	82	S			1		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.70	754.4	33.2	0.7		SE			1		10s			0	0	Dense fog	Andrew Gibb.
Mauritius, Observatory			29.98	761.5				SE	14.8	6.6						0	0		C. Meldrum.
Melbourne, Observatory			30.23	767.8	56.5	13.6	91	SSE	4	1.8			0			0	0	Fine, h'y dew	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.60	751.8	44	6.7		SE			3	5	0	SE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.69	754.1	47	8.3		NE			4	6	4	E					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds. †Precipitation for month.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.67	753.6	40.6	4.8	86	WNW			2		2						
Faröe			29.72	754.9	41.7	5.4	86	W			2		0						
Godthaab, (Greenland)																			
Reykkisholm, (Iceland)			30.06	763.4	28.2	— 2.1	94	E			4		0						
Thorshavn, (Faröe)			29.78	756.4	39.4	4.1	80	NE			4		10						
Vestervig			29.66	753.4	39.9	4.4	97	SW			2		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.65	753.2	47.3	8.5	83	W			3		10			0	0	Covered	Normal School.
Amiens			29.72	754.8	41.7	5.4	94	SE			3		10			0	0	Covered	Normal School.
Avignon			29.88	759.0	56.3	13.5	66	E			1		10			0	0	Covered	Normal School.
Bar-sur-Seine			29.73	755.1	46.4	8.0	65	SSW			3		8			0.008	0.2	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.58	751.2	45.9	7.7	94	SE	3.1	1.4					SW	0.118	3.0		Beaumette Observ'tory.
Beauvais			29.74	755.4	42.1	5.6	93	E			2		10		E	0	0	Covered	Normal School.
Besançon			29.86	758.4	43.7	6.5	78	E			2		2		SW	0	0	Slightly cl'dy	Normal School.
Bourg en Bresse			29.82	757.4	49.3	9.6	61	SSE			4	2c		E		0	0	Slightly cl'dy	Normal School.
Bourges			29.74	755.5	46.4	8	91	NE			2		2		W	0	0	Slightly cl'dy	Normal School.
Brest			29.36	745.8	50.5	10.3	89	S			4		10		S	0.030	0.75	Raining	Naval Observatory.
Carcassonne			30.13	765.4	55.0	12.8	77	E			4		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.65	753.2	43.7	6.5	97	SW			2		9		SW	0.047	1.2		Normal School.
Châlons-sur-Marne			29.78	756.3	46.8	8.2	81	SSE			2	5c		NE		0	0	Cloudy	Normal School.
Clermont			29.71	754.7	53.1	11.7	46	S			3		5			0.091	2.3		Puy de Dome Obs'y.
Commercy			29.87	758.8	40.1	4.5	97	WSW			2		10			0.047	1.2	Covered	Normal School.
Commune de Gréasque*			29.93	760.2	53.8	12.1	65	E			2		8		E	0.016	0.4		M. Kina.
Grenoble			29.89	759.2	44.2	6.8	67	NE			2		2cs		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon					48.6	9.2	79	SE			4		10			0	0	Covered	Normal School.
Le Mans			29.66	753.3	46.9	8.3	70	S			2		5		SSW	0.010	0.25	Cloudy	Normal School.
Lons-Le-Saulnier			29.83	757.6	47.3	8.5	67	W			1		0			0	0	Clear	Normal School.
Lorient			29.49	749.1	50.0	10.0	76	ESE			4		10			0.130	3.3	Covered	Naval Observatory.
Mâcon			29.77	756.2	42.4	5.8	81	Calm			0		10			0	0	Covered	Normal School.
Metz			29.91	759.6	40.3	4.6	76	SW			2		10			0.016	0.4	Foggy	M. Schuster.
Mirecourt			29.85	758.1	48.7	9.3	44	N					1		SW	0	0	Clear	Normal School.
Nismes			29.82	757.5	54.3	12.4	76	N			2		0			0	0	Clear	Normal School.
Orleans			29.68	753.9	47.1	8.4	48	E			2		5		NE	0	0	Cloudy	Normal School.
Paris, Observatory			29.72	754.9	46.0	7.8	75	ESE			2		10			0.002	0.05	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.87	758.6	52.9	11.6		S			2		2		SE	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.60	751.8	51.1	10.6	76	SSE			3		10		N	0.059	1.5	Covered	Naval Observatory.
Rouen			29.68	753.9	46.6	8.1	92	ESE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes	28.70	728.9	29.78	756.4	51.8	11		E			2		5		E	0	0	Cloudy	Normal School.
Villefranche			29.83	757.7	51.8	11	92	SSE			1		5			0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique			29.85	758.2	79.2	26.2													L'Abbé Marchési.
Marseilles			29.87	758.8	58.5	14.7	68	E			1		10			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.04	325.3	30.00	762.1	38.7	3.7	72	WSW	16.8	7.50			5		SW	0	0		—. Falguère.
Montsouris, Paris			29.72	754.8	45.5	7.5	81	SE			2		10		SSE	0.004	0.1		Montsouris Observatory
Perpignan			29.75	755.6	57.6	14.2	60	S	7.4	3.33			5		WNW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.00	533.3			33.4	0.8		SW			4		7					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.26	565.4			39.7	4.3		SW			4		7			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.71	754.7	46.8	8.2	76	E			1		8			0	0	Cloudy	E. Renou.
Toulouse			29.71	754.7	54.7	12.6	70	SE			2		3			0	0		Toulouse Observatory.
Tours			29.77	756.2	51.8	11.0	73	SE			1		7		S	0	0		C. Marquet.
Versailles, (near Paris)			29.71	754.6	46.0	7.8	83	SE			2		9			0.004	0.09	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.34	770.5	50.5	10.3	87	NNE	3.2	1.42			10			0.020	0.5	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.82	757.4	44.1	6.7	84	W			3		10	NW		0.157	4.0		Prof. T. Hoh.
Berlin			29.85	758.3	44.1	6.7	73	S			1		8			0.091	2.3		Prof. Arndt.
Breslau			29.90	759.5	42.8	6.0	67	W			5		6			0	0	Foggy	Royal University Obs'y.
Carlsruhe			29.84	758.0	48.6	9.2	71	NE			1		9			0	0		A. Senz.
Cassel			29.90	759.5	40.3	4.6	84	W			5		3	WSW		0	0		Dr. H. Möhl.
Emden			29.88	758.9	37.9	3.3	98	SW			1		10			0.008	0.2		Prof. Prestel.
Frankfort on the Main			29.90	759.5	43.7	6.5	73	E			1		2			0	0		Physical Society.
Friedrichshafen			29.90	759.4	41.4	5.2	84	SW			3		1			0	0		M. Wilhelm.
Hamburg			29.82	757.3	40.1	4.5	92	WSW			2		8k	W		0.130	3.3		Captain F. Hegemann.
Kiel			29.77	756.1	39.4	4.1	92	SW			2		10			0.059	1.5		Prof. G. Karsten.
Königsberg, (Prussia.)			29.60	751.9	35.2	1.8	93	W			5		9			0.020	0.5		Prof. E. Luther.
Köslin			29.77	756.1	39.7	4.3		W			4		2			0.228	5.8		H. Müller.
Leipsic			29.92	759.9	42.8	6.0	74	SW			2		3			0.063	1.6		Prof. Bruhns.
Memel			29.53	750.1	38.3	3.5	97	W			1		10ks			0.059	1.5	Showery	Reinbrecht & Skalweit.
Münster			29.74	755.5	44.6	7.0	89	SW			2		10			0.059	1.5		Prof. E. Heis.
Neufahrwasser			29.67	753.6	40.3	4.6	81	WNW			3		7	W		0.098	2.5		A Lothe.
Posen			29.86	758.4	41.5	5.3	72	W			7		8						Dr. Magener.
Strassburg, (in Alsace)			29.87	758.6	44.2	6.8	81	Calm			0		10			0	0		Dr. Schur.
Stuttgart			29.86	758.5	45.5	7.5	74	N			1		8			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.80	756.8	44.4	6.9	82	NE			2		10			0.047	1.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.36	720.4	29.88	759.0	45.7	7.6	59	SSW	2	1			2	SW		0.004	0.1		Dr. von Bebber.
Wustrow, Naval School			29.76	756.0	38.5	3.6	94	WSW			4		10			0.087	2.2	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 3°, 10′, W. 25°, 59′.			30.07	763.6	81.1	27.3	77	SSE			3		6		SSE				Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.09	764.2	64.6	18.1		S										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.96	760.9	50.2	10.1	74	Calm	0	0			2			0	0		Prof. Giovanni Clodig.
Padua			29.97	761.3	43.2	6.2	97	NW	1.3	0.6			8	NW		0.012	0.3	Light rain	Prof. Dott. Lorenzoni.
Vicenza			29.98	761.6	43.2	6.2	94	SW	4.9	2.2			3			0.012	0.3	Light rain	Alm. Da Schio.
Verona			29.98	761.6	45.0	7.2	78	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			30.00	761.9	42.6	5.9	61	Calm			0		2			0	0		Prof. Giuseppe Calza.
Milan			30.02	762.4	41.7	5.4	94	N			1		10			0	0		Ab. Gio. Capelli.
Pavia			30.00	761.9	45.3	7.4	81	NW			1		0			0	0		Prof. Gio. Cantoni.
Moncalieri			30.02	762.6	40.6	4.8	93	ESE	11.2	5.0			8			0	0		Prof. P. F. Denza.
Mondovi	28.04	712.3	30.02	762.4	43.0	6.1	65	NW			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.99	761.7	54.9	12.7	65	E			2		3	SW		0.748	19.0		Prof. L. Vassallo
Genoa			29.95	760.8	55.4	13.0	62	Calm	0	0			4	SE		0	0		Prof. Garibaldi.
Piacenza			30.02	762.4	41.9	5.5	94	WNW	2.5	1.1			10			0	0	Dense fog	Dott. G. Munzi.
Parma			30.00	762.1	45.5	7.5	86	N			2		10			0	0	Dense fog	Prof. P. Pigorini.
Bologna			29.98	761.4	44.8	7.1	68	W			1		10			0.472	12.0	Raining	Prof. A. Palagi.
Florence			29.98	761.4	55.4	13.0	77	NE			2		4			0	0		Cav. F. Meucci.
Leghorn			29.94	760.4	56.1	13.4	73	ENE	4.9	2.2			3			0	0		Prof. P. Monte.
Siena	28.74	729.9	29.97	761.1	51.1	10.6	90	NW	0	0			9	W		0	0		Prof. L. Toscani.
Urbino	28.43	722.0	30.02	762.6	46.4	8.0	97	E			2		10			0.803	20.4	Raining	Prof. P. Serpieri.
Pesaro			30.01	762.2	49.5	9.7	88	N	19.2	8.6			10			0	0		Prof. Luigi Guidi.
Ancona			30.01	762.2	51.4	10.8	85	NW			4		10			0.268	6.8		Prof. F. De— Bosis.
Grosseto			29.96	760.9	58.3	14.6	81	NE			2		5	SE		0.012	0.3	Light rain	Avv. P. Ponticelli.
Rome			29.94	760.5	65.5	18.6	74	S	14.3	6.4			8	NE		0.008	0.2	Light rain	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.96	761.0	67.1	19.5	63	SSW			2		2			0	0		Prof. L. Palmieri.
Lecce			30.04	763.0	63.3	17.4	80	S	16.1	7.2			6			0	0		Prof. C. De—Giorgi.
Cosenza			29.99	761.7	64.9	18.3	66	SW	1.8	0.8			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.96	761.0	63.9	17.7	73	Calm			0		0			0	0		Prof. F. Cafiero.
Palermo			29.89	759.1	67.6	19.8	51	ENE	1.3	0.6			0			0	0		Prof. G. Cacciatore.
Caltanissetta	28.01	711.5	29.97	761.3	58.6	14.8	76	S			1		3	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.00	762.0	63.7	17.6	68	N	1.3	0.6			3	NW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Observer.
Mexico	Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Force. 0—10.	Clouds. Amount. Low'r 0—10.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Flushing	29.79	756.6	46.4	8.0		S	2				
Groningen	29.74	755.4	39.6	4.2		S	3				
Helder	29.76	755.9	47.3	8.5		S	1				
Utrecht	29.75	755.7	45.9	7.7	83	WSW	1	5	0	0	Cloudy

Note.—The originals give the wind-pressure in kilograms per square meter and generally omit the rain-fall; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Low'r 0—10.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Bergen	29.61	752.0	33.8	1.0	81	Calm	0	0	5	0	0	
Brönö	29.43	747.5	30.7	— 0.7	83	Calm	0	0	10	0	0	
Christiania	29.60	751.9	31.6	— 0.2	78	ENE	0	0	9	0.043	1.1	Light fog
Tromsö	29.58	751.2	27.7	— 2.4	71	E	11	5	3	0	0	

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.34	745.3	55.0	12.8	82	SW	4.3	1 9			7			0.252	6.4	Raining	Dr. J. A. Sampaio.
Campo Major			29.72	755.0	61.7	16.5	83	SSW	15.4	6.9			8	SW		0.945	24.0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.87	758.7	70.5	21.4	73	W	9.8	4.4			6			0	0		Capt. D. A. de Cunha.
Lisbon			29.67	753.7	64.0	17.8	88	SW	29.8	13.3			10			0.594	15.1		The Observatory.
Ponta Delgada, (Azores)			29.42	747.3	57.6	14.2	80	NW	0.6	0.28			3			0.291	7.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.75	755.6	37.6	3.1	84	WSW	22	10			9						Astronomical Obs.
Wilna			29.61	752.0	34.5	1.4	94	S	4	2			10						Astronomical Obs.
Dorpat			29.54	750.4	34.5	1.4	94	SW	7	3			10						Physical Cabinet.
St. Petersburg			29.49	749.1	34.3	1.3	95	S	9	4			10						Central Physical Obs.
Kuopio			29.37	745.9	27.7	— 2.4	100	ENE	7	3			10					Snowing	Ch. Forsten.
Kieff			29.80	756.8	33.6	0.9	98	SSW	7	3			10					Foggy	Physical Cabinet.
Nikolaiev			29.92	760.0	44.2	6.8	98	S	9	4			10					Foggy	Kurdakof.
Kertch			30.09	764.2	48.0	8.9	88	S	4	2			10						Lagorio.
Moscow			29.83	757.6	28.2	— 2.1	94	SSW	9	4			10						Meteorological Obs.
Lugan			30.01	762.3	34.0	1.1	89	SW	9	4			10			Blank	Blank		Meteorological Obs.
Archangel			29.53	750.0	19.8	— 6.8	94	SE	9	4			10					Snowing	Ogorodnikof.
Tiflis	28.67	728.3	30.11	764.9	50.0	10.0	49	NW	9	4			4						Physical Observatory.
Astrakhan			30.21	767.2	32.5	0.3	83	SE	2	1			4						Sebastianof.
Kasan			30.03	762.8	19.8	— 6.8	94	S	16	7			10					Light snow	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.20	741.6	30.21	767.2	21.7	— 5.7	67	Calm	0	0			10						Meteorological Obs.
Nukuss			30.21	767.4	34.2	1.2	75	NE	11	5			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.38	771.6	5.9	—14.5	84	SW	4	2			10						Meteorological Obs.
Yeniseisk			30.55	776.0	—35.5	—37.4	74	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.34	770.7	32.0	0.0	89	Calm	0	0			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock			30.29	769.4	11.7	—11.3	93	NW	18	8			0						
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.76	756.0	52.0	11.1	98	S	13.4	6.00			10			0.472	12.0	Covered	Royal Observatory.
San Fernando			29.87	758.6	65.1	18.4	94	SSW	0	0		0	10		SSW	1.012	25.7		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.48	748.8	23.4	— 4.8	95	S			2		10			0.12	3.	Snowing	
Umea			29.48	748.8	22.3	— 5.4	100	N			2		10					Snowing	
Hernosand			29.45	748.1	28.0	— 2.2	87	Calm			0		10			0.063	1.6	Snowing	
Stockholm			29.48	748.7	32.5	0.3	98	N			2		10			0.051	1.3		
Wisby			29.55	750.6	38.5	3.6	83	NW			6		7			0.035	0.9		
SUB-SERIES.																			
Upsala			29.50	749.3	31.8	— 0.1	98	NNW	6.5	2.9			10		N	0.003	0.07		Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.45	722.7	29.95	760.6	33.1	0.6	100	S			2		10			0	0	Foggy	The Observatory.
Zurich	28.24	717.2	29.93	760.2	38.5	3.6	78	W			1		3			0	0	Fair	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —4.2 mm; Thermometer, —3.8 cent.; Relative Humidity, +22 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.07	763.7	57.4	14.1	57	SW	9	4.0			5		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.09	764.3	59.4	15.2		SW			2		2						
Valona			30.03	762.8	67.6	19.8		S			1		2						
Varna			30.00	762.0	46.4	8.0		N			2		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.15	765.9	65.1	18.4	59	N			1		2k		N	0	0	*D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.54	750.3	17.6	— 8.0		NW	8	3.6			3			0	0		Hon. J. Ferguson.
Brockville, Ontario			30.04	763.0	7	—13.9		N	1	0.4		0	2s		N	0	0	Fair	W. R. Bigg.
*Chatham, N. B			29.51	749.5	16	— 8.9	86	W	8	3.6		5k	5ks	W	W	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.53	750.0	20	— 6.7	68	W	10	4.5			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.91	759.7	7.5	—13.6	88	NW			1	0	0			Inap.	Inap.	Bright	James Smith, M. A.
Dalhousie, N. B			29.53	751.3	14.3	— 9.8	63	W			2					0.05	1.3	Clear	H. A. Johnson.
Esquimault, B. C			30.12	765.0	37.1	2.8	91	N				0	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B			29.64	752.8	15.6	— 9.1	60	W	14	6.3		0	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.97	786.6	—28	—33.3	100	N	5	2.2		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.07	763.8	22.9	— 5.1		NW			2		10n			0	0	Cloudy	H. J. Strang, M. A.
Granton, Ontario	28.84	732.5	30.03	762.7	14.4	— 9.8		NE			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.56	750.8	25	— 3.9	94	W	15	6.7			10n			Inap.	Inap.	Light snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.01	762.2	8	—13.3	85	N	3	1.3		2k	0	N		0.05	1.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.42	747.3	26.0	— 3.3	100	W	6	2.7		7k	0	W		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			29.89	759.2	8	—13.3	78	NW	12	5.4		0	2ks			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			29.95	760.7	6	—14.4	76	N	8	3.6		8k	0	N		0	0	Fair	J. B. Haney.
*Parry Sound, Ontario			30.10	764.5	0.0	—17.8	56	N	12	5.4		0	0			Inap.	Inap.	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.03	762.7	19	— 7.2	84	N	9	4.0		10k	0	W		0	0	Fair	H. Morgan.
Port Hastings, N. S			29.48	748.8	24.0	— 4.4		NW	12	5.4						0.10	2.5	Snowing	Peter Grant.
Port Stanley, Ontario			30.04	763.0	18	— 7.8	81	NW	8	3.6		5ck	0	W		0	0	Clear	M. Payne.
*Quebec, Quebec			29.77	756.1	12	—11.1	80	W	4	1.8			10n		W	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.65	753.1	18	— 7.8	84	W	6	2.7		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.07	763.8	14	—10.0	82	N	7	3.1			10n		NW	0.20	5.1	Cloudy	K. Stewart.
Stayner, Ontario			30.01	762.2	13	—10.6	83	NW	15	6.7			10n		NW	0.08	2.0	Cloudy	R. J. Cole.
Stratford, Ontario	28.67	728.2	30.05	763.3	13.6	—10.2	89	NW	9	4.0			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B			29.46	748.3	27	— 2.8	71	W	11	4.9		5k	5ks	NW	NW	0.01	0.3	Fair	T. C. Hill.
*Toronto, Ontario			30.03	762.7	10	—12.2	92	NW	4	1.8		0	0			Inap.	Inap.	Clear	Magnetic Observatory.
Woodstock, Ontario			30.04	763.0	17.2	— 8.2	88	NW	6	2.7			10s			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.05	737.9	31.0	— 0.6		W	8	3.6			10n			Inap	Inap.	Snowing	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.78	756.4	24	— 4.4	74	NW	10	4.5		2k	0	SW		0	0	Clear	
Alpena, Mich.			30.17	766.3	12	—11.1	80	NW	8	3.6			10s		NW	0.01	0.3	Cloudy	
Atlantic City, N. J.			29.80	756.9	32	0.0	69	N	10	4.5			10s			0	0	Cloudy	
Augusta, Ga.			29.88	758.9	42	5.6	83	NW	4	1.8		0	0			0.21	5.3	Clear	
Baltimore, Md.			29.85	758.2	35	1.7	70	NE	4	1.8			10s			0	0	Cloudy	
Barnegat, N. J.			29.79	756.7	32	0.0	69	N	12	5.4			10s			0	0	Cloudy	
Bismarck, Dakota	28.92	734.6	30.90	784.8	—15	—26.1	42	Calm	0	0			10s			0.04	1.0	Cloudy	
Boston, Mass.			29.74	755.4	26	— 3.3	64	NW	1	0.4		2k	2s	W		0	0	Fair	
Breckenridge, Minn.			30.81	782.6	—20	—28.9	64	NW	16	7.2		0	0			0	0	Clear	
Buffalo, N. Y.			29.96	761.0	19	— 7.2	84	N	6	2.7		8k	0	N		Inap.	Inap.	Cloudy	
Burlington, Vt.			29.88	758.9	13	—10.6	63	N	10	4.5		0	8s			0	0	Cloudy	
Cairo, Ill.			30.28	769.1	25	— 3.9	90	NW	18	8.0			10s		NW	Inap.	Inap.	Cloudy	
Cape Hatteras, N. C.			29.42	747.3	50	10.0	93	NE	20	8.9			10n		NE	1.03	26.2	Light rain	
Cape Henry, Va.			29.64	752.8	38	3.3	100	N	22	9.8			10n			0.38	9.7	Heavy rain	
Cape Lookout, N. C.			29.56	750.8	44	6.7	100	NW	20	8.9			10n		NW	1.01	25.7	Light rain	
Cape May, N. J.			29.77	756.1	34	1.1	61	NE	14	6.3			10s			0	0	Threatening	
Charleston, S. C.			29.78	756.4	46	7.8	69	NW	18	8.0			10s		NW	0.41	10.4	Cloudy	
Cheyenne, Wyoming	24.23	615.4	30.17	766.3	15	— 9.4	73	SW	1	0.4		5ck	5s	W		0	0	Cloudy	
Chicago, Ill.			30.14	765.5	23	— 5.0	100	NW	12	5.4			10n			0.30	7.6	Heavy snow	
Cincinnati, Ohio			29.93	760.2	30	— 1.1	89	N	10	4.5			10n			0.03	0.8	Light snow	
Cleveland, Ohio			29.96	761.0	29	— 1.7	83	N	18	8.0			10n		N	Inap.	Inap.	Light snow	
Corsicana, Tex.			30.54	775.7	29	— 1.7	78	NW	8	3.6		5cs	0			0	0	Fair	
Davenport, Iowa			30.36	770.9	14	—10.0	81	NW	14	6.3			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			30.55	776.0	25	— 3.9	75	N	10	4.5		0	0			0	0	Clear	
Denver, Col.	25.07	636.8	30.39	769.4	6	—14.4	76	N	2	0.9		0	0			0	0	Clear	
Detroit, Mich.			30.00	762.0	23	— 5.0	60	N	13	5.8			10s			0	0	Cloudy	
Dodge City, Kan.	27.84	707.1	30.39	771.9	14	—10.0	81	N	7	3.1			10s		N	Inap.	Inap.	Cloudy	
Dubuque, Iowa			30.36	771.1	17	— 8.3	67	NW	4	1.8			10s			0.08	2.0	Cloudy	
Duluth, Minn.			30.63	778.0	— 4	—20.0	82	NW	18	8.0		0	0			0	0	Clear	
Eastport, Me.			29.66	753.4	18	— 7.8	67	W	14	6.3		0	0			0	0	Clear	
Erie, Pa.			29.94	760.5	26	— 3.3	88	NW	20	8.9			10s			0	0	Cloudy	
Escanaba, Mich.			30.36	771.1	16	— 8.9	83	N	26	11.6			10s		N	0.01	0.3	Cloudy	
Fort Gibson, Indian Ter.			30.54	775.7	26	— 3.3	76	N	2	0.9			10s		N	0.03	0.8	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.16	740.7	30.37	771.4	23	— 5.0	60	N	6	2.7		0	0			0	0	Clear	
Fort Sully, Dakota	28.90	734.0	30.85	783.6	— 5	—20.6	63	NW	10	4.5		0	0			0.03	0.8	Clear	
Florence, Arizona	28.56	725.4	30.07	763.8	57	13.9		NE				0	0			0	0	Clear	
Galveston, Tex.			30.42	772.7	44	6.7	75	N	28	12.5		2cs	0			0	0	Fair	
Grand Haven, Mich.			30.15	765.8	20	— 6.7	85	NE	10	4.5			10s			0	0	Cloudy	
Indianapolis, Ind.			30.06	763.5	26	— 3.3	88	NW	6	2.7			10n			0.04	1.0	Light snow	
Indianola, Tex.			30.47	773.9	45	7.2	60	N	28	12.5		0	5s			0	0	Fair	
Jacksonville, Fla.			29.90	759.4	52	11.1	64	NW	11	4.9		0	5ks		NW	1.90	48.3	Fair	
Keokuk, Iowa			30.35	770.9	10	—12.2	79	NW	16	7.2			10s		NW	0.14	3.6	Cloudy	
Key West, Fla.			29.94	760.5	75	23.9	90	SW	8	3.6		0	5ks		SW	0	0	Fair	
Kittyhawk, N. C.			29.60	751.8	46	7.8	92	NE	33	14.8			10n		NE	0.81	20.6	Light rain	
Knoxville, Tenn.			29.93	760.2	31	— 0.6	68	W	14	6.3			10n		W	0.36	9.1	Light snow	
La Crosse, Wis.			30.40	772.1	13	—10.6	81	N	11	4.9			10s		N	0.12	3.0	Cloudy	
Leavenworth, Kan.			30.60	777.2	8	—13.3	89	NW	8	3.6			10s		NW	0	0	Cloudy	
Louisville, Ky.			30.04	763.0	28	— 2.2	77	W	16	7.2			10n			0.02	0.5	Light snow	
Lynchburg, Va.			29.77	756.1	32	0.0	89	N	2	0.9			10n		N	0.06	1.5	Light snow	
Malone, N. Y.			29.89	759.2	10	—12.2	79	NW	5	2.2		0	2s		W	0	0	Fair	
Marquette, Mich.			30.35	770.9	17	— 8.3	84	N	12	5.4			10s			0.10	2.5	Cloudy	
Memphis, Tenn.			30.34	770.6	31	— 0.6	59	NW	24	10.7			10s		NW	0	0	Cloudy	
Milwaukee, Wis.			30.26	768.6	18	— 7.8	84	N	19	8.5			10s			0.28	7.1	Cloudy	
Mobile, Ala.			30.18	766.6	41	— 5.0	63	N	8	3.6		0	0			0.03	0.8	Clear	
Montgomery, Ala.			30.13	765.3	40	4.4	59	NW	14	6.3		5ck	0	NW		0.05	1.3	Fair	
Morgantown, W. Va.	28.76	730.5	29.86	758.4	26	— 3.3	88	NE	8	3.6			10s		N	0	0	Threatening	
Mt. Washington, N. H.	23.04	585.2	29.40	746.7	— 8	—22.2	56	NW	42	18.8		0	5s		NW	0	0	Fair	
Nashville, Tenn.			30.16	766.1	30	— 1.1	78	NW	12	5.4			10ks		NW	0.04	1.0	Cloudy	
New Haven, Conn.			29.79	756.7	30	— 1.1	67	N	5	2.2			10s, fg		N	0	0	Cloudy	
New London, Conn.			29.78	756.4	29	— 1.7	78	NW	1	0.4		8s	Fog	W		0	0	Cloudy	
New Orleans, La.			30.24	768.1	46	7.8	54	N	11	4.9		5k	0	NW		0.01	0.3	Fair	
Newport, R. I.			29.75	755.6	32	0.0	69	NW	6	2.7			10s		NW	0	0	Cloudy	
New York, N. Y.			29.82	757.4	31	— 0.6	78	N	7	3.1			10s			0	0	Cloudy	
Norfolk, Va.			29.66	753.4	38	3.3	100	NE	16	7.2			10n			0.30	7.6	Light rain	
North Platte, Neb.	27.54	699.5	30.39	771.9	15	— 9.4	100	N	14	6.3			10s			0	0	Cloudy	
Omaha, Neb.	29.40	746.7	30.62	777.7	8	—13.3	100	N	6	2.7			10s		N	0	0	Cloudy	
Oswego, N. Y.			29.91	759.7	20	— 6.7	85	NE	9	4.0			10n		NE	0.09	2.3	Threatening	
Pembina, Dakota			30.94	785.9	—27.[illegible]	—33.1	46	N	4	1.8			10s			0	0	Cloudy	
Philadelphia, Pa.			29.83	757.7	31	— 0.6	60	NE	12	5.4			10s		N	0	0	Cloudy	
Pike's Peak, Col.	17.68	449.1	29.89	759.2	8	—13.3	55	NW	48	21.5		0	0			Inap.	Inap.	Clear	
Pittsburgh, Pa.			29.87	758.7	29	— 1.7	89	NE	2	0.9			10ks		NE	0	0	Cloudy	
Port Huron, Mich.			30.00	762.0	23	— 5.0	86	NW	13	5.8			10n		N	Inap.	Inap.	Light snow	
Portland, Me.			29.73	755.1	27	— 2.8	67	Calm	0	0		0	Haze			0	0	Clear	
Portland, Oregon			30.10	764.5	43	6.1	58	SE	8	3.6		2c	2s			0	0	Fair	
Punta Rassa, Fla.			29.93	760.2	68.0	20.0	94	SW	9	4.0			10ks		SW	0.42	10.7	Threatening	
Rochester, N. Y.			29.89	759.2	23	— 5.0	86	NW	12	5.4			10n		W	Inap.	Inap.	Light snow	
Salt Lake City, Utah	26.02	660.9	30.35	770.9	25	— 3.9	63	N	2	0.9		0	0			0	0	Clear	
Sandy Hook, N. J.			29.78	756.4	33	0.6	69	N	10	4.5		10k	2s	W	NE	0	0	Cloudy	
San Diego, Cal.			30.06	763.5	49	9.4	64	N	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.11	764.8	52	11.1	79	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.40	594.4	29.94	760.5	18	— 7.8	84	N	4	1.8		0	0			0	0	Clear	
Savannah, Ga.			29.86	758.4	47	8.3	71	NW	16	7.2		5k	0	NW		0.60	15.2	Fair	
Shreveport, La.			30.48	774.2	38	3.3	70	NW	8	3.6		0	1s			0	0	Clear	
Smithville, N. C.			29.67	753.6	42	5.6	91	NW	8	3.6			10s			0.52	13.2	Cloudy	
Springfield, Mass.			29.74	755.4	28	— 2.2	83	S	4	1.8			10ks		NE	0	0	Cloudy	
St. Louis, Mo.			30.29	769.4	17	— 8.3	67	NW	16	7.2		0	0			0.06	1.5	Clear	
St. Marks, Fla.			30.02	762.5	46	7.8	68	N	18	8.0		0	0			0.16	4.1	Clear	
St. Paul, Minn.			30.52	775.2	4	—15.6	74	NW	12	5.4			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.73	755.1	30	— 1.1	48	NW	16	7.2		0	1k		NW	0	0	Clear	
Toledo, Ohio			30.00	762.0	26	— 3.9	88	NW	8	3.6			10n		NW	0.02	0.5	Light snow	
Tucson, Arizona	27.67	702.8	30.22	767.6	45	7.2		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.37	771.4	37	2.8	66	N	16	7.2			10ks		N	0	0	Cloudy	
Virginia City, M. T.	24.53	623.0	30.01	762.2	14	—10.0	63	Calm	0	0		1c	0	N		0	0	Clear	
Washington, D. C.			29.83	757.7	29	— 1.7	100	NE	12	5.4			10n			0.02	0.5	Light snow	
Wilmington, N. C.			29.66	753.4	40	4.4	91	NW	16	7.2			10s		NW	0.58	14.7	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.74	755.4	30	— 1.1	69	NW	10	4.5			10s		NW	0.75	19.1	Cloudy	
Yankton, Dakota	29.28	743.7	30.76	781.3	4	—15.6	74	NW	18	8.0			10s		NW	0.05	1.3	Cloudy	
Yuma, Arizona			30.04	763.0	62	16.7		NW				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	77	25.0	78	Calm	0	0		8c	0			0	0		James Gall.
Navassa, W. I.					82	27.8		NE			2					0	0	Clear	F. M. Everett.
Clifton, Ja., W. I.	27.19	690.6	29.96	761.0	63	17.2	83	N	1.0	0.4		0	0			0	0	Fine, Clear	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.04	763.0	82	27.8	83	E			2	6ks?	6ks	E		0.350	8.89	⅜ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.04	763.0			80.2	26.8		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.18	639.6			64.5	18.1	85	Calm			0	4cs	2ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.75	781.0	—21.5	—29.7		NW	4	1.8		0	0			0	0		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.95	760.7	74	23.3		S			2					0	0		Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Cape Cod Bay, Mass.	NE	3	29.67	753.6	35	1.7	80	NW	10	4.5		8k	0	N				Cloudy	Capt. James Jorgensen
Steamer Berlin, N. 47°, 43′, W. 31°, 2′.	ENE ¼E	9	28.43	722.1	51.1	10.6		WNW			8		..d			Heavy sea.		Raining	Capt. C. Fohle.
Steamer Leipzig, N. 53°, 53′, E. 7°, 37′.	W½S	10	29.79	756.7	44.4	6.9	100	WSW			3		10cs			Tranq'l		Haze, Fog	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 1, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.11	764.7	72.0	22.2	54	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.11	764.8	70.5	21.4	70	NW			1		2			0	0	Clear	Peter.
La Calle			30.10	764.4	66.9	19.4	74	NW			3		5			0	0	Fair	Didier.
Tunis			30.11	764.9	69.8	21.0		SSW			3		1			0	0	Clear	Jacques.
Sfax			30.10	764.4	66.2	19.0		S			1		1			0	0	Clear	Chauvey.
Sfida			30.19	766.7	66.6	19.2	43	W			1		2			0	0	Clear	Millot.
Tebessa			30.14	765.5	60.1	15.6		NNE			3		2			0	0	Clear	Bourgeois.
Geriville			30.15	765.9	59.9	15.5	93	ESE			2		1			0	0	Clear	Lemaillot.
Laghouat			30.24	768.0	66.2	19.0	30	N			2		1			0	0	Clear	Guyot.
Biskra			30.17	766.2	71.2	21.8	44	NW			5		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.93	760.1	45.1	7.3	93	SW			1		8			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.96	761.0	33.8	1.0	90	NE			1		10			0	0		Dr. Wierzbiski.
Eperies			29.98	761.5	38.8	3.8	93	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.66	727.9	29.96	760.9	36.3	2.4	95	E			1		10			0	0		Andreas Rospini.
Hermannstadt	28.55	725.1	30.02	762.5	36.9	2.7	89	SE			1		5			0	0		Prof. Reissenberger.
Kremsmünster	28.53	724.6	29.93	760.1	32.7	0.4	98	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.97	761.1	35.2	1.8	96	S			1		7			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habsuda Daniel.
Pola			30.00	762.0	50.2	10.1	96	Calm			0		10s			0.077	1.96	Foggy	I.R.Hydrographic Of'ce.
Szegedin			29.95	760.7	43.7	6.5	75	Calm			0		10			0.094	2.40		Karl Stancel.
Trieste			30.02	762.5	48.4	9.1	98	Calm			0		10			0.043	1.1	Rain and fog	Prof. V. Farolfi.
Vienna			29.91	759.6	41.4	5.2	83	E			1		4			0.039	1.0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.82	757.4	52.0	11.1	87	SW			4		10ks		SSW	0.108	2.75	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.46	748.3	46.9	8.3		SE	26	11.6			9			0.055	1.40	Squally	William Boswell.
Ardrossan			29.30	744.2	43	6.1		ENE			3		9					Raining	William McNeil.
Armagh, Observatory			29.18	741.1	50.2	10.1		SE	5	2.2			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.12	739.6	54.0	12.2		SE			1		9					*D. clouds	J. Dreyer.
Bradford			29.32	744.7	44.7	7.1		E			3		10			0.30	7.6	Foggy	J. McLandsborough.
Bridgetown, (Barbados)			29.92	760.0	84.5	29.2		E			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.42	747.3	54.1	12.3		SSW			2		7					Threatening	H. Todd. [H.C.
Cardington			29.42	747.3	53.0	11.7		S			1		8					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.29	744.0	54.2	12.3		SW			2		6					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.86	707.6	29.34	745.2	50.0	10.0		SE			4		10					Heavy rain	R. E. Power.
Davos Platz, (Switzerland)	24.79	629.6			40.0	4 4	54	Calm			0		5			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.20	741.7	48	8.9		ESE			6		10					Overcast	J. Mac Gowan.
Dover			29.50	749.3	53	11.7		SW			3		5					½ clouded	J. Costello.
Eccles, (near Manchester)			29.30	744.2	50.9	10.5		S	3.8	1.7			10					Misty.	Thomas Mackereth.
Falmouth, Observatory			29.16	740.7	53.5	11.9		SE			6		10					Raining	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.63	752.6	71.8	22.1		E			1		10					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	84.0	28.9		N			3		3					*D. clouds	
Galway, Queen's College			29.05	737.9	52	11.7		SSE			1		8					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.12	765.0	69.8	21.0		W			3		7					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.31	744.5	42.2	5.7		NE			2		10					Raining	Lewis Stuart.
Great Yarmouth			29.45	748.0	52	11.1		SSW			3		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.45	748.0	54.5	12.5		SW			2		9			Blank		*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.37	746.0	55	12.8		SE			6		10					Raining	Dr. S. E. Boskins.
Helston			29.14	740.1	55	12.8		SE			3		10n			0.11	2.8	Wet	M. P. Moyle.
Holyhead			29.22	742.2	51	10.6		S			2		4					Misty	John Tilston.
Kew, Observatory			29.43	747.5	54.2	12.3		SSW	18	8.0			8					*D. clouds	The Staff.
Kingstown			29.19	741.4	50	10.0		SSE			3		7					*D. clouds	George Mitchell.
Leicester Museum			29.36	745.7	53.9	12.2		SW			2		6					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.02	762.5	64.6	18.1		S			2		8c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.44	747.8	42	5.6		SE			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.02	762.5	63.4	17.4		W			8		8					Gloomy	Surg. Maj. Henry.
Nottingham, Observatory			29.35	745.5	52.8	11.6		SSW			4		10k,d		SW	0.255	6.38	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.33	745.0	51.8	11.0		S			4		9					Misty.	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.38	746.2	55	12.8		SSW			1		10					Overcast	J. Lucas.
Plymouth			29.26	743.2	54	12.2		S			4		10					Raining	John Merrifield.
Roche's Point			29.13	739.9	52	11.1		S			5		10					Dull	W. Kennedy.
Saint Ann's Head			29.22	742.2	53	11.7		SSE			4		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.41	747.0	55.8	13.2		S			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.57	751.1	42.5	5.8		E	19	8.5			5					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.07	763.8	58.4	14.7		S			0		1					Blue sky	Sergt. W. H. Lyne.
Sheffield			29.32	744.7	47.1	8.4		S			1		10			0.343	8.7	Raining	W. F. Cooper.
Silloth Rectory			29.25	742.9	46.2	7.9	91	SE			2		2			0.210	5.33	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.28	743.7	46.0	7.8		NE			0		8ks					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.39	746.5	43	6.1		E			5		10					Overcast	John Smith.
Stratfield Turgiss			29.44	747.8	54.8	12.7		S			1		9					Overcast	Rev. Charles H. Griffith.
Thurso			29.51	749.5	44	6.7		ESE			2		8					Gloomy	John Trotter.
Truro, Royal Institution			29.16	740.7	56	13.3		S			7		10					Raining	W. Newcombe.
Valencia, Observatory			29.02	737.1	53.4	11.9		ESE	12	5.4			10					Overcast	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		SE			6		10			0.10	2.8		Henry Mercer.
Cape Good Hope, Obs'y			29.84	757.9	62.0	16.7	99	NW	20	8.9		10	10						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.61	752.1	70.5	21.4	78	S			1		10k			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.36	745.7	44.0	6.7		E			3		10n			0.04	1.0	Raining	Andrew Gibb.
Mauritius, Observatory			29.98	761.5				ESE	15.0	6.7						0	0		C. Meldrum.
Melbourne, Observatory			29.83	757.7	69.0	20.6	50	ENE	10	4.5			4			0	0	Fine	R. L. J. Ellery.
Monach Lighthouse, (Hebrides			29.32	744.7	45	7.2		ENE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.70	754.4	42	5.6		E			4	8	4						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Copenhagen			29.76	755.8	37.8	3.2	92	SE			2		10					
Faröe			29.65	753.2	37.0	2.8	100	E			4		10					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			30.02	762.6	29.3	— 1.5	96	E			4		9					
Thorshavn, (Faröe)			29.79	756.6	39.6	4.2	63	NE			6		8					
Vestervig			29.68	753.8	34.2	1.2	100	ESE			9		6					Foggy

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.60	751.9	48.2	9	90	SW			2		10kn		SW	0.268	6.8	Covered	Normal School.
Amiens			29.63	752.7	51.4	10.8	95	S			3		10			0.472	12.0	Covered	Normal School.
Avignon			29.97	761.1	56.3	13.5	82	ESE			1		10			0.110	2.8	Covered	Normal School.
Bar-sur-Seine			29.76	755.8	56.5	13.6	77	SW			4		8kn		SW	0.134	3.4	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.54	750.2	58.8	14.9	63	S	35.3	15.8					SW	0.012	0.3		Beaumette Observ'tory.
Beauvais			29.65	753.2	52.2	11.2	86	S			3		5		SW	0.295	7.50	Cloudy	Normal School.
Besançon			29.85	758.2	55.4	13	81	S			2		2		S	0.016	0.4	Slightly cl'dy	Normal School.
Bourg en Bresse			29.95	760.8	54.9	12.7	74	S			2	2c		NE		0	0	Slightly cl'dy	Normal School.
Bourges			29.76	755.8	57.2	14	84	S			2		2		NW	0.20	5.	Slightly cl'dy	Normal School.
Brest			29.25	743.0	54.5	12.5	90	SSW			6		10		S	0.276	7.00	Squally	Naval Observatory.
Carcassonne			29.95	760.8	55.4	13	86	E			3		10		W	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			29.58	751.4	57.7	14.3	98	E			4		6		W	0.024	0.6		Normal School.
Châlons-sur-Marne			29.71	754.5	55.9	13.3	84	W			3	5c		NE		0.102	2.6	Cloudy	Normal School.
Clermont			29.80	757.0	62.6	17.0	52	SSE			3		5		SW	0.091	2.3	Cloudy	Puy de Dome Obs'y.
Commercy			29.79	756.6	51.1	10.6	90	SW			6		8		E	0.161	4.1	Very cloudy	Normal School.
Commune de Gréasque*			30.02	762.6	51.6	10.9	90	E			2		10		SE	0.063	1.6		M. Kina.
Grenoble			29.96	760.9	50.2	10.1	79	ENE			2		5ks		W	0.098	2.50	Cloudy	Normal School.
La Roche-sur-Yon			29.78	756.4	56.1	13.4	77	SE			6		10			0.167	4.25	Covered	Normal School.
Le Mans			29.62	752.4	57.0	13.9	89	S			2		8		S	0.226	5.75	Very cloudy	Normal School.
Lons-Le-Saulnier			29.85	758.2	56.7	13.7	73	S			6		5		W	0	0	Cloudy	Normal School.
Lorient			29.43	747.4	57.2	14.0	86	S			4		10			0.394	10.0	Raining	Naval Observatory.
Mâcon			29.95	760.6	52.7	11.5	83	SSE			2		5		S	0.020	0.5	Cloudy	Normal School.
Metz			29.82	757.4	48.2	9.0	95	S			2		10			0.126	3.2	Covered	M. Schuster.
Mirecourt			29.61	752.2	55.6	13.1	77	S			4		5		N	0.165	4.2	Cloudy	Normal School.
Nismes			29.96	761.0	56.5	13.6	83	SE			2		10		E	0.098	2.5	Covered	Normal School.
Orleans			29.68	753.9	57.2	14	80	S			2		0			0	0	Clear	Normal School.
Paris, Observatory			29.67	753.6	55.6	13.1	82	SSW			3	..c	..k	W	SW	0.139	3.53	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.95	760.6	55.8	13.2		S			2		5		SE	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.65	753.2	57.2	14.0	73	S			4		10		N	0	0	Covered	Naval Observatory.
Rouen			29.60	751.9	55.9	13.3	82	S			2		0			0.358	9.1	Clear	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.87	758.8	59.0	15	84	SE			6		8		W	0.04	1.	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique.																			L'Abbé Marchési.
Marseilles			29.94	760.5	57.9	14.4	81	E			1		10			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.81	630.2	30.17	766.4	45.3	7.4	78	SW	24.2	10.83			4		W	0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.94	760.5	57.6	14.2	83	E	9.3	4.17			9		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.12	536.5			28.4	— 2.0		WNW			4–6		9					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.42	569.4			35.2	1.8		WNW			6		9			0.020	0.5	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.68	753.8	56.3	13.5	84	S			2		7			0.130	3.3	Cloudy	E. Renou.
Toulouse			29.91	759.8	57.6	14.2	86	SE			2		10			0.004	0.1		Toulouse Observatory.
Tours			29.68	753.8	59.0	15.0	72	S			3		7		SSW	0.094	2.4		C. Marquet.
Versailles, (near Paris)			29.67	753.6	54.7	12.6	91	SW			1		8			0.143	3.64	Lightly cov.	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.22	767.5	49.0	9.8	100	NE	7.4	3.33			10			0.106	2.7	Rainy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.84	757.9	41.5	5.3	74	N			2		10			0	0		Prof. T. Hoh.
Berlin			29.78	756.3	39.0	3.9	87	S			2		10			0	0		Prof. Arndt.
Breslau			29.87	758.6	35.8	2.1	89	SE			3		9			0	0		Royal University Obs'y.
Carlsruhe			29.78	756.4	45.7	7.6	86	SW			1		10			0	0		A. Senz.
Cassel			29.70	754.4	42.6	5.9	89	SE			4		10	SW		0.020	0.5		Dr. H. Möhl.
Crefeld			29.60	751.8	51.8	11.0	88	SE			3		9			0.08	2.		Director Lose.
Emden			29.68	753.9	41.2	5.1	98	ESE			1		10			0.035	0.9		Prof. Prestel.
Frankfort on the Main			29.78	756.3	41.9	5.5	76	SSW			1		10			0.055	1.4	Foggy	Physical Society.
Friedrichshafen			29.99	761.7	38.7	3.7	90	NW			1		10			Inap.	Inap.		M. Wilhelm.
Hamburg			29.66	753.4	37.8	3.2	92	SE			1		10			Inap.	Inap.	Light fog	Captain F. Hegemann.
Kiel			29.64	752.9	40.6	4.8	84	SE			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.91	759.7	34.0	1.1	90	W			2		9			0.142	3.6		Prof. E. Luther.
Köslin			29.86	758.5	36.1	2.3		Calm			0		4			0	0		H. Müller.
Leipsic			29.78	756.5	37.8	3.2	90	S			2		10	SW				Raining	Prof. Bruhns.
Memel			29.87	758.6	39.2	4.0	73	WNW			2		7ks			0.047	1.2		Reinbrecht & Skalweit.
Münster			29.67	753.5	48.4	9.1	90	SW			3		10			0.185	4.7		Prof. E. Heis.
Neufahrwasser			29.90	759.4	35.4	1.9	88	SW			3		10			0	0		A Lothe.
Posen			29.88	758.9	36.7	2.6	81	W			3		9			0.016	0.4		Dr. Magener.
Strassburg, (in Alsace)			29.82	757.5	47.7	8.7	77	SW			3		10	SW		0	0		Dr. Schur.
Stuttgart			29.82	757.4	48.7	9.3	76	SW			1		8			0.016	0.4		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.67	753.6	49.6	9.8	93	WSW			3		10			0.094	2.4		Prof. Flesch.
Weissenburg, (Bavaria,)	28.33	719.6	29.87	758.6	41.7	5.4	72	S			3		10			Inap.	Inap.		Dr. von Bebber.
Wustrow, Naval School			29.81	757.1	37.6	3.1	85	SE			2		10			0	0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 2°, 05′, W. 27°, 13′.			30.06	763.4	80.1	26.7	81	S			3		2	S					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.08	764.0	65.1	18.4		SW					..k					Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			29.93	760.2	48.4	9.1	84	SE	0.7	0.3			9			0	0		Prof. Giovanni Clodig.
Padua			29.98	761.5	44.6	7.0	91	W	0.7	0.3			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.98	761.5	46.4	8.0	86	SW	0	0			6	W		0	0		Alm. Da Schio.
Verona			29.96	761.0	48.2	9.0	73	E			2		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof Trionfini Carlo.
Domodossola			30.00	761.9	46.4	8.0	60	Calm			0		4			0	0		Prof. Giuseppe Calza.
Milan			30.02	762.4	42.4	5.8	98	WNW			1		8	WNW		0	0		Ab. Gio. Capelli.
Pavia			30.02	762.4	45.5	7.5	80	SW			4		9	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.03	762.7	45.5	7.5	80	ESE	0.7	0.3			2	NW		0	0		Prof. P. F. Denza.
Mondovi	28.07	712.9	30.01	762.2	45.0	7.2	54	NW			2		1	WSW		0	0		Prof. C. Bruno.
Porto Maurizio			30.03	762.7	56.8	13.8	66	NW			2		7	SW		0	0		Prof. L. Vassallo.
Genoa			29.98	761.6	53.2	11.8	70	N	1.3	0.6			10	SW		0.020	0.5		Prof. Garibaldi.
Piacenza			30.03	762.7	45.0	7.2	91	WNW	4.3	1.9			10			0	0	Dense fog.	Dott. G. Manzi.
Parma			30.02	762.6	45.5	7.5	90	W			2		9			0	0		Prof. P. Pigorini.
Bologna			30.02	762.4	46.2	7.9	62	W			1		10			0	0		Prof. A. Palagi.
Florence			30.01	762.3	55.4	13.0	92	NW			2		10			0.165	4.2		Cav. F. Meucci.
Leghorn			29.95	760.8	60.6	15.9	84	WSW	2.5	1.1			10	W		0.036	0.9		Prof. P. Monte.
Siena	28 77	730.8	29.98	761.5	56 3	13.5	97	SW	0	0			10	SW		0.028	0.7		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.02	762.6	46.6	8.1	99	N	19.2	8.6			10			0	0	Dense fog.	Prof. Luigi Guidi.
Ancona			30.02	762.4	52.0	11.1	90	NW			4		10			0	0	Dense fog.	Prof. F. De— Bosis.
Grosseto			30.02	762.6	61.2	16.2	87	SE			2		7	S		0	0		Avv. P. Ponticelli.
Rome			30.03	762.8	63.7	17.6	76	Calm	0	0			8			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.01	762.3	65.5	18.6	71	SW			2		9	SW		0	0		Prof. L. Palmieri.
Lecce			30.04	763.1	61.5	16.4	81	SE	13.0	5.8			3			0	0		Prof. C. De—Giorgi.
Cosenza			30.04	763.1	59.9	15.5	62	SW	0	0			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.95	760.8	64.8	18.2	70	E	1.8	0.8			9			0	0		Prof. G. Cacciatore.
Caltanissetta	28.06	712.6	30.00	762.1	58.3	14.6	68	S			1		8	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.05	763.3	61.7	16.5	65	W	0	0			10	SW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Observer.
Mexico	Mariano Barcena.
	Vicente Reyes.
	Miguel Perez.
	(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Flushing	29.58	751.3	50.7	10.4		SSW		4					0.134	3.4	
Groningen	29.52	749.7	41.0	5.0		ESE		2					0.024	0.6	
Helder	29.53	750.0	43.5	6.4		SSE		2					0.449	11.4	
Utrecht	29.53	750.1	47.7	8.7	96.	SSW		3		10			0.446	11.3	Overcast

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Bergen	29.72	754.9	30.2	— 1.0	92	Calm	0	0		6			0	0	
Brône	29.56	750.9	31.3	— 0.4	74	NE	11	5		9			0	0	
Christiania	29.81	757.1	15.8	— 9.0	85	E	0	0		9			0	0	
Tromsö	29.72	754.8	26.6	— 3.0	61	NE	9	4		5			0	0	

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.10	739.1	57.2	14.0	93	NW	4.3	1.9			10			1.724	43.8	Thunder-storm.	Dr. J. A. Sampaio.
Campo Major			29.98	761.4	65.3	18.5	77	SSW	11.2	5.0			9	SW		0.094	2.4		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.01	762.2	69.3	20.7	73	W	4.9	2.2			10			0.028	0.7		Capt. D. A. de Cunha.
Lisbon			29.91	759.8	65.1	18.4	89	SW	26.2	11.7			10			0.10?	2.6		The Observatory.
Ponta Delgada, (Azores)			29.30	744.1	66.2	19.0	83	SW	47.9	21.4			10			0.622	15.8		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.95	760.7	34.2	1.2	91	SSE	4	2			4					Solar corona	Astronomical Obs.
Wilna			29.87	758.6	34.3	1.3	91	W	4	2			9						Astronomical Obs.
Dorpat			29.73	755.2	30.7	— 0.7	85	W	7	3			6						Physical Cabinet.
St. Petersburg			29.58	751.2	33.1	0.6	100	WSW	7	3			10						Central Physical Obs.
Kuopio			29.52	749.7	24.8	— 4.0	100	WNW	7	3			10					Snowing	Ch. Forsten.
Kleff			29.94	760.4	35.4	1.9	73	WNW	9	4			3						Physical Cabinet.
Nikolaiev			29.98	761.5	43.2	6.2	65	Calm	0	0			4						Kurdakof.
Kertch			30.02	762.5	44.2	6.8	87	NNW	7	3			3						Lagorio.
Moscow			29.65	753.1	27.7	— 2.4	94	WSW	9	4			10					Snowing	Meteorological Obs.
Lugan			29.82	757.4	35.6	2.0	82	WSW	27	12			9						Meteorological Obs.
Archangel			29.49	749.1	25.9	— 3.4	95	Calm	0	0			10						Ogorodnikof.
Tiflis	28.63	727.2	30.07	763.7	50.7	10.4	38	N	13	6			5						Physical Observatory.
Astrakhan			29.99	761.8	27.7	— 2.4	98	SW	2	1			10			Blank	Blan		Sebastianof.
Kasan			29.59	751.6	23.0	— 5.0	89	S	27	12			10					Light snow	Physical Cabinet.
Orenburg			29.76	755.9	18.1	— 7 7	83	SE	13	6			3						Tschernischef.
Ekaterinburg	28.96	735.6	29.95	760.8	26.1	— 3.3	68	Calm	0	0			10						Meteorogical Obs.
Nukuss			29.98	761.5	34.9	1.6	82	NE	4	2			9						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.51	774.9	14.4	— 9.8	84	S	4	2			0						Meteorological Obs.
Yeniseisk			30.54	775.7	—37.8	—38.8	78	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.4	28.8	— 1.8	72	NNW	7	3			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					15.8	— 9.0		Calm	0	0			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.97	761.3	61.0	16.1	72	SW	28.4	12.67		0	7			0.126	3.2	Cloudy	Royal Observatory.
San Fernando			30.13	765.2	64.4	18.0	92	SSW	9.2	4.1		0	9		SSW	0.201	5.1		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.62	752.4	15.8	— 9.0	94	S			2		6			0.236	6.0		
Umea			29.67	753.7	11.7	—11.3	75	Calm			0		5			0.024	0.6		
Hernosand			29.68	753.9	16.2	— 8.8	94	Calm			0		2			0	0		
Stockholm			29.73	755.1	26.6	— 3.0	91	W			2		3			0.051	1.3		
Wisby			29.85	758.1	34.5	1.4	78	WNW			4		5			0	0		
Sub-Series.																			
Upsala			29.74	755.3	24.4	— 4.2	71	WSW	4.0	1.8			0			0.008	0.20		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.50	723.9	29.96	760.9	44.2	6.8	87	NNE			1		7			0.051	1.3	Clouds	The Observatory.
Zurich	28.29	718.6	29.98	761.5	39.6	4.2	91	SE			1		10			0.087	2.2	Covered	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —3.0 mm; Thermometer, +2.7 cent.; Relative Humidity, +8 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.13	765.4	59.9	15.5	68	SW	6	2.5			1		SW	Blank	Blank		
Fao, (Persian Gulf)																			
Salonica			30.13	765.4	54.0	12.2		NW			1		10						
Valona			30.07	763.7	52.7	11.5		E			1		0						
Varna			30.00	762.0	48.2	9.0		SE			2		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.14	765.6	66.0	18.9	59	NE			2		1c			0	0	*D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.37	746.0	19.6	— 6.9		Calm	0	0			10						Hon. J. Ferguson.
Brockville, Ontario			29.85	758.2	0	—17.8		NW	1	0.4			10s		NW	Inap.	Inap.	Light snow	W. R. Bigg.
*Chatham, N. B.			29.33	745.0	18	— 7.8	91	Calm	0	0		2k	8ks			0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.26	743.2	25	— 3.9	88	W	5	2.2			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.69	754.1	1.3	—17.1	91	NW			4		10s			.005	0.13	Threatening	James Smith, M. A.
Dalhousie, N. B.			29.37	746.0	17.5	— 8.1	97	W			1					0.05	1.3	Threatening	H. A. Johnson.
Esquimault, B. C.			30.01	762.2	46.3	7.9	77	N				9ck	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			29.40	746.7	15.7	— 9.1	71	NW	6	2.7			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.82	782.8	—26	—32.2	100	S	4	1.8		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.84	757.9	8.9	—12.8		NE			2		10n					Snowing	H. J. Strang, M. A.
Granton, Ontario	28.69	728.7	29.91	759.7	3.6	—15.8		N			1	1cs	0	S		Inap.	Inap.	Clear	James Grant.
*Halifax, N. S.			29.25	742.9	20	— 6.7	85	N	6	2.7			8n			Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.83	757.7	0	—17.8	83	N	1	0.4		8c	2s		N	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.			29.09	738.9	37.0	2.8	100	SE	12	5.4			10n			0.31	7.9	Raining	C. H. Rigby.
*Montreal, Quebec			29.64	752.8	3	—16.1	70	W	12	5.4		5k	5ks	W	W	Inap.	Inap.	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.69	754.1	2	—16.7	71	W	6	2.7			10n		NW	0	0	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.90	759.4	— 1	—18.3	87	N	12	5.4			10n		N	0.03	0.8	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.91	759.7	5	—15.0	98	NW	7	3.1		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S.			29.26	743.2	25.2	— 3.8		N	8	3.6						0.15	3.8	Fine	Peter Grant.
Port Stanley, Ontario			29.94	760.5	4	—15.6	92	W	6	2.7		2k	0	W		0.06	1.5	Clear	M. Payne.
*Quebec, Quebec			29.52	749.8	11	—11.7	80	SW	8	3.6			8ks		SW	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.37	746.0	15	— 9.4	73	N	6	2.7		10k				0.05	1.3	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.87	758.7	12	—11.1	70	NE	9	4.0			10n		N	0.0	2.3	Light snow	K. Stewart.
Stayner, Ontario			29.85	758.2	3	—16.1	70	NE	3	1.3			10n		NE	.09	2.3	Light snow	R. J. Cole.
Stratford, Ontario	28.52	724.4	29.34	760.5	0.3	—17.6	88	Calm	0	0		3ks	0	NW		0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B.			29.15	740.4	35	1.7	100	NE	6	2.7			10n			Inap.	Inap.	Light rain	T. C. Hill.
*Toronto, Ontario			29.89	759.2	1	—17.2	94	NW	6	2.7		0	2s			Inap.	Inap.	Clear	Magnetic Observatory.
Woodstock, Ontario			29.92	760.0	4.9	—15.1	93	N	9	4.0		4c	0			Inap.	Inap.	Fair	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.44	747.8	35.0	1.7	100	NE	8	3.6			10n			0.48	12.2	Threatening	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.64	752.8	9	—12.8	68	NW	7	3.1		2k	0	W		0	0	Clear	
Alpena, Mich.			29.98	761.5	8	—13.3	100	NW	8	3.6			10n			0.23	5.8	Light snow	
Atlantic City, N. J.			29.72	754.9	17	— 8.3	20	NW	8	3.6		1k	0	N		0	0	Clear	
Augusta, Ga.			30.09	764.3	30	— 1.1	83	NW	8	3.6		0	0			0	0	Clear	
Baltimore, Md.			29.77	756.1	25	— 3.9	63	NW	8	3.6		2ck	5s	NW	NW	Inap.	Inap.	Fair	
Barnegat, N. J.			29.70	754.4	18	— 7.5	52	NW	23	10.3		2k	0	NW		0	0	Fair	
Bismarck, Dakota	28.66	728.0	30.58	776.7	— 8	—22.2	56	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.54	750.3	10.5	—11.9	70	W	12	5.4		5c	2s			0	0	Fair	
Breckenridge, Minn.			30.83	783.1	—22	—30.0	61	Calm	0	0		2c	0			0	0	Clear	
Buffalo, N. Y.			29.81	757.2	7.5	—13.6	77	NW	10	4.5			10n		N	0.14	3.6	Light snow	
Burlington, Vt.			29.64	752.8	6	—14.4	76	N	7	3.1			10s			0	0	Cloudy	
Cairo, Ill.			30.49	774.4	13	—10.6	81	NW	16	7.2			10ks		NW	0	0	Cloudy	
Cape Hatteras, N. C.			29.75	755.6	31	— 0.6	60	N	24	10.7		0	5s		N	0.06	1.5	Fair	
Cape Henry, Va.			29.80	756.9	29	— 1.7	78	NW	24	10.7		5k	0	NW		0.51	13.0	Fair	
Cape Lookout, N. C.			29.86	758.4	32	0.0	69	NW	22	9.8		5k	0	NW		0.06	1.5	Fair	
Cape May, N. J.			29.72	754.9	24	— 4.4	61	N	32	14.3		8k	0	NW		Inap.	Inap.	Fair	
Charleston, S. C.			30.03	762.7	29	— 1.7	59	NW	16	7.2		0	0			0	0	Clear	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	20	— 6.7	72	NW	16	7.2		0	0			0	0	Clear	
Chicago, Ill.			30.20	767.1	12	—11.1	80	NW	9	4.0			10s			0.06	1.5	Cloudy	
Cincinnati, Ohio			30.08	764.0	18	— 7.8	84	NW	16	7.2			10s		NW	0.06	1.5	Threatening	
Cleveland, Ohio			29.88	758.9	18	— 7.8	75	N	25	11.2			10n		N	0.12	3.0	Light snow	
Corsicana, Tex.			30.70	779.8	22	— 5.6	72	N	6	2.7		5cs	0			0	0	Fair	
Davenport, Iowa			30.49	774.4	4	—15.6	87	NW	8	3.6		5cs	2s		NW	Inap.	Inap.	Fair	
Denison, Tex.			30.74	780.8	16	— 8.9	83	NW	8	3.6		0	0			0	0	Clear	
Denver, Col.	25.00	635.0	30.22	767.6	17	— 8.3	67	S	2	0.9		0	0			0	0	Clear	
Detroit, Mich.			29.94	760.5	13	—10.6	62	N	11	4.9		10cs	0			0.01	0.3	Cloudy	
Dodge City, Kan.	27.84	707.1	30.39	771.9	14	—10.0	82	S	3	1.3		2c	0			Inap.	Inap.	Clear	
Dubuque, Iowa			30.47	773.9	4	—15.6	74	NW	8	3.6		0	0			0.05	1.3	Clear	
Duluth, Minn.			30.62	777.7	1	—17.2	72	N	4	1.8		0	0			0	0	Clear	
Eastport, Me.			29.36	745.7	15	— 9.4	65	NW	12	5.4			10s		NW	0	0	Cloudy	
Erie, Pa.			29.87	758.7	13	—10.6	81	NW	12	5.4		Haze	8n		NW	Inap.	Inap.	Light snow	
Escanaba, Mich.			30.16	766.1	15	— 9.4	83	NW	20	8.9			10n		NW	0.04	1.0	Light snow	
Fort Gibson, Indian Ter.			30.71	780.0	12	—11.1	61	N	4	1.8		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.41	747.0	30.66	778.7	17	— 8.3	52	N	3	1.3		0	0			0	0	Clear	
Fort Sully, Dakota	28.75	730.2	30.61	777.5	11	—11.7	60	SE	9	4.0		0	0			0	0	Clear	
Florence, Arizona	28.57	725.7	30.09	764.3	60	15.6		NE				0	0			0	0	Clear	
Galveston, Tex.			30.62	777.7	35	1.7	52	N	24	10.7		5c	0	W		0	0	Fair	
Grand Haven, Mich.			30.03	762.7	19	— 7.2	92	N	29	13.0			10n		N	0.05	1.3	Light snow	
Indianapolis, Ind.			30.20	767.1	12	—11.1	80	NW	15	6.7			10s		NW	0.03	0.8	Cloudy	
Indianola, Tex.			30.66	778.7	36	2.2	45	N	20	8.9		0	5s			0	0	Fair	
Jacksonville, Fla.			30.16	766.1	32	0.0	48	NW	8	3.6		0	0			0	0	Clear	
Keokuk, Iowa			30.52	775.2	1	—17.2	85	N	8	3.6		0	0			0	0	Clear	
Key West, Fla.			30.09	764.3	59	15.0	94	NE	28	12.5		0	8ks			0.47	11.9	Threatening	
Kittyhawk, N. C.			29.82	757.4	27	— 2.8	56	NW	18	8.0		2k	0	W		0.81	20.6	Fair	
Knoxville, Tenn.			30.22	767.6	20	— 6.7	84	SW	12	5.4			10n		W	0.04	1.0	Light snow	
La Crosse, Wis.			30.53	775.4	2	—16.7	72	N	9	4.0		0	0			0	0	Clear	
Leavenworth, Kan.			30.74	780.8	1	—17.2	79	NW	6	2.7		0	0			0	0	Clear	
Louisville, Ky.			30.24	768.1	17	— 8.3	67	W	20	8.9			10s		NW	0.01	0.3	Cloudy	
Lynchburg, Va.			29.87	758.7	22	— 5.6	54	W	20	8.9		5c	0	W		0.05	1.3	Fair	
Malone, N. Y.			29.66	753.4	1	—17.2	85	NW	8	3.6			10s		NW	0.01	0.3	Cloudy	
Marquette, Mich.			30.20	767.1	16	— 8.9	83	NW	30	13.4			Haz			0.28	7.1	Cloudy	
Memphis, Tenn.			30.54	775.7	17	— 8.3	83	NW	6	2.7		0	0			0	0	Clear	
Milwaukee, Wis.			30.23	767.8	12	—11.1	79	NW	23	10.3			10s			0	0	Cloudy	
Mobile, Ala.			30.44	773.2	28	— 2.2	59	N	8	3.6		0	0			0	0	Clear	
Montgomery, Ala.			30.38	771.6	27.5	— 2.5	60	NW	12	5.4		0	0			0	0	Clear	
Morgantown, W. Va.	28.78	731.0	29.90	759.4	18	— 7.8	84	SW	16	7.2			10n		SW	0.04	1.0	Light snow	
Mt. Washington, N. H.	22.88	581.1	29.24	742.7	— 3	—19.4	66	N	4	1.8		0	5s		N	0	0	Fair	
Nashville, Tenn.			30.36	771.1	19	— 7.2	84	NW	8	3.6			10n		NW	0.02	0.5	Light snow	
New Haven, Conn.			29.62	752.3	17	— 8.3	67	NW	12	5.4		2c	Haz.	NW		0	0	Fair	
New London, Conn.			29.62	752.3	13	—10.6	44	NW	11	4.9		5c	2k	NW		0	0	Fair	
New Orleans, La.			30.49	774.4	33	0.6	43	N	18	8.0		1k	0	N		0	0	Clear	
Newport, R. I.			29.57	751.1	14	—10.0	83	NW	15	6.7		5c	0	NW		0	0	Fair	
New York, N. Y.			29.68	753.9	17	— 8.3	50	NW	18	8.0			10s		W	0	0	Cloudy	
Norfolk, Va.			29.81	757.2	26.5	— 3.1	64	N	12	5.4		2k	0	W		0.26	6.6	Fair	
North Platte, Neb.	27.44	697.0	30.30	769.6	9	—12.8	78	E	8	3.6		2cs	0	W		0	0	Clear	
Omaha, Neb.	29.49	749.0	30.75	781.0	— 3	—19.4	100	NW	6	2.7		0	0			Inap.	Inap.	Clear	
Oswego, N. Y.			29.76	755.9	10.5	—11.9	84	NW	12	5.4			10n			0.01	0.3	Heavy snow	
Pembina, Dakota			30.80	782.3	—29	—33.9	41	SE	3	1.3		0	0			0	0	Clear	
Philadelphia, Pa.			29.74	755.4	20	— 6.7	85	N	20	8.9		0	5ks		NW	0	0	Fair	
Pike's Peak, Col.	17.82	452.6	30.03	762.7	15	— 9.4	65	N	26	11.6		2cs	0			0	0	Fair	
Pittsburgh, Pa.			29.84	757.9	16	— 8.9	90	W	12	5.4			10n		W	0.02	0.5	Light snow	
Port Huron, Mich.			29.88	758.9	14	—10.0	63	NW	18	8.0			10s		N	0.02	0.5	Threatening	
Portland, Me.			29.52	749.8	16	— 8.9	67	NW	4	1.8		5c,k	0	W		0	0	Fair	
Portland, Oregon			30.06	763.5	42	5.6	57	SE	4	1.8		5c	0	S		0	0	Fair	
Punta Rassa, Fla.			30.16	766.1	44.0	6.7	63	NW	24	10.7		0	8s		NW	0.01	0.3	Fair	
Rochester, N. Y.			29.76	755.9	8	—13.3	89	W	12	5.4			10n			0.04	1.0	Light snow	
Salt Lake City, Utah	25.94	658.9	30.27	768.8	28	— 2.2	67	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			29.65	753.1	20	— 6.7	69	NW	34	15.2			10ks		NW	Inap.	Inap.	Threatening	
San Diego, Cal.			30.04	763.0	55	12.8	14	N	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.09	764.3	50	10.0	75	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.45	595.6	29.99	761.7	21	— 6.1	71	N	12	5.4		0	0			0	0	Clear	
Savannah, Ga.			30.12	765.0	28	— 2.2	67	NW	14	6.3		0	0			0	0	Clear	
Shreveport, La.			29.68	779.3	25	— 3.9	75	N	8	3.6		0	0			0	0	Clear	
Smithville, N. C.			29.93	760.2	30	— 1.1	79	NW	4	1.8		1k	0	NW		0	0	Clear	
Springfield, Mass.			29.62	752.3	12	—11.1	54	NW	6	2.7		5c	1s,hz.			0	0	Fair	
St. Louis, Mo.			30.52	775.2	4	—15.6	75	NW	16	7.2		0	0			0.01	0.3	Clear	
St. Marks, Fla.			30.29	769.4	28	— 2.2	67	NW	10	4.5		0	0			0	0	Clear	
St. Paul, Minn.			30.64	778.2	— 4	—20.0	64	NW	6	2.7		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.53	750.0	16	— 8.9	65	NW	16	7.2		5c	2k	NW	NE	0	0	Fair	
Toledo, Ohio			29.94	760.5	18	— 7.8	68	NW	12	5.4			10n		N	0.05	1.3	Light snow	
Tucson, Arizona	27.70	703.6	30.25	768.3	48	8.9		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.61	777.5	23	— 5.0	78	N	11	4.9		0	0			0	0	Clear	
Virginia City, M. T.	24.49	622.0	29.97	761.2	20	— 6.7	70	Calm	0	0		1c	0	SW		0	0	Clear	
Washington, D. C.			29.80	756.9	23	— 5.0	60	NW	12	5.4		0	2ks		NW	0.02	0.5	Fair	
Wilmington, N. C.			29.91	759.7	31	— 0.6	69	NW	5	2.2		0	8s		NW	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.54	750.3	17	— 8.3	67	NW	20	8.9			10s		NW	0	0	Cloudy	
Yankton, Dakota	29.32	744.7	30.86	783.8	—12	—24.4	74	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona			30.09	764.3	58	14.4		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	78	25.6	78	Calm	0	0		8c	2s		SE	0	0		James Gall.
Navassa, W. I.					80	26.7		E			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.95	760.7	65	18.3	83	Calm	0	0		2c	0			0	0	Fine, Clear	C. Partridge.
Paramaribo, D. Guiana, S. A			30.03	762.7	80	26.7	82	E			3	5ks	6ks	E		0.39	9.91	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.08	763.9			80.6	27		N								0.08	2.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.0	17.8	85	Calm			0	7cs	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.67	779.0	—27.5	—33.1		S	8	3.6		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.95	760.7	74	23.3		S			2					0	0		Daniel Smith.
Makawao, Maui, H. I.			30.01	762.2	65	18.3	90	Calm			0	.n	.n			0	0	Misty	F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, at Provincetown, Mass.					Light snow	Capt. James Jorgensen
Steamer Berlin, N. 48°, 40′, W. 25°, 44′.	ENE ¾E	10	Heavy sea.		Raining	Capt. C. Fohle.
Steamer Leipzig, N. 52°, 11′, E. 3°, 13′.	SW ¾S	8.5	Moderate.		Hazy	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 2, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.03	762.8	69.8	21.0	51	Calm			0		6			0	0	Fair	Charnot.
Algiers			30.04	763.1	75.9	24.4	53	SSE			1		2			0	0	Clear	Peter.
La Calle			30.07	763.7	69.1	20.6	66	SW			1		3			0	0	Fair	Didier.
Tunis			30.13	765.2	66.2	19.0		W			3		2			0	0	Clear	Jacques.
Sfax			30.19	766.8	71.6	22.0		W			2		6			0	0	Fair	Chauvey.
Sajda			30.12	765.1	69.1	20.6	27	S			1		3			0	0	Fair	Millot.
Tebessa			30.15	765.9	62.4	16 9		SE			1		0			0	0	Clear	Bourgeois.
Geriville			30.12	765.0	68.9	20.5	63	W			1		0			0	0	Clear	Lemaillot.
Laghouat			30.22	767.5	64.8	18.2	30	E			1		1			0	0	Clear	Guyot.
Biskra			30.19	766 8	70.2	21.2	36	Calm			0		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.86	758.5	57.9	14.4	63	SW			2		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.66	753.3	44.8	7.1	78	W			1		10			0.252	6.4		Dr. Wierzbiski.
Eperies			29.82	757.4	39.7	4.3	92	SE			1		10			0.120	3.05		Julius Mikolik.
Gratz	28.56	725.5	29.84	758.0	39.4	4.1	84	N			1		8			0	0		Andreas Rospini.
Hermannstadt	28.48	723 3	29.93	760.2	42.4	5.8	90	NW			1		8			0	0		Prof. Reissenberger.
Kremsmünster	28.33	719.5	29.68	753.8	42.1	5.6	88	WNW			6		7			0	0		Prof. C. Wagner.
Lemberg			29.67	753.5	41.0	5.0	92	S			1		8			0.236	6.0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.02	762.6	52.7	11.5	97	WSW			1		10s			0.124	3.14	Foggy	I.R.Hydrographic Of'ce.
Szegedin			29.86	758.5	51.8	11.0	79	Calm			0		0			0	0		Karl Stancel.
Trieste			30.04	762,9	50.0	10.0	95	Calm			0		10			Inap.	Inap.	Rain and fog	Prof. V. Farolfi.
Vienna			29.76	756.0	40.1	4.5	92	Calm			0		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.35	745.6	52.9	11.6	84	SW			3		10n		SW	0.421	10.70	Raining	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.52	749.8	42.7	5.9		ENE	33	14.8			9			0.355	9.02	Squally	William Boswell.
Ardrossan			29.34	745.2	44	6.7		ENE			6		7					*D. clouds	William McNeil.
Armagh, Observatory			29.23	742.4	46.9	8.3		ENE	12	5.4			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.13	739.9	47.7	8.7		ESE			1		10					Overcast	J. Dreyer.
Bradford			29.30	744.2	44.7	7.1		NE			1		10			0.31	7.9	Foggy	J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	83.0	28.3		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.32	744.7	53.0	11.7		S			1		10					Overcast	H. Todd. [H.C.
Cardington			29.32	744.7	53.0	11.7		W			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.33	745.0	54.2	12.3							10			Blank	Blank	Overcast	Capt. Fellowes, R. E.
Dartmoor	27.83	706.9	29.30	744.2	52.0	11.1		S			1		10					Rain & fog	R. E. Power.
Davos Platz, (Switzerland)	24.72	627.9			51.5	10.8	55	S			2		2			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.24	742.7	47	8.3		ENE			6		10					Overcast	J. Mac Gowan.
Dover			29.33	745.0	53	11.7		SW			3		9					Rain & fog	J. Costello.
Eccles, (near Manchester)			29.26	743.2	48.4	9.1		SE	1.8	0.8			10					Foggy	Thomas Mackereth.
Falmouth, Observatory			29.19	741.4	54.9	12.7		S			3		10					Raining	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.63	752.6	83.4	28.6		E			2		0					Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.67	753.6	82.0	27.8		N			1		4					*D. clouds	
Galway, Queen's College			29.06	738.1	50	10.0		S			5		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.76	755.9	64.6	18.1		NE			4		8					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.38	746.2	43.0	6.1		ENE			6		10					Raining	Lewis Stuart.
Great Yarmouth			29.29	744.0	51	10.6		NW			3		5			Blank	Blank	Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.33	745.0	54.0	12.2		SW			1		10					Raining	The Staff, for G. B. Airy.
Guernsey			29.32	744.7	58	14.4		SSW			3		10					Raining	Dr. S. F. Hoskins.
Helston			29.13	739.9	56	13.3		SE			4		10n			0.15	3.8	Raining	M. P. Moyle.
Holyhead			29.21	741.9	49	9.4		E			2		10					Misty	John Tilston.
Kew, Observatory			29.33	745.0	53.0	11.7		SW	5	2.2			10					Raining	The Staff.
Kingstown			29.20	741.7	49	9.4		SE			2		10			Blank	Blank	Misty	George Mitchell.
Leicester Museum			29.31	744.5	48.9	9.4		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.10	764.5	66.6	19.2		N			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.51	749.5	42	5.6		ENE			4		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.14	765.5	56.7	13.7		SW			8		8					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.30	744.2	50.5	10.3		SSE			1		7		S	0.13	3.53	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.28	743.7	46.9	8.3		SSE			1		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.29	744.0	54	12.2		Calm			0		10					Overcast	J. Lucas.
Plymouth			29.22	742.2	54.5	12.5		SSW			1		10					Raining	John Merrifield.
Roche's Point			29.09	738.9	50	10.0		ESE			3		10					Wet	W. Kennedy.
Saint Ann's Head			29.16	740.7	52	11.1		SE			3		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.33	745.0	60.0	15.6		SW			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.05	753.1	40	4.4		NE	20	8.9			0?					Hailing?	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.01	762.2	56.8	13.8		WSW			1		2					Blue sky	Sergt. W. H. Lyne.
Sheffield			29.30	744.2	50.4	10.2		ENE			1		10			0.833	21.16	Foggy	W. F. Cooper.
Silloth Rectory			29.32	744.7	44.5	6.9	96	SE			3		10			0.425	10.80	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			29.29	744.0	44.2	6.8		NE			0		6ks					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.56	750.8	42	5.6		E			6		5					*D. clouds	John Smith.
Stratfield Turgiss			29.32	744.7	53.3	11.8		SE			1		10					Raining	Rev. Charles H. Griffith
Thurso			29.59	751.6	42	5.6		NE			5		5					*D. clouds	John Trotter.
Truro, Royal Institution			29.12	739.6	57	13.9		SE			4		10					Raining	W. Newcombe.
Valencia, Observatory			29.05	737.9	49.8	9.9		ENE	10	4.5			10			Blank	Blank	Overcast	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					46	7.8		E			3		10			0.15	3.8		Henry Mercer.
Cape Good Hope, Obs'y			30.01	762.2	72.6	22.6	64	NW	10	4.5		6	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.84	757.9	64.0	17.8	80	W			1		6k			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.44	747.8	42.5	5.8		E			7		10n			0.51	13.0	Raining	Andrew Gibb.
Mauritius, Observatory			29.99	761.7				ESE	21.0	9.4						0	0		C. Meldrum.
Melbourne, Observatory			30.16	766.1	53.4	11.9	59	SW	17	7.6			5			0.01	0.3	Fine	R. L. J. Ellery.
Monach L'thouse, (Hebrides)			29.40	746.7	44	6.7		NE			8		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.68	753.9	40	4.4		NE			4	2	2	NE					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, distinction between upper and lower clouds and rain-fall; they give the wind direction to 32 points, weather by the Beaufort notation, the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.27	743.5	38.3	3.5	93	E			4		10					Raining	
Faröe			29.35	745.4	38.8	3.8	98	NE			4		10					Raining	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			30.04	762.9	26.4	— 3.1	94	Calm			0		0						
Thorshavn, (Faröe)			29.87	758.6	39.4	4.1	69	NE			4		7						
Vestervig			29.39	746.5	36.3	2.4	96	NE			7		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.52	749.9	60.0	10	79	SW			2		5kn		SW	0.189	4.8	Cloudy	Normal School.
Amiens			29.46	748.3	53.6	12.0	87	W			6		5		W	0.146	3.7	Cloudy	Normal School.
Avignon			29.91	759.6	63.0	17.2	68	SE			2		8		SSE	0	0	Very cloudy	Normal School.
Bar-sur-Seine			29.61	752.0	61.9	16.6	55	SW			6		10		SW	0.016	0.4	Covered	C. Saillard.
Beaumette, (near Angers)			29.47	748.4	64.0	17.8	59	SSW	57.3	25.6					SW	0	0		Beaumette Observ'tory.
Beauvais			29.48	748.9	55.6	13.1	87	SW			4		10		WSW	0.217	5.50	Covered	Normal School.
Besançon			29.72	754.9	62.6	17	80	S			4		5		W	0	0	Cloudy	Normal School.
Bourg en Bresse			29.85	758.1	57.7	14.3	72	S			6	2c		E		0	0	Slightly cl'dy	Normal School.
Bourges			29.65	753.2	59.0	15	81	S			2		2		E	0	0	Slightly cl'dy	Normal School.
Brest			29.22	742.2	59.9	15.5	78	S			7		4		SW	0.925	23.50	Stormy	Naval Observatory.
Carcassonne			29.79	756.7	57.2	14	82	E			1		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.43	747.6	64.2	17.9	94	NW			6		6		NW	0	0		Normal School.
Châlons-sur-Marne			29.54	750.4	56.3	13.5	80	SW			3		10			0.059	1.5	Raining	Normal School.
Clermont			29.70	754.4	61.7	16.5	55	S			2		10		SW	0	0	Covered	Puy de Dome Obs'y.
Commercy			29.62	752.3	56.1	13.4	82	SW			6		10			0.012	0.3	Covered	Normal School.
Commune de Gréasque*			29.99	761.7	61.0	16.1	67	SE			4		2		SE	0	0		M. Kina.
Grenoble			29.88	759.0	56.5	13.6	65	NE			4		2cs		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.73	755.2	61.5	16.4	75	SE			4		10			0	0	Covered	Normal School.
Le Mans			29.48	748.8	56.7	13.7	89	SSW			2		2		SW	0.030	0.75	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.74	755.3	62.1	16.7	73	SW			2		2		W	0	0	Slightly cl'dy	Normal School.
Lorient			29.39	746.5	61.5	16.4	75	SSW			4		5		SW	0.945	24.0	Cloudy	Naval Observatory.
Mâcon			29.86	758.4	56.5	13.6	75	SSE			2		5		S	0	0	Cloudy	Normal School.
Metz			29.67	753.7	52.0	11.1	98	SW			2		10			0.047	1.2	Covered	M. Schuster.
Mirecourt			29.81	757.1	50.4	10.2	89	S			8		10		N	0	0	Covered	Normal School.
Nismes			29.82	757.3	61.5	16.4	58	SE			2		10		E	0	0	Covered	Normal School.
Orleans			29.54	750.3	61.5	16.4	69	SW			6		5		W	0.031	0.8	Cloudy	Normal School.
Paris, Observatory			29.52	749.7	57.7	14.3	74	SSW			3		10n		SW	0.010	0.26	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.92	760.0	58.3	14.6		NE			2		5		S	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.58	751.2	64.4	18.0	62	S			4		5		N	0	0	⅜ covered	Naval Observatory.
Rouen			29.43	747.6	59.5	15.3	80	SSW			4		10		S	0.126	3.2	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.78	756.3	62.6	17	80	SE			6		5			0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.91	759.7	63.7	17.6	68	SE			2		2			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.76	629.0	30.09	764.3	49.5	9.7	77	SSW	37.3	16.66			2		SW	0	0		—, Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.83	757.7	59.4	15.2	83	E	7.4	3.33			9		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.07	535.2			33.8	1.0		SW			6–8		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.33	567.1			44.6	7.0		SW			6–8		4			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.52	749.9	58.1	14.5	74	SSW			3		10			0.004	0.1	Very cloudy	E. Renou.
Toulouse			29.76	755.8	57.9	14.4	79	SE			4		1			0	0		Toulouse Observatory.
Tours			29.56	750.9	64.6	18.1	59	S			5		3		W	0	0		C. Marquet.
Versailles, (near Paris)			29.52	749.9	58.6	14.8	76	SW			3		10			0.017	0.44	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.32	770.1	48.2	9.0	98	N	0.2	0.08			10			0.307	7.8	Rainy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7. 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.70	754.3	43.3	6.3	97	S			6		10			0.35	9.	Rain & fog	Prof. T. Hoh.
Berlin			29.40	746.7	50.9	10.5	84	S			2		10			0.106	2.7	Raining	Prof. Arndt.
Breslau			29.56	750.9	46.6	8.1	72	SW			7		10					Raining	Royal University Obs'y.
Carlsruhe			29.57	751.0	59.4	15.2	69	SW			5		10			0.118	3.0		A. Senz.
Cassel			29.46	748.2	49.6	9.8	97	S			4		10	S		0.465	11.8		Dr. H. Möhl.
Crefeld			29.38	746.2	51.4	10.8	97	SE			5		10			0.39	10.	Raining	Director Lose.
Emden			29.34	745.3	47.8	8.8	97	W			6		10			0.630	16.0		Prof. Prestel.
Frankfort on the Main			29.52	749.7	51.8	11.0	75	SW			1		10			0.240	6.1	Raining	Physical Society.
Friedrichshafen			29.75	755.7	49.1	9.5	80	SE			2		8			0	0		M. Wilhelm.
Hamburg			29.28	743.7	50.4	10.2	95	WSW			4		10n			0.563	14.3	Showery	Captain F. Hegemann.
Kiel			29.22	742.1	48.4	9.1	95	WSW			3		10			0.520	13.2		Prof. G. Karsten.
Königsberg, (Prussia.)			29.43	747.5	33.4	0.8	95	SE			2		10			0.098	2.5	Snowing	Prof. E. Luther.
Köslin			29.32	744.8	46.4	8.0		Calm			0		4			0.520	13.2		H. Müller.
Leipsic			29.54	750.3	48.9	9.4	84	SW			5		10			0.055	1.4	Raining	Prof. Bruhns.
Memel			29.42	747.3	33.4	0.8	96	SE			2		10			0.020	0.5	Rain & snow	Reinbrecht & Skalweit.
Münster			29.36	745.8	52.3	11.3	94	SW			4		10			0.138	3.5		Prof. E. Heis.
Neufahrwasser			29.34	745.2	34.9	1.6	98	SSW			1		10			0.256	6.5	Rain & fog	A Lothe.
Posen			29.45	747.9	48.4	9.1	87	S			6		10			0.016	0.4		Dr. Magener.
Strassburg, (in Alsace)			29.63	752.5	59.0	15.0	64	SW			3		10	SW		0.051	1.3		Dr. Schur.
Stuttgart			29.60	751.7	61.7	16.5	54	SW			4		10			0.031	0.8	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.47	748.6	55.0	12.8	86	W			7		10			0.650	16.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.13	714.6	29.63	752.5	51.3	10.7	65	S			7		9	W		Inap.	Inap.		Dr. von Bebber.
Wustrow, Naval School			29.32	744.7	46.2	7.9	98	SW			4		10			0.528	13.4	Rain & fog	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," N. 0°, 13.0′, W. 28°, 1′.			30.10	764.5	80.6	27.0	79	SSE			4		2	SSE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up' 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.06	763.5	64.9	18.3		SW										Light rain	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Udine			29.99	761.7	47.5	8.6	82	Calm	0	0			10			0	0		Prof. Giovanni Clodig.
Padua			30.00	761.9	47.3	8.5	90	S	1.3	0.6			10	SW		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.00	762.0	48.7	9.3	79	SE	0.7	0.3			8	W		0	0		Alm. Da Schio.
Verona			30.00	762.1	47.3	8.5	69	NE			2		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof Trionfini Carlo.
Domodossola			30.02	762.4	43.3	6.3	62	Calm			0		2			0	0		Prof. Giuseppe Calza.
Milan			30.04	763.1	43.5	6.4	92	NW			1		10	NW		0	0		Ab. Gio. Capelli.
Pavia			30.03	762.7	43.0	6.1	92	SW			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.05	763.2	45.7	7.6	79	ESE	3.8	1 7			3	NW		0	0		Prof. P. F. Denza.
Mondovi	28.08	713.3	30.02	762.6	45.3	7.4	57	N			2		1	W		0	0		Prof. C. Bruno.
Porto Maurizio			30.04	763.1	57.7	14.3	69	NW			2		8	SW		0	0		Prof. L. Vassallo.
Genoa			30.00	761.9	56.7	13.7	91	SE	6.3	2.8			10	SE		0.185	4.7		Prof. Garibaldi.
Piacenza			30.03	762.8	46 2	7.9	89	W	4.3	1.9			10			0	0	Dense fog	Dott. G. Manzi.
Parma			30.03	762.7	48.4	9.1	85	W			2		10			0	0		Prof. P. Pigorini.
Bologna			30.02	762.5	49.1	9.5	50	W			1		10			0	0		Prof. A. Palagi.
Florence			30.04	762.9	59.0	15.0	94	SW			2		10	SW		0.118	3.0		Cav. F. Meucci.
Leghorn			30.02	762.6	61.0	16.1	76	SSW	7.4	3.3			10	WSW		0.051	1.3		Prof. P. Monte.
Siena	28.82	731 0	30.02	762.6	57.0	13.9	86	SSW	0	0			10	SW		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.03	762.7	49.5	9.7	92	N	6.3	2.8			10			0	0	Dense fog	Prof. Luigi Guidi.
Ancona			30.04	763.1	49.6	9.8	95	W			4		10			0	0	Dense fog	Prof. F. De— Bosis.
Grosseto			30.04	763.1	61.2	16.2	83	SE			4		5	S		0	0		Avv. P. Ponticelli.
Rome			30.08	764.1	62.4	16.9	79	SSW	4.3	1.9			9	WSW		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.07	763.8	63.1	17.3	74	SW			2		2	WNW		0	0		Prof. L. Palmieri.
Lecce			30.10	764.5	59.0	15.0	91	WSW	1.8	0.8			5			0.024	0.6	Light rain	Prof. C. De—Giorgi.
Cosenza			30.08	764.0	62.1	16.7	66	SE	4.9	2.2			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.05	763.3	63.7	17.6	78	E	3.1	1.4			2			0	0		Prof. G. Cacciatore.
Caltanissetta	28.09	713.5	30.04	763.0	59.7	15.4	87	WSW			2		0			0	0		Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			30.11	764.8	61.2	16.2	77	WNW	0.7	0.3			5	W		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico	Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

NOTE.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Flushing			29.37	746.1	51.3	10.7		WSW			3					0.354	9.0		
Groningen			29.22	742.2	49.6	9.8		SW			5					0.516	13.1		
Helder			29.28	743.8	50.0	10.0		SW			4					0.043	1.1		
Utrecht			29.30	744.3	52.3	11.3	86	SW			4		5			0.043	1.1	Cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.55	750.5	27.3	— 2.6	79	Calm	0	0			0			0	0		
Brönö			29.85	758.2	21.9	— 5.6	70	Calm	0	0			6			0	0		
Christiania			29.59	751.6	20.8	— 6.2	87	ENE	0	0			0			0	0		
Tromsö			29.41	747.1	22.5	— 5.3	64	SE	13	6			10			0.472	12.0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.68	753.8	59.0	15.0	78	W	8.1	3.6			5			0.551	14.0		Dr. J. A. Sampaio.
Campo Major			29.78	756.5	62.2	16.8	78	SSW	23.7	10.6			9	SSW		0.035	0.9		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.81	757.1	70.0	21.1	68	SW	11.9	5.3			1			0.941	23.9		Capt. D. A. de Cunha.
Lisbon			29.69	754.2	58.8	14.9	86	S	17.4	7.8			10			0.244	6.2		The Observatory.
Ponta Delgada, (Azores)			29.75	755.6	62.6	17.0	72	WNW	12.5	5.6			3			0.524	13.3		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Warsaw			29.47	748.6	41.4	5.2	90	SSW	16	7			10						Astronomical Obs.
Wilna			29.50	749.2	33.6	0.9	89	SSE	2	1			10						Astronomical Obs.
Dorpat			29.53	750.1	29.3	— 1.5	94	SSW	2	1			10					Light snow.	Physical Cabinet.
St. Petersburg			29.51	749.6	18.7	— 7.4	94	NW	7	3			10						Central Physical Obs.
Kuopio			29.45	748.0	10.8	—11.8	100	WNW	13	6			10						Ch. Forsten.
Kieff			29.65	753.2	33.6	0.9	98	SW	7	3			10					Dense fog	Physical Cabinet.
Nikolaiev			29.83	757.7	43.2	6.2	94	SSE	13	6			10						Kurdakof.
Kertch			30.02	762.4	45.7	7.6	74	S	9	4			10					Raining	Lagorio.
Moscow			29.66	753.3	29.3	— 1.5	88	S	4	2			10					Snowing	Meteorological Obs.
Lugan			29.89	759.2	35.8	2.1	73	SSW	13	6			10						Meteorological Obs.
Archangel			29.28	743.8	24.8	— 4.0	95	Calm	0	0			10						Ogorodnikof.
Tiflis	28.69	728.6	30.12	765.1	51.8	11.0	57	N	22	10			6						Physical Observatory.
Astrakhan			30.07	763.6	36.3	2.4	85	W	4	2			9			Blank	Blank		Sebastianof.
Kasan			29.53	750.1	26.2	— 3.2	96	SW	7	3			10						Physical Cabinet.
Orenburg			29.78	756.5	— 0.6	—18.1	72	NW	9	4			10						Tschernischef.
Ekaterinburg	28.61	726.8	29.64	752.9	4.8	—15.1	71	ESE	2	1			10					Snowing	Meteorogical Obs.
Nukuss			30.00	762.0	37.0	2.8	96	SW	4	2			10						
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.19	766.7	7.5	—13.6	79	SW	0	0			3						Meteorological Obs.
Yeniseisk			30.10	764.6	—16.4	—26.9	78	E	4	2			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.4	25.9	— 3.4	33	NW	9	4			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Madrid			29.88	759.0	57.7	14.3	68	SW	29.8	13.33		2	4	SW		0.016	0.4	Cloudy	Royal Observatory.
San Fernando			29.95	760.6	67.6	19.8	72	S	13.7	6.1		0	9		SW	0.201	5.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Haparanda			29.56	750.7	— 3.6	—19.8	74	NW			2		0			0	0		
Umea			29.61	752.2	11.5	—11.4	100	N			2		10			0	0		
Hernosand			29.56	750.9	16.2	— 8.8	91	NE			4		10			0.055	1.4	Snowing	
Stockholm			29.48	748.9	15.8	— 9.0	100	N			2		4			0	0		
Wisby			29.46	748.2	34.9	1.6	89	E			4		10					Raining	
SUB-SERIES.																			
Upsala			29.50	749.4	17.8	— 7.9	100	NNW	4.5	2.0			10			0.006	0.15	Foggy	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.39	721.0	29.79	756.7	61.5	16.4	57	WSW			2		7			0.020	0.5	Clouds	The Observatory.
Zurich	28.14	714.8	29.78	756.3	54.9	12.7	63	E			1		7			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —6.0 mm; Thermometer, +12.4 cent.; Relative Humidity, —22 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			30.05	763.2	58.5	14.7	68	WSW	8	3.5			4		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.10	764.4	54.3	12.4		NW			1		10						
Valona			30.07	763.6	52.9	11.6		W			1		0						
Varna			29.96	761.0	35.6	2.0		N			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.09	764.2	67.3	19.6	54	NE			1		4c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			29.50	749.3	24.1	— 4.4		N	7	3.1			10						Hon. J. Ferguson.
Brockville, Ontario			29.92	760.0	12	—11.1		Calm	0	0			10s		W	0.09	2.3	Light snow	W. R. Bigg.
*Chatham, N. B			29.43	747.5	33	0.6	88	N	7	3.1			10s		N	0.21	5.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.34	745.2	35	1.7	80	N	18	8.0			10s			0.339	8.38	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.73	755.1	11.1	—11.6	98	W			1		10n			0.01	0.3	Snowing	James Smith, M. A.
Dalhousie, N. B			29.54	750.3				W			1					0	0	Threatening	H. A. Johnson.
Esquimault, B. C			29.97	761.2	49.3	9.6	78	N				10ks	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.50	749.3	34.0	1.1	81	NW	4	1.8			10s			0.126	3.05	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.54	775.7	— 2	—18.9	84	S	10	4.5		Haze	Haz.	S	S	0	0	Hazy	James Stewart.
Goderich, Ontario			29.98	761.5	22.6	— 5.2		NE			2		10n			†0.20	†5.1	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.76	730.5	29.94	760.5	19.3	— 7.1		N			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			29.34	745.2	29	— 1.7	89	NW	8	3.6			10n			0.310	7.87	Light snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.80	756.9	14	—10.0	93	Calm	0	0			10s			0.15	3.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.17	740.9	36.0	2.2	100	NE	10	4.5			10n			0.20	5.1	Overcast	C. H. Rigby.
*Montreal, Quebec			29.72	754.9	12	—11.1	90	W	8	3.6			10n			0.03	0.8	Heavy snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.73	755.1	12	—11.1	72	Calm	0	0			10n			0.31	7.9	Light snow	J. B. Haney.
*Parry Sound, Ontario			29.98	761.5	11	—11.7	90	N	11	4.9		2ck	5ks	N	N	0	0	Fair	Rev. R Mosley.
Port Dover, Ontario			29.88	758.9	20	— 6.7	98	NW	11	4.9		10k	0	NW		0.02	0.5	Cloudy	H. Morgan.
Port Hastings, N. S			29.22	742.2	36.3	2.4		W	2	0.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.93	760.2	21	— 6.1	85	NW	12	5.4			10ks		N	0.37	9.4	Cloudy	M. Payne.
*Quebec, Quebec			29.70	754.4	14	—10.0	82	Calm	0	0			10n			0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.49	749.0	26	— 3.3	87	NW	4	1.8			10ks			0.20	5.1	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.98	761.5	20	— 6.7	83	N	9	4.0			10n		N	0.12	3.0	Cloudy	K. Stewart.
Stayner, Ontario			29.90	759.4	20	— 6.7	91	N	13	5.8			10n		N	0.29	7.4	Light snow	R. J. Cole.
Stratford, Ontario	28.58	725.9	29.94	760.5	17.9	— 7.8	90	NW	14	6.3			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.20	741.7	36	2.2	80	N	12	5.4		10c	5s		N	1.06	26.9	Cloudy	T. C. Hill.
*Toronto, Ontario			29.88	758.9	16	— 8.9	83	NW	22	9.8			10s		NW	0.07	1.8	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.92	760.0	18.8	— 7.3	95	NW	18	8.0		5ck	5ks	N		0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			28.62	726.9	33.5	0.8	100	NE	8	3.6			10n			1.00	25.4	Sleeting	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. †Precipitation in 48 hours.

UNITED STATES SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Albany, N. Y.			29.72	754.9	7	—13.9	77	NW	5	2.2		10k	0	W		0	0	Cloudy	
Alpena, Mich.			30.10	764.5	18	— 7.8	68	NW	14	6.3			10s		NW	0.14	3.6	Cloudy	
Atlantic City, N. J.			29.75	755.6	20	— 6.7	85	W	10	4.5		2cs	5n		NW	0.01	0.3	Cloudy	
Augusta, Ga.			30.24	768.1	22	— 5.6	79	NW	4	1.8		0	0			0	0	Clear	
Baltimore, Md.			29.83	757.7	25	— 3.9	75	W	8	3.6			10n		W	Inap.	Inap.	Light snow	
Barnegat, N. J.			29.73	755.1	20	— 6.7	100	W	8	3.6		8k	2s	NW	NW	Inap.	Inap.	Cloudy	
Bismarck, Dakota	28.43	722.1	30.26	768.6	3	—16.1	73	SE	3	1.3		0	0			0	0	Clear	
Boston, Mass.			29.63	752.6	8	—13.3	78	W	9	4.0		2c	2s	W		0	0	Fair	
Breckenridge, Minn.			30.52	775.2	— 4	—20.0	83	E	4	1.8		10cs	0			0	0	Cloudy	
Buffalo, N. Y.			29.81	757.2	18	— 7.8	84	N	8	3.6			10n			0.37	9.4	Light snow	
Burlington, Vt.			29.72	754.9	14	—10.0	100	NE	4	1.8			10n			1.01	0.3	Light snow	
Cairo, Ill.			30.45	773.4	11	—11.7	79	NW	6	2.7		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.90	759.4	24	— 4.4	61	NW	21	9.4		0	2s			Inap.	Inap.	Fair	
Cape Henry, Va.			29.90	759.4	23	— 5.0	86	W	12	5.4		2c	5s	NW	NW	Inap.	Inap.	Fair	
Cape Lookout, N. C.			30.03	762.7	24	— 4.4	60	NW	12	5.4		1k	0	NW		0	0	Clear	
Cape May, N. J.			29.76	755.9	25	— 3.9	63	W	36	16.1			10ks		NW	0	0	Cloudy	
Charleston, S. C.			30.21	767.3	24	— 4.4	48	W	9	4.0		0	0			0	0	Clear	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	25	— 3.9	60	NW	12	5.4		0	0			0	0	Clear	
Chicago, Ill.			30.23	767.8	15	— 9.4	65	NW	3	1.3			10s			0	0	Cloudy	
Cincinnati, Ohio			30.18	766.6	12	—11.1	80	NW	9	4.0			10s		NW	0.04	1.0	Cloudy	
Cleveland, Ohio			29.96	761.0	26	— 3.3	88	WNW	24	10.7			10n		NW	0.16	4.1	Light snow	
Corsicana, Tex.			30.52	775.2	26	— 3.3	77	Calm	0	0		0	0			0	0	Clear	
Davenport, Iowa			30.46	773.7	1	—17.2	85	NW	8	3.6		0	0			0	0	Clear	
Denison, Tex.			30.53	775.4	23	— 5.0	60	S	4	1.8		0	0			0	0	Clear	
Denver, Col.	24.94	633.5	30.16	766.1	27	— 2.8	54	S	8	3.6		0	0			0	0	Clear	
Detroit, Mich.			30.00	762.0	24	— 4.4	87	NW	4	1.8			10s			0.04	1.0	Cloudy	
Dodge City, Kan.	27.63	701.8	30.12	765.0	17	— 8.3	83	S	2	0.9		2c	0			0	0	Clear	
Dubuque, Iowa			30.42	772.7	4	—15.6	75	NW	4	1.8		0	0	W		0	0	Clear	
Duluth, Minn.			30.49	774.4	4	—15.6	74	NE	6	2.7		0	0			0	0	Clear	
Eastport, Me.			29.44	747.8	24	— 4.4	100	W	6	2.7			10n			0.13	3.3	Light snow	
Erie, Pa.			29.87	758.7	24	— 4.4	87	N	16	7.2			10n			0.04	1.0	Light snow	
Escanaba, Mich.			30.22	767.6	23	— 5.0	86	N	12	5.4			10s		N	0.01	0.3	Cloudy	
Fort Gibson, Indian Ter.			30.49	774.4	12	—11.1	61	E	1	0.4		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.12	739.6	30.33	770.4	20	— 6.7	39	S	7	3.1		0	0			0	0	Clear	
Fort Sully, Dakota	28.52	724.4	30.38	771.6	4	—15.6	74	SE	3	1.3		0	0			0	0	Clear	
Florence, Arizona	28.55	725.2	30.07	763.8	60	15.6		NE				0	0			0	0	Clear	
Galveston, Tex.			30.52	775.2	37	2.8	45	NE	12	5.4		1c	0			0	0	Clear	
Grand Haven, Mich.			30.12	765.0	26	— 3.3	81	N	10	4.5			10s		NW	0.02	0.5	Cloudy	
Indianapolis, Ind.			30.24	768.1	13	—10.6	81	W	6	2.7			10n			Inap.	Inap.	Light snow	
Indianola, Tex.			30.52	775.2	35	1.7	61	NE	18	8.0		2c	0			0	0	Fair	
Jacksonville, Fla.			30.28	769.1	28	— 2.2	48	NW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			30.47	773.9	1	—17.2	85	NW	7	3.1		0	0			0	0	Clear	
Key West, Fla.			30.24	768.1	47	8.3	92	N	12	5.4		0	8ks			0.10	2.5	Cloudy	
Kittyhawk, N. C.			29.94	760.5	22	— 5.6	58	NW	20	8.9		0	2s			0	0	Fair	
Knoxville, Tenn.			30.35	770.9	13	—10.6	80	S	10	4.5		10cs	0			Inap.	Inap.	Cloudy	
La Crosse, Wis.			30.46	773.7	— 2	—18.9	62	N	6	2.7		0	0			0	0	Clear	
Leavenworth, Kan.			30.53	775.4	11	—11.7	79	Calm	0	0		0	0			0	0	Clear	
Louisville, Ky.			30.32	770.1	10	—12.2	58	W	8	3.6		0	2s		W	Inap.	Inap.	Clear	
Lynchburg, Va.			29.96	761.0	21	— 6.1	50	NW	12	5.4		5c	0	W		0	0	Fair	
Malone, N. Y.			29.70	754.4	13	—10.6	100	SW	4	1.8			10n		SW	0.10	2.5	Light snow	
Marquette, Mich.			30.26	768.6	25	— 3.9	75	NW	8	3.6			10s		NW	0.08	2.0	Cloudy	
Memphis, Tenn.			30.48	774.2	18	— 7.8	67	NW	4	1.8		0	Sm'e		NW	0	0	Clear	
Milwaukee, Wis.			30.27	768.8	15	— 9.4	65	NW	14	6.3			10s			0	0	Cloudy	
Mobile, Ala.			30.48	774.2	23	— 5.0	85	N	4	1.8		0	0			0	0	Clear	
Montgomery, Ala.			30.44	773.2	20.5	— 6.4	70	W	7	3.1		0	0			0	0	Clear	
Morgantown, W. Va.	28.88	733.5	30.00	762.0	17	— 8.3	92	SW	8	3.6			10n			0.03	0.8	Heavy snow	
Mt. Washington, N. H.	23.01	584.4	29.37	746.0	7	—13.9	100	E	20	8.9			Fog			0	0	Foggy	
Nashville, Tenn.			30.39	771.9	16	— 8.9	83	W	3	1.3		0	Fog			Inap.	Inap.	Clear	
New Haven, Conn.			29.71	754.6	14	—10.0	82	N	5	2.2		Haze	5s			0	0	Fair	
New London, Conn.			29.70	754.4	12	—11.1	61	Calm	0	0		1c	1k	NW		0	0	Clear	
New Orleans, La.			30.50	774.7	32	0.0	42	N	5	2.2		0	Fog			0	0	Clear	
Newport, R. I.			29.69	754.1	13	—10.6	61	W	13	5.8		0	2s		W	0	0	Clear	
New York, N. Y.			29.72	754.9	18	— 7.8	68	NW	13	5.8		2ck	2ks	NW	NW	Inap.	Inap.	Fair	
Norfolk, Va.			29.93	760.2	23	— 5.0	60	W	12	5.4		2ck	5s	NW	NW	Inap.	Inap.	Fair	
North Platte, Neb.	27.22	691.4	30.00	762.0	14	—10.0	81	Calm	0	0		2cs	0			0	0	Clear	
Omaha, Neb.	29.31	744.5	30.53	775.4	7	—13.9	100	Calm	0	0		2c	Sm'e			0	0	Clear	
Oswego, N. Y.			29.75	755.6	16.5	— 8.6	83	SE	4	1.8			10n			0.23	5.8	Light snow	
Pembina, Dakota			30.53	775.4	— 6	—21.1	81	SE	6	2.7			10s			0	0	Cloudy	
Philadelphia, Pa.			29.74	755.4	19	— 7.2	84	N	12	5.4			10n		N	0.02	0.5	Light snow	
Pike's Peak, Col.	17.82	452.6	30.02	762.5	13	—10.6	63	N	6	2.7		1cs	0			0	0	Clear	
Pittsburgh, Pa.			29.90	759.4	23	— 5.0	86	W	8	3.6			10n		W	0.02	0.5	Light snow	
Port Huron, Mich.			29.95	760.7	23	— 5.0	87	NW	14	6.3			10n		NW	Inap.	Inap.	Light snow	
Portland, Me.			29.57	751.1	11	—11.7	79	NW	8	3.6		8ck	Haze	SW		0	0	Cloudy	
Portland, Oregon			30.01	762.2	45	7.2	45	SE	8	3.6		8c	0			0	0	Fair	
Punta Rassa, Fla.			30.31	769.9	36.0	2.2	49	N	15	6.7		8cs	0	SW		Inap.	Inap.	Fair	
Rochester, N. Y.			29.74	755.4	22	— 5.6	92	NW	11	4.9			10n			0.16	4.1	Light snow	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	25	— 3.9	75	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			29.69	754.1	20	— 6.7	70	NW	20	8.9		5ck	5k	SW	NW	0	0	Cloudy	
San Diego, Cal.			30.07	763.8	54	12.2	23	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.11	764.8	48	8.9	85	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.42	594.9	29.96	761.0	27	— 2.8	77	N	9	4.0		0	0			0	0	Clear	
Savannah, Ga.			30.26	768.6	22	— 5.6	60	NW	10	4.5		0	0			0	0	Clear	
Shreveport, La.			30.55	776.0	26	— 3.3	63	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			30.12	765.0	21	— 6.1	60	NW	8	3.6		0	0			0	0	Clear	
Springfield, Mass.			29.69	754.1	12	—11.1	60	W	4	1.8		5ck	2ks			0	0	Fair	
St. Louis, Mo.			30.45	773.4	7	—13.9	89	N	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.38	771.6	21	— 6.1	85	NW	6	2.7		0	0			0	0	Clear	
St. Paul, Minn.			30.48	774.2	— 1	—18.3	68	NW	2	0.9		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.63	752.6	9	—12.8	57	W	12	5.4		0	1k		NW	0	0	Clear	
Toledo, Ohio			30.02	762.5	28	— 2.2	77	NW	12	5.4			10ks		NW	0.05	1.3	Cloudy	
Tucson, Arizona	27.65	702.3	30.20	761.7	48	8.9		SW				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.55	776.0	22	— 5.6	78	Calm	0	0		0	Sm'e		NW	0	0	Clear	
Virginia City, M. T.	24.48	621.8	29.96	761.0	23	— 5.0	60	Calm	0	0		2c	0	N		0	0	Fair	
Washington, D. C.			29.84	757.9	23	— 5.0	66	NW	20	8.9		Haze	8s		NW	Inap.	Inap.	Fair	
Wilmington, N. C.			30.09	764.3	21	— 6.1	56	W	10	4.5		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.66	753.4	14	—10.0	45	NW	12	5.4		0	2s		NW	0	0	Fair	
Yankton, Dakota	29.06	738.1	30.56	776.2	— 7	—21.7	59	NE	4	1.8		0	0			0	0	Clear	
Yuma, Arizona			30.10	764.5	58	14.4		N				0	0			0	0	Clear	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.16	766.1	75	23.9	76	N	11	4.9		5c	2s	N	N	0	0		James Gall.
Navassa, W. I.					75	23.9		N			4							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	30.02	762.5	62	16.7	88	N	4.0	1.8		8c	2k	N		0.80	20.3	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.03	762.7	81	27.2	78	SE			1	5ck	5ck?	E		2.020	51.31	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			80.6	27		NE								0.118	3.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.28	642.1			65.5	18.6	85	Calm			0		10n			0.33	8.4	Cloudy	Thomas Herran.
York Factory, B. A.			30.43	772.9	0.5	—17.5	85	S	4	1.8		0	7s		S	0	0	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.98	761.5	74	23.3		N			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.03	762.7	66	18.9	90	Calm			0	0	8k			0	0		F. L. Clarke.

MARINE SERIES.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Provincetown, Mass.					Clear	Capt. James Jorgensen.
Steamer Berlin, N. 49°, 20′, W. 20°, 7′.	E¾N	7.5	Rough		Clearing	Capt. C. Pohle.
Steamer Leipzig, off Owers Light ship.	W	9	Smooth		Rain and fog	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fahrenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 3, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.97	761.1	73.4	23.0	41	Calm			0		4			0	0	Fair	Charnot.
Algiers			29.94	760.5	73.0	22.8	54	W			1		8			0	0	Cloudy	Peter.
La Calle			29.98	761.4	75.6	24.2	46	WSW			2		5			0	0	Fair	Didier.
Tunis			30.04	762.9	68.0	20.0		W			3		2			0	0	Clear	Jacques.
Sfax					66.2	19.0		SE			2		1			0	0	Clear	Chauvey.
Saida			30.04	763.1	64.9	18.3	34	S			2		2			0	0	Clear	Millot.
Tebessa			30.08	764.1	62.8	17.1		E			1		0			0	0	Clear	Bourgeois.
Geriville			30.13	765.4	65.3	18.5	64	SSE			3		3			0	0	Fair	Lemaillot.
Laghouat			30.14	765.5	67.1	19.5	23	NW			2		0			0	0	Clear	Guyot.
Biskra			30.11	764.7	68.2	20.1	34	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.72	754.9	61.0	16.1	57	SW			4		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.64	752.8	45.0	7.2	98	WSW			1		10			0.071	1.8		Dr. Wierzbiski.
Eperies			29.68	752.7	46.0	7.8	93	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.42	721.8	29.67	753.7	47.3	8.5	84	WSW			3		0			0	0		Andreas Rospini.
Hermannstadt	28.30	718.7	29.71	754.5	54.1	12.3	68	NW			4		5			0	0		Prof. Reissenberger.
Kremsmünster	28.23	717.0	29.56	750.7	50.5	10.3	75	Calm			0		7			0	0		Prof. C. Wagner.
Lemberg			29.54	750.4	43.5	6.4	100	NW			2		10			0.098	2.5		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			29.90	759.5	55.8	13.1	93	Calm			0		9cks			0.011	0.29		I.R.Hydrographic Of'ce.
Szegedin			29.72	754.9	58.5	14.7	58	Calm			0		4			0	0		Karl Stancel.
Trieste			29.92	759.9	50.0	10.0	95	Calm			0		10			0.126	3.2	Rain and fog	Prof. V. Farolfi.
Vienna			29.58	751.2	59.7	15.4	63	Calm			0		1			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.26	743.1	54.7	12.6	86	S			3		6k,ks		SW	0.646	16.40		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.02	737.1	41.4	5.2		ESE	49	21.9			10			0.375	9.53	Raining	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			28.46	722.9	50.7	10.4		S	19	8.5									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.55	725.2	47.2	8.4		WSW			1		9					*D. clouds	J. Dreyer.
Bradford																0.90	22.9		J. McLandsborough.
Bridgetown, (Barbados)			29.90	759.4	85.2	29.6		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.01	736.8	53.8	12.1		S			2–3		10					Showery	H. Todd. [H.C.
Cardington			28.99	736.3	55.0	12.8		S			2		4					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.26	743.2	54.7	12.6		WSW			3		6					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.57	700.3	29.04	737.6	47.6	8.7		SW			6		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.60	624.8			46.5	8.1	63	S			1		7			0.190	4.85	*D. clouds	Francis Redford, M. A.
Donaghadee			28.57	725.7	50	10.0		SSE			6		10					Overcast	J. Mac Gowan.
Dover			29.11	739.4	54	12.2		S			5		6					Squally	J. Costello.
Eccles, (near Manchester)			28.82	732.0	53.0	11.7		S	11.0	4.9			10					Squally	Thomas Mackereth.
Falmouth, Observatory			28.92	734.6	53.7	12.1		SSW			6		8					Squally	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.85	758.2	67.4	19.7		E			3		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		N			1		3					*D. clouds	
Galway, Queen's College			28.53	724.6	48	8.9		S			6		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.98	761.5	63.0	17.2		W			3		10					Raining	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			28.75	730.2	47.9	8.8		ENE			6		10					Raining	Lewis Stuart.
Great Yarmouth			29.09	738.9	50	10.0		S			4		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.05	737.9	54.6	12.6		SSW			5		9			Blank	Blank	Nearly cov'd	The Staff, for G. B. Airy.
Guernsey			29.07	738.4	55	12.8		SSW			5		3			1 n	Blank	*D. clouds	Dr. S. E. Hoskins.
Helston			28.94	735.1	56	13.3		SW			4		3k			1.00	25.4	Fine	M. P. Moyle.
Holyhead			28.55	725.2	51	10.6		SW			6		10					Raining	John Tilston.
Kew, Observatory			29.05	737.9	51.9	11.1		SSW	20	8.9			9					Threatening	The Staff.
Kingstown			28.54	724.9	52	11.1		WSW			4		10					Overcast	George Mitchell.
Leicester Museum			28.91	734.3	54.1	12.3		SW			6		10					Threatening	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.10	764.5	67.0	19.4		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.01	736.8	39	3.9		ENE			6		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.17	766.3	59.5	15.3		NW			3		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			28.92	734.6	53.7	12.1		S			5		10k,d		S	0.528	13.21	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			28.87	733.3	52.3	11.3		S			6		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			28.97	735.8	53	11.7		SSW			3		9					Overcast	J. Lucas.
Plymouth			28.94	735.1	54.3	12.4		SSW			5		10					Overcast	John Merrifield.
Roche's Point			28.64	727.4	51	10.6		SW			5		8					Cloudy	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.10	739.1	55.5	13.1		SW			6		5					⅜ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.23	742.4	40	4.4		E	47	21.0			10					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.91	759.7	56.4	13.6		S			1		8					*D. clouds	Sergt. W. H. Lyne.
Sheffield			28.85	732.8	52.9	11.6		S			6		10			0.324	8.23	Threatening	W. F. Cooper.
Silloth Rectory			28.70	729.0	51.0	10.6	88	SE			4		10			0.110	2.79	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			28.80	731.5	51.6	10.9		S			5		10s					Overcast	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			28.94	735.1	41	5.0		E			8		10					Raining	John Smith.
Stratfield Turgiss			29.02	737.1	54.6	12.6		S			2		9					Showery	Rev. Charles H. Griffith
Thurso			29.17	740.9	40	4.4		ESE			7		10					Raining	John Trotter.
Truro, Royal Institution			28.93	734.8	56	13.3		SW			7		6			Blank	Blank	*D. clouds	W. Newcombe.
Valencia, Observatory			28.58	725.9	51.3	10.7		WSW	34	15.2			9					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					46	7.8		SE			7		10			0.40	10.2		Henry Mercer.
Cape Good Hope, Obs'y			29.93	760.2	65.2	18.4	78	NW	20	8.9		10	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.72	754.9	66.0	18.9	82	NW			2		9kn			0.01	0.3	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			28.83	732.3	48.2	9.0		SE			4		10n			0.39	9.9	Raining	Andrew Gibb.
Mauritius, Observatory			29.93	760.2				SE	16.5	7.4						0	0		C. Meldrum.
Melbourne, Observatory			30.13	765.3	57.6	14.2	68	WSW	11	4.9			10			0.04	1.0	Dull	R. L. J. Ellery.
Monach L'thouse, (Hebrides)			28.53	724.6	46	7.8		E			8		10			0.5	12.7		J. Youngclause.
North Unst, (Shetland Is.)			29.46	748.3	41	5.0		E			7	10	5						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The wind direction is given to 32 points and weather indicated by the Beaufort notation. The barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst is given as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.61	752.1	31.6	— 0.2	87	SE			2		10						
Fanöe			29.47	748.6	32.9	0.5	100	E			4		10					Rain & snow	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.59	751.5	27.5	— 2.5	96	E					5						
Thorshavn, (Faröe)			29.45	748.0	39.6	4.2	82	E			5		19						
Vestervig			29.53	750.1	29.5	— 1.4	88	ENE			6		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co peration of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.27	743.5	51.8	11	84	SW			4		10kn		SW	0.110	2.8	Covered	Normal School.
Amiens			29.25	743.0	58.3	14.6	78	S			3		2		SW	0.063	1.6	Slightly cl'dy	Normal School.
Avignon			29.67	753.6	58.1	14.5	95	SE			3		8		S	0.189	4.8	Raining	Normal School.
Bar-sur-Seine			29.42	747.3	58.3	14.6	73	SW			2		10n		SW	0.039	1.0	Covered	C. Saillard.
Beaumette, (near Angers)			29.27	743.5	54.3	12.4	95	SW	21.0	9.4			10		SW	0.130	3.3	Raining	Beaumette Observ'tory.
Beauvais			29.29	743.9	57.4	14.1	75	SSW			3		8		SW	0.337	8.55	Very cloudy	Normal School.
Besançon			29.58	751.2	59.0	15	64	S			4		10			0	0	Covered	Normal School.
Bourg en Bresse			29.64	752.9	58.5	14.7	65	S			6		8cn		NNE	0	0	Very cloudy	Normal School.
Bourges			29.46	748.2	58.3	14.6	72	S			2		5		N	0	0	Cloudy	Normal School.
Brest			29.04	737.5	57.4	14.1	78	SW			6		4		SW	0.226	5.75	Squally	Naval Observatory.
Carcassonne			29.56	750.9	58.3	14.6	87	E			1		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.22	742.1	60.1	15.6	96	SW			6		8		SW	0.098	2.5		Normal School.
Châlons-sur-Marne			29.36	745.8	60.3	15.7	69	SSW			3		2ck		NNE	0.035	0.9	Slightly cl'dy	Normal School.
Clermont			29.48	748.8	61.3	16.3	56	S			3		10		SW	0	0	Covered	Puy de Dome Obs'y.
Commercy			29.50	749.2	52.7	11.5	90	S			2		8		E	0.169	4.3	Very cloudy	Normal School.
Commune de Gréasque*			29.78	756.5	56.7	13.7	91	SE			4		10		SE			Raining	M. Kina.
Grenoble			29.89	759.2	58.5	14.7	74	SW			6		5n,s		NE	0.177	4.50	Raining	Normal School.
La Roche-sur-Yon			29.46	748.3	58.3	14.6	78	S			6		10			0	0	Covered	Normal School.
Le Mans			29.30	744.1	58.8	14.9	76	SW			6		5		SW	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.50	749.3	60.1	15.6	61	S			6		10		N	0	0	Covered	Normal School.
Lorient			29.19	741.4	58.3	14.6	74	SW			6		8		SW	0.646	16.4	Very cloudy	Naval Observatory.
Mâcon			29.63	752.6	58.1	14.5	93	WSW			2		10			0	0	Covered	Normal School.
Metz													10			0.236	6.0	Covered	M. Schuster.
Mirecourt			29.53	750.0	55.4	13	70	SSW			8		10		NNE	0	0	Covered	Normal School.
Nîsmes			29.65	753.2	58.6	14.8	67	SE			2		10		SE	0.177	4.5	Raining	Normal School.
Orleans			29.65	753.2	60.4	15.8	69	SW			6		5		SW	0	0	Cloudy	Normal School.
Paris, Observatory			29.31	744.4	59.0	15.0	67	SSW			3		9k		SW	0.060	1.53	Almost cov'd	National Observatory.
Parthenay																			Normal School.
Privas			29.64	752.9	56.5	13.6		S			2		10		S	0	0	Covered	Normal School.
Rochefort, Observatory			29.41	746.9	59.0	15.0	80	SW			4		10		N	0.472	12.0	Covered	Naval Observatory.
Rouen			29.24	742.7	59.2	15.1	67	SSE			3		10			0.134	3.4	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.65	753.0	60.8	16	91	SSE			8		5			0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.75	755.6	60.4	15.8	86	SSE			2		10			0.063	1.60	Rainy	Marseilles Observatory.
Mont-Louis	24.57	624.0	29.90	759.4	43.0	6.1	100	SSW	33.6	15.00			7		SW	0.098	2.5		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.56	750.9	56.8	13.8	82	NE	3.7	1.67			9		NE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.91	531.2			27.3	— 2.6		SW			6–8		5					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.09	561.0			34.7	1.5		SW			6–8		6			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.32	744.6	60.6	15.9	67	S			3		9			0.031	0.9	Rainy	E. Renou.
Toulouse			29.59	751.5	60.8	16.0	76	SSE			4		7			0	0		Toulouse Observatory.
Tours			29.35	745.4	61.2	16.2	66	S			4		7		WSW	0.047	1.2		C. Marquet.
Versailles, (near Paris)			29.30	744.3	59.7	15.4	73	SW			3		9			0.043	1.10	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.32	770.0	49.6	9.8	76	ENE	12.6	5.63			10			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.56	750.9	47.3	8.5	87	SW			2		6			0.63	16.	Raining	Prof. T. Hoh.
Berlin			29.51	749.5	41.5	5.3	90	S			3		10			0.067	1.7	Rainy	Prof. Arndt.
Breslau			29.00	751.9	44.2	6.8	94	E			3		10			0.114	2.9		Royal University Obs'y
Carlsruhe			29.54	750.4	54.1	12.3	85	Calm			0		10					Raining	A. Senz.
Cassel			29.45	748.0	52.5	11.4	85	S			3		10	SW		0.161	4.1	Lightning	Dr. H. Möhl.
Crefeld			29.36	745.7	54.1	12.3	91	S			2		9			0.31	8.		Director Lose.
Emden			29.38	746.2	49.6	9.8	98	SE			2		10			0.098	2.5		Prof. Prestel.
Frankfort on the Main			29.50	749.3	52.9	11.6	64	SSW			1		8			0.094	2.4		Physical Society.
Friedrichshafen			29.65	753.2	47.1	8.4	87	W			2		3			0.268	6.8		M. Wilhelm.
Hamburg			29.45	747.9	39.9	4.4	97	SE			5		10			0.358	9.1	Raining	Captain F. Hegemann.
Kiel			29.61	752.2	38.3	3.5	90	E			4		10			0.370	9.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.62	752.4	35.2	1.8	73	NW			2		6			0.134	3.4	Snowing	Prof. E. Luther.
Köslin			29.68	753.8	37.4	3.0		Calm			0		4			0	0		H. Müller.
Leipsic			29.52	749.7	52.2	11.2	90	SE			1		9			0.197	5.0		Prof. Bruhns.
Memel			29.58	751.3	33.1	0.6	47	NNW			4		10ks			0.106	2.7		Reinbrecht & Skalweit.
Münster			29.39	746.6	53.6	12.0	90	SW			4		10			0	0		Prof. E. Heis.
Neufahrwasser			29.66	753.4	35.6	2.0	71	NNE			2		9			0.106	2.7	Smoke-haze	A Lothe.
Posen			29.65	753.0	39.2	4.0	79	ESE			3		10			0.311	7.9		Dr. Magener.
Strassburg, (in Alsace)			29.63	750.0	56.3	13.5	64	Calm			0		10			0.016	0.4		Dr. Schur.
Stuttgart			29.55	750.6	55.0	12.8	62	W			3		10			0.016	0.4		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.40	746.7	53.6	12.0	88	WSW			5		10			0.185	4.7		Prof. Flesch.
Weissenburg, (Bavaria,)	28.08	713.3	29.56	750.9	53.8	12.1	59	W			2		9	W		0.094	2.4		Dr. von Bebber.
Wustrow, Naval School			29.63	752.5	36.7	2.6	98	ESE			2		10			0.122	3.1	Raining	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 1°, 39′, W. 28°, 56′.			30.07	763.6	81.0	27.2	78	SSE			3		4	NW					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.00	762.1	62.6	17.0		SW										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.98	758.9	47.1	8.4	86	Calm	0	0			10			0	0		Prof. Giovanni Clodig.
Padua			29.87	758.7	48.9	9.4	85	ENE	1.3	0.6			8	W		0.012	0.3		Prof. Dott. Lorenzoni.
Vicenza			29.87	758.8	49.5	9.7	78	E	0	0			4	W		0	0		Alm. Da Schio.
Verona			29.85	758.2	56.3	13.5	73	SW			4		10			0.126	3.2	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof Trionfini Carlo.
Domodossola			29.87	758.7	44.6	7.0	93	Calm			0		10			0.532	13.5	Raining	Prof. Giuseppe Calza.
Milan			29.89	759.2	44.8	7.1	91	NW			1		10	NW		0.587	14.9	Raining	Ab. Gio. Capelli.
Pavia			29.92	759 9	45.3	7.4	91	E			1		10			0.291	7.4	Raining	Prof. Gio. Cantoni.
Moncalieri			29.89	759.1	41.5	5.3	77	ENE	0.7	0.3			5	N		0.138	3.5	Raining	Prof. P. F. Denza.
Mondovi	27.93	709.4	29.87	758.7	48.4	9.1	65	NW			2		9	WSW		0.189	.4.8	Raining	Prof. C. Bruno.
Porto Maurizio			29.87	758.8	58.6	14.8	92	SE			4		10	SSW		0.220	5.6	Raining	Prof. L. Vassallo.
Genoa			29.85	758.2	59.0	15.0	90	SE	9.4	4.2			10	SE		0.244	6.2	Raining	Prof. Garibaldi.
Piacenza			29.88	759.0	47.7	8.7	82	N	0.7	0.3			10			0.079	2.0		Dott. G. Manzi.
Parma			29.89	759.1	46.9	8.3	92	E			2		10			0.098	2.5	Raining	Prof. P. Pigorini.
Bologna			29.93	760.1	48.2	9.0	47	SE			1		10			0	0		Prof. A. Palagi.
Florence			29.92	760.0	62.6	17.0	86	SW			2		10	SW		0	0		Cav. F. Meucci.
Leghorn			29.90	759.4	61.3	16.3	72	S	11.9	5.3			8	S		0.028	0.7		Prof. P. Monte.
Siena	28.71	729.1	29.91	759.8	57.4	14.1	82	SSE	1.8	0.8			6	S		0	0		Prof. L. Toscani.
Urbino																			Prof. F. Serpieri.
Pesaro			29.91	759.8	57.4	14.1	83	S	6.3	2.8			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.92	760.0	56 5	13.6	83	SE			4		8			0	0		Prof. F. De— Bosis.
Grosseto			29.95	760.7	62.6	17.0	76	E			2		5	S		0	0		Avv. P. Ponticelli.
Rome			30.02	762.4	61.9	16.6	80	S	15.0	6.7			6	W		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.05	763.3	63.9	17.7	70	SE			4		10	SW		0	0		Prof. L. Palmieri.
Lecce			30.07	763.6	58.6	14.8	83	S	2.5	1.1			2			0.028	0.7	Light rain	Prof. C. De—Giorgi.
Cosenza			30.04	762.9	65.3	18.5	64	ESE	5.6	2.5			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.99	761.8	62.1	16.7	72	NE	2.5	1.1			0			0	0		Prof. G. Cacciatore.
Caltanissetta	28.08	713.3	30.03	762.8	60.3	15.7	57	S			1		0			0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.07	763.6	59.9	15.5	77	SW	0	0			10	WSW		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.24	742.7	54.3	12.4		S			5					0.138	3.5		
Groningen			29.24	742.6	49.5	9.7		SE			2					0.071	1.8		
Helder			29.21	741.9	53.1	11.7		S			4					0.322	8.2		
Utrecht			29.23	742.5	53.8	12.1	88	S			4		8			0.071	1.8	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.58	751.4	26.6	— 3.0	87	Calm	0	0			0			0	0		
Brönö			29.64	752.8	27.3	— 2.6	85	NE	18	8			9			0.126	3.2		
Christiania			29.69	754.2	16.9	— 8.4	88	NE	0	0			8			0	0	Foggy	
Tromsö			29.45	748.0	23.7	— 4.6	81	NE	7	3			10			0.039	1.0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.69	754.2	65.1	18.4	92	W.	18.6	8.3			10			0.039	1.0		Dr. J. A. Sampaio.
Campo Major			29.87	758.7	57.2	14.0	91	SSW	9.4	4.2			10	SW		0.673	17.1	Raining	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.07	763.8	68.0	20.0	64	WSW	11.9	5.3			0			0	0		Capt. D. A. de Cunha.
Lisbon			29.82	757.3	62.1	16.7	87	SW	28.6	12.8			10			0.228	5.8	Rainy	The Observatory.
Ponta Delgada, (Azores)			29.79	756.6	66.2	19.0	92	W	12.5	5.6			10			0.020	0.5		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.65	753.1	34.2	1.2	80	NNW	4	2			2						Astronomical Obs.
Wilna			29.50	749.3	29.3	— 1.5	85	NW	4	2			10						Astronomical Obs.
Dorpat			29.40	746.8	21.6	— 5.8	93	W	7	3			10					Light snow.	Physical Cabinet.
St. Petersburg			29.32	744.6	14.9	— 9.5	93	NW	4	2			10						Central Physical Obs.
Kaoplo			29.31	744.5	7.9	—13.4	96	NW	13	6			10						Ch. Forsten.
Kieff			29.28	743.7	43.0	6.1	87	WNW	18	8			10						Physical Cabinet.
Nikolaiev			29.59	751.6	51.4	10.8	77	WSW	9	4			0						Kurdakof.
Kertch			29.64	752.9	52.2	11.2	97	SW	13	6			10						Lagorio.
Moscow			29.11	739.3	24.6	— 4.1	94	N	7	3			10					Snowing	Meteorological Obs.
Lugan			29.28	743.8	45.0	7.2	89	SW	34	15			10			Blank	Blank		Meteorological Obs.
Archangel			30.21	742.0	19.8	— 6.8	89	N	9	4			10						Ogorodnikof.
Tiflis	28.61	726.8	30.05	763.2	51.1	10.6	66	Calm	0	0			4						Physical Observatory.
Astrakhan			29.78	756.5	42.1	5.6	89	SSW	25	11			9			Blank	Blank		Sebastianof.
Kasan			29.29	743.9	28.6	— 1.9	98	SSE	18	8			10					Light snow.	Physical Cabinet.
Orenburg			29.87	758.7	—15.2	—26.2		W	13	6			2						Tschernischef.
Ekaterinburg	28.65	727.7	29.64	752.8	23.2	— 4.9	86	S	2	1			10						Meteorogical Obs.
Nukuss			30.25	768.4	32.5	0.3	94	ESE	4	2			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.04	763.1	12.7	—10.7	80	Calm	0	0			10						Meteorological Obs.
Yeniseisk			30.50	774.6	—17.7	—27.6	70	ENE	2	1			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.20	767.0	25.5	— 3.6	54	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 7.1	—21.7		NW	7	3			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 502.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.82	757.3	52.3	11.3	93	SW	20.1	9.00		0	10			0.291	7.4	Covered	Royal Observatory.
San Fernando			30.02	762.5	65.5	18.6	71	WSW	13.0	5.8		2	5	WSW	WSW	0.051	1.3		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.47	748.4	— 7.6	—22.0	85	NE			2		0			0	0		
Umea			29.48	748.7	3.9	—15.6	90	N			2		5			0	0		
Hernosand			29.47	748.5	21.0	— 6.1	77	N			4		2			0	0		
Stockholm			29.52	749.8	20.5	— 6.4	95	WNW			4		1			0.004	0.1		
Wisby			29.65	753.0	30.6	— 0.8	88	NNW			6		3			0.012	0.3		
SUB-SERIES.																			
Upsala			29.51	749.5	24.6	— 4.1	76	NW	17.0	7.6			0			0.002	0.06		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.20	716.2	29.62	752.4	54.9	12.7	59	Calm			0		10					Raining	The Observatory.
Zurich	28.02	711.6	29.65	753.1	54.9	12.7	64	NW			1		7			0.197	5.0	Lightly cov.	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —10.8 mm; Thermometer, +8.8 cent.; Relative Humidity, —20 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			29.95	760.6	60.8	16.0	75	WSW	9	4.0			8		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.07	763.6	54.3	12.4		NW			1		10						
Valona			30.05	763.3	59.0	15.0		W			1		0						
Varna			29.72	755.0	41.0	5.0		E			2		5						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.02	762.6	69.8	21.0	68	NE			1		2c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario			30.17	766.3	22	— 5.6		NW	5	2.2			10s		NW	0.05	1.3	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.50	749.3	28	— 2.2	94	NW	11	4.9			10s		NW	Inap.	Inap.	Light snow	G. A. Blair.
Charlottetown, P. E. Island			29.44	747.8	31	— 0.6	95	NW	10	4.5			10n			0.20	5.1	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario			29.82	757.4	25.0	— 3.9	85	W			1		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B.								W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			29.97	761.2	49.8	9.9	75	N				10cs	0			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			29.61	752.1	29.0	— 1.7	70	NW	11	4.9			10s		NW	0.053	1.35	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.61	777.5	—10	—23.3	95	S	4	1.8		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.28	769.1	24.5	— 4.2	90	N			2	8k	0	N		0.10	2.5	Fine	H. J. Strang, M. A.
Granton, Ontario	29.07	738.4	30.25	768.3	19.3	— 7.1		N			1		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S.			29.47	748.5	31	— 0.6	87	NW	5	2.2			10n			0.140	3.56	Light snow	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.18	766.6	22	— 5.6	87	Calm	0	0			10s			0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.34	745.2	32.0	0.0	98	N	4	1.8		7ck	0	N		0.13	3.3	Fair	C. H. Rigby.
*Montreal, Quebec			29.98	761.5	27	— 2.8	79	NW	10	4.5			10n			0.02	0.5	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.07	763.8	23	— 5.0	73	W	10	4.5			10ks		NW	0.01	0.3	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.28	769.1	13	—10.6	91	N	10	4.5		1ck	5ks	N	N	Inap.	Inap.	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.23	767.8	20	— 6.7	96	NW	5	2.2		10k	0	N		0	0	Cloudy	H. Morgan.
Port Hastings, N. S.																			Peter Grant.
Port Stanley, Ontario			30.27	768.8	14	—10.0	96	NW	4	1.8			10ks		N	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.83	757.7	25	— 3.9	87	W	4	1.8		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			29.61	752.1	28	— 2.2	77	N	9	4.0			10ks			0.035	0.89	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			30.24	768.1	25	— 3.9	84	NE	6	2.7			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario																Inap.	Inap.		R. J. Cole.
Stratford, Ontario	28.88	733.5	30.25	768.3	18.1	— 7.7		NW	6	2.7			10s			0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B.			29.38	746.2	32	0.0	90	SW	5	2.2		10cs	5s			Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario			30.23	767.8	19	— 7.2	92	NW	5	2.2			10n			0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.23	767.8	21.0	— 6.1	100	N	12	5.4			10s			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.20	741.7	35.0	1.7	100	W	6	2.7			10			1.00	25.4	Misty	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.93	760.2	27	— 2.8	77	NW	28	12.5			10ks		NW	0.03	0.8	Cloudy	
Alpena, Mich.			30.35	770.9	22	— 5.6	86	NW	8	3.6			10s			0	0	Cloudy	
Atlantic City, N. J.			30.02	762.5	26	— 3.3	88	W	8	3.6		1c	0	NW		0.01	0.3	Clear	
Augusta, Ga.			30.28	769.1	23	— 5.0	73	Calm	0	0		0	0			0	0	Clear	
Baltimore, Md.			30.12	765.0	31	— 0.6	79	NW	4	1.8		2ck	5s	NW	NW	0.01	0.3	Cloudy	
Barnegat, N. J.			30.00	762.0	29	— 1.7	78	NW	13	5.8		5c	0	NW		Inap.	Inap.	Fair	
Bismarck, Dakota	28.54	724.9	30.41	772.4	0	—17.8	69	SE	2	0.9		0	0			0	0	Clear	
Boston, Mass.			29.78	756.4	27	— 2.8	77	NW	11	4.9		2c	3s	W		0.05	1.3	Fair	
Breckenridge, Minn.			30.59	777.0	— 5	—20.6	63	E	8	3.6		0	0			0	0	Clear	
Buffalo, N. Y.			30.19	766.8	19	— 7.2	69	NW	6	2.7			10s			0.10	2.5	Cloudy	
Burlington, Vt.			29.94	760.5	30	— 1.1	78	N	11	4.9			10s			0.09	2.3	Cloudy	
Cairo, Ill.			30.48	774.2	14	—10.0	64	N	3	1.3		5cs	0			0	0	Fair	
Cape Hatteras, N. C.			30.09	764.3	31	— 0.6	68	NW	16	7.2		0	5s		NW	0	0	Fair	
Cape Henry, Va.			30.14	765.5	32	0.0	79	NW	23	10.3			10s		NW	0	0	Cloudy	
Cape Lookout, N. C.			30.21	767.3	29	— 1.7	67	NW	3	1.3		0	Haze			0	0	Clear	
Cape May, N. J.			30.05	763.3	31	— 0.6	68	NW	36	16.1		8k	0	NW		Inap.	Inap.	Fair	
Charleston, S. C.			30.27	768.8	30	— 1.1	38	N	11	4.9		0	0			0	0	Clear	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	31	— 0.6	59	NW	20	8.9		0	0			0	0	Clear	
Chicago, Ill.			30.38	771.6	28	— 2.2	67	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Cincinnati, Ohio			30.36	771.1	20	— 6.7	85	N	5	2.2			10s		N	0.03	0.8	Cloudy	
Cleveland, Ohio			30.27	768.8	29	— 1.7	88	N	16	7.2			10s		N	0.04	1.0	Cloudy	
Corsicana, Tex.			30.33	770.4	28	— 2.2	77	S	2	0.9		5cs	0			0	0	Fair	
Davenport, Iowa			30.40	772.1	14	—10.0	81	NW	3	1.3		8k	0	NE		0	0	Cloudy	
Denison, Tex.			30.34	770.6	28	— 2.2	67	SE	5	2.2		0	0			0	0	Clear	
Denver, Col.	24.92	633.0	30.14	765.5	30	— 1.1	59	S	5	2.2			8s		NW	0	0	Cloudy	
Detroit, Mich.			30.31	769.9	23	— 5.0	73	NW	8	3.6		0	2s		N	Inap.	Inap.	Fair	
Dodge City, Kan.	27.55	699.8	30.02	762.5	19	— 7.2	69	S	2	0.9		0	2s			0	0	Clear	
Dubuque, Iowa			30.54	775.7	6	—14.4	52	Calm	0	0		5k	0	S		0	0	Fair	
Duluth, Minn.			30.56	776.2	14	—10.0	80	SW	2	0.9			10s			0	0	Cloudy	
Eastport, Me.			29.60	751.8	30	— 1.1	79	N	22	9.8			10s		N	Inap.	Inap.	Cloudy	
Erie, Pa.			30.22	767.6	26	— 3.3	76	NW	14	6.3			10ks		N	Inap.	Inap.	Cloudy	
Escanaba, Mich.			30.43	772.9	22	— 5.6	78	NW	6	2.7			10s		NW	Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.34	770.6	24	— 4.4	61	E	2	0.9		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.05	737.9	30.24	768.1	24	— 4.4	48	Calm	0	0			0			0	0	Clear	
Fort Sully, Dakota	28.57	725.7	30.43	772.9	0	—14.4	82	Calm	0	0		10k	0	NW		0	0	Cloudy	
Florence, Arizona	28.55	725.2	30.08	764.0	55	12.8		NE				0	0			0	0	Clear	
Galveston, Tex.			30.36	771.1	46	7.8	76	NE	10	4.5			10s		W	0	0	Cloudy	
Grand Haven, Mich.			30.39	771.9	23	— 5.0	80	SE	7	3.1		0	2s		NE	0	0	Clear	
Indianapolis, Ind.			30.42	772.7	22	— 5.6	72	W	3	1.3			10s			0.01	0.3	Cloudy	
Indianola, Tex.			30.33	770.4	49	9.4	71	NE	10	4.5			10s			0	0	Cloudy	
Jacksonville, Fla.			30.28	769.1	28	— 2.2	77	Calm	0	0		0	0			0	0	Clear	
Keokuk, Iowa			30.47	773.9	6	—14.4	76	N	3	1.3		0	0			0	0	Clear	
Key West, Fla.			30.26	768.6	48	8.9	85	N	8	3.6		0	8ks			0	0	Cloudy	
Kittyhawk, N. C.			30.15	765.8	30	— 1.1	89	NW	15	8.0			10s			0	0	Cloudy	
Knoxville, Tenn.			30.40	772.1	15	— 9.4	82	NW	2	0.9		0	Fog			0	0	Fair	
La Crosse, Wis.			30.56	776.2	11	—11.7	59	N	2	0.9		Haze	Haze			0	0	Hazy	
Leavenworth, Kan.			30.46	773.7	16	— 8.9	83	Calm	0	0		0	2s			0	0	Clear	
Louisville, Ky.			30.42	772.7	21	— 6.1	71	SW	2	0.9		8k	Haze			0	0	Cloudy	
Lynchburg, Va.			30.20	767.1	26	— 3.3	64	NW	5	2.2		0	0			0	0	Clear	
Malone, N. Y.			30.00	762.0	24	— 4.4	87	NW	8	3.6			10s		NW	0.04	1.0	Cloudy	
Marquette, Mich.			30.40	772.1	28	— 2.2	77	NW	2	0.9			10s			0.04	1.0	Cloudy	
Memphis, Tenn.			30.47	773.9	19	— 7.2	67	NE	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.45	773.4	21	— 6.1	85	N	12	5.4		0	2s			0.09	2.3	Clear	
Mobile, Ala.			30.39	771.9	27	— 2.8	55	N	4	1.8		0	0			0	0	Clear	
Montgomery, Ala.			30.39	771.9	23.5	— 4.7	73	NW	4	1.8		2ck	Sm'k	W		0	0	Fair	
Morgantown, W. Va.	29.16	740.7	30.30	769.6	21	— 6.1	85	SW	6	2.7			10n			0.51	13.0	Light snow	
Mt. Washington, N. H.	23.35	593.1	29.71	754.6	8	—13.3	100	NE	30	13.4			Fog			0	0	Foggy	
Nashville, Tenn.			30.44	773.2	12	—11.1	80	Calm	0	0		0	Fog			0	0	Clear	
New Haven, Conn.			29.91	759.7	30	— 1.1	78	NW	10	4.5		5cs	0	NW		Inap.	Inap.	Fair	
New London, Conn.			29.89	759.2	30	— 1.1	68	W	5	2.2		5c	2ck	N	NW	0.03	0.8	Fair	
New Orleans, La.			30.39	771.9	33.5	0.8	43	NE	8	3.6		0	Sm'k		NE	0	0	Clear	
Newport, R. I.			29.83	757.7	31	— 0.6	79	NW	15	6.7		7c	0	NW		0.01	0.3	Fair	
New York, N. Y.			29.96	761.0	30	— 1.1	68	NW	12	5.4		8ck	0	NW		Inap.	Inap.	Fair	
Norfolk, Va.			30.16	766.1	29.5	— 1.4	73	NW	10	4.5		10k	0	N		0	0	Cloudy	
*North Platte, Neb.																			
*Omaha, Neb.																			
Oswego, N. Y.			30.12	765.0	28.5	— 1.9	88	NW	8	3.6			10s		NW	Inap.	Inap.	Cloudy	
Pembina, Dakota			30.63	778.0	—14	—25.6	72	Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa.			30.05	763.3	30	— 1.1	68	NW	13	5.8		1c	5ks	N	NW	Inap.	Inap.	Cloudy	
Pike's Peak, Col.	17.78	451.6	29.99	761.7	11	—11.7	100	NW	17	7.6		5c	5s	NW		0	0	Cloudy	
Pittsburgh, Pa.			30.24	768.1	26	— 3.3	88	W	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.28	769.1	24	— 4.4	87	NW	9	4.0		Haz	2s		N	0.23	5.8	Fair	
Portland, Me.			29.73	755.1	32	0.0	69	NW	10	4.5			8ks			0.02	0.5	Cloudy	
Portland, Oregon			30.03	762.7	44	6.7	50	SE	4	1.8		5c	2s			0	0	Fair	
Punta Rassa, Fla.			30.18	766.6	39.5	4.2	51	NE	16	7.2		8cs	0	SW		0	0	Fair	
Rochester, N. Y.			30.13	765.3	20	— 6.7	85	W	13	5.8			10s			0.08	2.0	Cloudy	
Salt Lake City, Utah	25.90	657.8	30.23	767.8	27	— 2.8	77	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			29.94	760.5	33	0.6	69	NW	20	8.9		5ck	2ks	NE	NW	0	0	Fair	
San Diego, Cal.			30.08	764.0	52	11.1	23	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.15	765.8	48	8.9	85	Calm	0	0			Fog			0	0	Foggy	
Santa Fé, N. M.	23.39	594.1	29.93	760.2	31	— 0.6	43	NW	3	1.3		0	0			0	0	Clear	
Savannah, Ga.			30.29	769.4	24	— 4.4	60	NW	6	2.7		0	0			0	0	Clear	
Shreveport, La.			30.45	773.4	26	— 3.3	88	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			30.23	767.8	23	— 5.0	72	NW	5	2.2		0	0			0	0	Clear	
Springfield, Mass.			29.88	758.9	32	0.0	68	NW	12	5.4			10s		N	0.02	0.5	Cloudy	
St. Louis, Mo.			30.49	774.4	12	—11.1	79	NE	4	1.8		0	0			0	0	Clear	
St. Marks, Fla.			30.33	770.4	22	— 5.6	85	N	3	1.3		0	0			0	0	Clear	
St. Paul, Minn.			30.53	775.4	12	—11.1	80	SW	1	0.4			10s		SW	0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.77	756.1	32	0.0	79	NW	20	8.9		5c	2s	NE	NE	0	0	Fair	
Toledo, Ohio			30.31	769.9	27	— 2.8	66	NW	13	5.8		2k	0	W		0.02	0.5	Fair	
Tucson, Arizona	27.64	702.0	30.19	766.8	37	2.8		N				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.46	773.7	26	— 3.9	80	Calm	0	0		0	Sm'		NE	0	0	Clear	
Virginia City, M. T.	24.46	621.3	29.94	760.5	25	— 3.9	63	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.14	765.5	28	— 2.2	72	NW	4	1.8		1c	Sm'k	NW		Inap.	Inap.	Fair	
Wilmington, N. C.			30.24	768.1	23	— 5.0	73	NW	6	2.7		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.80	756.9	32	0.0	79	NW	16	7.2			10s		NW	0	0	Cloudy	
Yankton, Dakota	29.09	738.9	30.55	776.0	4	—15.6	74	NE	4	1.8		5cs	0	N		0	0	Fair	
Yuma, Arizona			30.11	764.8	54	12.2		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	72	22.2	81	N	9	4.0		8c	8s			0	0		James Gall.
Navassa, W. I.					74	23.3		N			4			E	E			Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.19	690.6	29.98	761.5	66	18.9	83	NW	1.0	0.4			10k			0	0	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.04	763.0	78	25.6	86	E			2	0	0			0.620	15.75	Clear	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.8			80.2	26.8		SE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			64.5	18.1	87	N			1	3k	4s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			30.38	771.6	15.0	— 9.4	91	S	5	2.2		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74	23.3		N			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.06	763.5	62	16.7	88	Calm			0	0	2k			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Provincetown, Mass.			29.72	754.9	36	2.2	90	NW	11	4.9		5ck	2ks		NW			†D. Clouds	Capt. James Jorgensen.
Steamer Berlin, N. 49°, 35′, W. 14°, 55′.	E¼N	9.5	28.67	728.2	54.5	12.5		W			6		..k,d			Rough		Squally	Capt. C. Fohle.
Steamer Leipzig, off Needles.	SWby W¼W	10	29.03	737.3	52.2	11.2		SW			6–7		..k,n		SW	short sea		Squally	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Fareh heit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. *Observation not simultaneous. † Detach d clouds.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 4, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.96	760.9	73.2	22.9	47	Calm			0		9			0	0	Hidden	Charnot.
Algiers			29.91	759.6	70.5	21.4	54	NW			1		9			Inap.	Inap.	Hidden	Peter.
La Calle			29.96	760.9	68.4	20.2	83	NNW			2		6			0	0	Fair	Didier.
Tunis			29.98	761.5	69.8	21.0		W			3		2			0	0	Clear	Jacques.
Sfax																0	0		Chauvey.
Saida			30.03	762.7	71.2	21.8	31	SSW			2		2			0	0	Clear	Millot.
Tebessa			30.04	762.9	59.4	15.2		SW			2		0			0	0	Clear	Bourgeois.
Geriville			30.11	764.9	50.9	10.5	40	SSW			5		5			0	0	Fair	Lemaillot.
Laghouat			30.10	764.5	69.8	21.0	29	SW			2		2			0	0	Clear	Guyot.
Biskra			30.07	763.8	65.1	18.4	37	NNE			2		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.45	748.1	60.1	15.6	59	SW			5		10			0.008	0.2		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.41	747.0	41.0	5.0	95	NE			1		10			0.047	1.2		Dr. Wierzbiski.
Eperies			29.45	748.1	48.9	9.4	89	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.16	715.3	29.39	746.5	52.3	11.3	83	S			2		10			0	0		Andreas Rospini.
Hermannstadt	28.23	717.0	29.37	753.5	48.2	9.0	81	SE			1		5		WNW	0	0		Prof. Reissenberger.
Kremsmünster	27.89	708.4	29.22	742.3	41.4	5.2	94	Calm			0		10			0.197	5.0		Prof. C. Wagner.
Lemberg			29.47	748.4	36.9	2.7	98	NE			1		10			0.500	12.7		Dr. T. Stanecki.
Nylregyhaza																			Habsuda Daniel.
Pola			29.54	750.4	58.1	14.5	88	SE			5		10s			0	0		I.R.Hydrographic Of'ce.
Szegedin			29.52	749.7	59.0	15.0	81	S			3		5			0	0		Karl Stancel.
Trieste			29.54	750.2	55.9	13.3	86	S			1		10			0.240	6.1	Rain and fog	Prof. V. Farolfi.
Vienna			29.35	745.4	46.4	8.0	92	SW			1		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			28.82	732.0	52.9	11.6	73	SW			6		10ks,u		SW	0.413	10.50	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			28.60	726.4	44.0	6.7		E	51	22.8			10			0.480	12.19	Raining	William Boswell.
Ardrossan			28.42	721.9	48	8.9		ENE			3		8					Misty	William McNeil.
Armagh, Observatory			28.47	723.1	47.6	8.7		SW	3	1.3			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.50	723.9	47.9	8.8		SW			2		10					Drizzling	J. Dreyer.
Bradford			28.34	719.5	49.6	9.8		E			3		10			0.48	12.2	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	84.0	28.9		NE			3		7					Overcast	Sergt. J. F. Halanen, A.
†Cambridge, Observatory																Blank	Blank		H. Todd. [H.C.
Cardington			28.31	719.1	49.0	9.4		S			8		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			28.44	722.4	84.2	9.0		SW			6		9			Blank	Blank	Overcast	Capt. Fellowes, R. E.
Dartmoor	27.36	694.9	28.83	732.3	46.0	7.8		SW			7		10					Threatening	R. E. Power.
Davos Platz, (Switzerland)	24.28	616.7			37.0	2.8	97	SW			1		10			0.354	8.99	Overcast	Francis Redford, M. A.
Donaghadee			28.40	721.3	47	8.3		SE			4		10					Overcast	J. Mac Gowan.
Dover			28.59	726.2	50	10.0		S			6		8					Squally	J. Costello.
Eccles, (near Manchester)			28.39	721.1	51.5	10.8		SSE					10					Threatening	Thomas Mackereth.
Falmouth, Observatory			28.74	730.0	52.0	11.1		W			5		9					Overcast	The Staff.
Fort Napier, (Natal)	27.55	699.8	29.78	756.4	83.4	28.6		SE			2		9					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	86.0	30.0		N			1		5					*D. clouds	
Galway, Queen's College			28.41	721.6	49	9.4		SW			3		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.93	760.2	63.2	17.3		W			7		10					Raining	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			28.43	722.1	47.3	8.5		ENE			3		10					Raining	Lewis Stuart.
Great Yarmouth			28.51	724.1	49	9.4		S			6		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y			28.46	722.9	48.5	9.2		SW			5		10					Raining	The Staff, for G. B. Airy.
Guernsey			28.74	730.0	53.5	11.9		WSW			4		7					*D. clouds	Dr. S. E. Hoskins.
Helston			28.71	729.2	53	11.7		S			3		8k			1.21	30.7	Fair	M. P. Moyle.
Holyhead			28.48	723.4	49	9.4		W			5		5					*D. clouds	John Tilston.
Kew, Observatory			28.45	722.6	49.3	9.6		SW	31	13.9			10					Threatening	The Staff.
Kingstown			28.46	722.9	49	9.4		WNW			4		7					*D. clouds	George Mitchell.
Leicester Museum			28.32	719.3	47.8	8.8		E			1		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.96	761.0	68.0	20.0		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			28.60	726.4	45	7.2		ENE			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.20	767.1	61.5	16.4		NW			4		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			28.33	719.6	48.8	9.3		Calm			0		10n		ESE	0.352	8.94	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			28.35	720.1	48.0	8.9		WNW			2		10					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			28.46	722.9	50	10.0		WSW			5		10					Drizzling	J. Lucas.
Plymouth			28.69	728.7	51.5	10.8		W			4		10					Overcast	John Merrifield.
Roche's Point			28.58	725.9	51	10.6		W			4		5					Cloudy	W. Kennedy.
Saint Ann's Head			28.55	725.2	51	10.6		WNW			6		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			28.76	730.5	52.5	11.4		W			6		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			28.70	729.0	42	5.6		ESE	50	22.4			10					Drizzling	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.88	758.9	58.8	14.9		SW			2		4					*D. clouds	Sergt. W. H. Lyne.
Sheffield			28.35	720.1	50.9	10.5		ENE			1		10			0.185	4.70	Raining	W. F. Cooper.
Stilloth Rectory			28.40	721.3	48.7	9.3	93	SE			1		8			0.250	6.35	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			28.40	721.3	50.5	10.3		NE			0		8s					Misty	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			28.52	724.4	47	8.3		ESE			4		5					*D. clouds	John Smith.
Stratfield Turgiss			28.44	722.4	49.0	9.4		SW			3		10					Squally	Rev. Charles H. Griffith.
Thurso			28.70	729.0	44	6.7		ESE			6		10					Gloomy	John Trotter.
Truro, Royal Institution			28.81	731.8	54	12.2		W			6		7			Blank	Blank	*D. clouds	W. Newcombe.
Valencia, Observatory			28.59	726.2	51.8	11.0		W	30	13.4			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		NE			6		10			0.60	15.2		Henry Mercer.
Cape Good Hope, Obs'y			30.13	765.3	74.2	23.4	51	SE	18	8.0		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.80	756.9	67.5	19.7	83	NW			2		8k			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restaurig Park			28.48	723.4	47.8	8.8		E			3		10s			0.05	1.3	Showery	Andrew Gibb.
Mauritius, Observatory			29.90	759.4				SW	24.7	11.0						0	0		C. Meldrum.
Melbourne, Observatory			30.14	765.5	57.7	14.3	78	S	7	3.1			3			0.01	0.3	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.51	724.1	47	8.3		SE			6		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			28.94	735.1	36	2.2		SE			8		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds. † Observation not simultaneous.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.35	745.5	36.1	2.3	72	SE			8		10						
Fanöe			29.00	736.6	36.5	2.5	100	SE			7		10					Raining	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.00	736.6	27.5	— 2.5	96	Calm			0		5						
Thorshavn, (Faröe)			28.87	733.3	42.8	6.0	90	ESE			7		10					Raining	
Vestervig			29.08	738.6	34.5	1.4	100	E			8		0					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			28.84	732.6	51.8	11	89	SW			8		10			0.630	16.0	Covered	Normal School.
Amiens			28.76	731.0	51.4	10.8	86	W			6		5		WSW	0.382	9.7	Cloudy	Normal School.
Avignon			29.51	749.6	55.4	13	81	NW			1		8		W	0.087	2.2	Rainy	Normal School.
Bar-sur-Seine			29.13	740.0	55.6	13.1	55	W			10	5c		W		0.142	3.6	Cloudy	C. Saillard.
Beaumette, (near Angers)			28.95	735.4	52.9	11.6	80	SW	58.6	26.2					W	0.878	22.3		Beaumette Observ'tory.
Beauvais			28.89	733.9	53.4	11.9	80	SW			6		8		WSW	0.620	15.76	Very cloudy	Normal School.
Besançon			29.31	744.4	53.2	11.8	67	S			6		8		SW	0.638	16.2	Very cloudy	Normal School.
Bourg en Bresse			29.45	747.9	53.1	11.7	68	S			8		8n		E	0.39	10.	Very cloudy	Normal School.
Bourges			29.23	742.5	52.5	11.4	80	SW			6		2		NE	0	0	Slightly cl'dy	Normal School.
Brest			28.85	732.8	53.4	11.9	80	W			6		10		W	0.453	11.50	Squally	Naval Observatory.
Carcassonne			29.52	749.7	58.1	14.5	73	N			1		10		S	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			28.90	734.0	51.3	10.7	100	SW			6		8		WSW	0.043	1.1		Normal School.
Châlons-sur-Marne			29.08	738.5	55.0	12.8	68	SW			6		8k		NE	0.047	1.2	Very cloudy	Normal School.
Clermont			29.31	744.4	53.4	11.9	65	SW			6		8		SW	0.591	15.0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.17	740.8	51.3	10.7	73	SW			8		8		E	0.165	4.2	Very cloudy	Normal School.
Commune de Gréasque*			29.55	750.6	54.5	12.5	83	NW			2		10		NW	0.319	8.1		M. Kina.
Grenoble			29.55	750.5	50.0	10	95	ENE			1		10n		NE	0.36	9.	Raining	Normal School.
La Roche-sur-Yon			29.27	743.4	49.6	9.8	89	SW			8		8		E	0.449	11.4	Very cloudy	Normal School.
Le Mans			28.95	735.4	51.6	10.9	83	SW			8		8		SW	1.083	27.50	Very cloudy	Normal School.
Lons-Le-Saulnier			29.34	745.2	53.4	11.9	61	S			6		10		N	0.59	15.	Raining	Normal School.
Lorient			28.98	736.0	53.6	12.0	76	W			8		10			0.512	13.0	Raining	Naval Observatory.
Mâcon			29.37	745.9	55.4	13	87	WSW			6		5		SE	0.362	9.2	Cloudy	Normal School.
Metz			29.21	741.8	52.3	11.3	95	SW			4		10		SW	0.173	4.4	Hailing	M. Schuster.
Mirecourt			29.16	740.7	51.3	10.7	72	SSW			8		10		NNE	0	0	Covered	Normal School.
Nismes			29.51	749.6	60.1	15.6	56	NW			2		2		N	0.16	4.	Slightly cl'dy	Normal School.
Orleans			29.45	747.9	52.9	11.6	76	SSW			6		2		SW	0.08	2.	Slightly cl'dy	Normal School.
Paris, Observatory			28.97	735.7	50.7	10.4	70	SW			4		10ck		SW	0.200	5.08	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.62	752.3	56.8	13.8		W			2		5		W	1.61	41.	Cloudy	Normal School.
Rochefort, Observatory			29.21	742.0	59.0	15.0	61	WSW			9		10		ENE	0.118	3.0	Covered	Naval Observatory.
Rouen			28.83	732.3	55.4	13.0	59	SSE			6		5		S	0.236	6.0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.41	746.9	51.8	11	92	SE			8		2		SW	0.417	10.6	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.47	748.4	60.3	15.7	63	NW			3		9			0.126	3.2	Raining	Marseilles Observatory.
Mont-Louis	24.42	620.3	29.71	754.6	45.0	7.2	77	SSW	33.6	15.00			8		SW	0.087	2.2		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.60	751.7	62.1	16.7	67	N	3.7	1.67			8		SE	0.016	0.4		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.87	530.1			25.7	— 3.5		SW			3–4		10					Rainy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.07	560.5			32.9	0.5		SW			3–4		10			0.039	1.0	Rainy	General de Nansouty.
Saint Maur, (near Paris)			28.98	736.1	50.0	10.0	74	SSW			4		7			0.134	3.4	Very cloudy	E. Renou.
Toulouse			29.54	750.3	56.5	13.6	82	NW			1		10			0.280	7.1		Toulouse Observatory.
Tours			29.07	738.4	55.2	12.9	70	SSW			6		10		SW	0.272	6.9		C. Marquet.
Versailles, (near Paris)			28.97	735.7	51.1	10.6	72	SW			3		7			0.374	9.51	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.27	768.8	45.3	7.4	91	NNW	5.2	2.33			10			0.106	2.7	Rainy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.17	740.8	45.9	7.7	94	SW			3		10	SW		0.31	8.	Raining	Prof. T. Hoh.
Berlin			29.25	743.0	41.9	5.5	92	SE			1		10			0.068	1.6		Prof. Arndt.
Breslau			29.34	745.2	49.6	9.8	92	ESE			3		10			0.016	0.4		Royal University Obs'y.
Carlsruhe			29.17	740.8	54.3	12.4	69	SW			10		5			0.685	17.4		A. Senz.
Cassel			29.11	739.5	51.4	10.8	88	SE			6		8	SSW		0.075	1.9		Dr. H. Möhl.
Crefeld			28.92	734.6	55.4	13.0	67	S			5		6			0.35	9.		Director Lose.
Emden			28.93	734.9	49.6	9.8	99	S			3		10			0.354	9.0		Prof. Prestel.
Frankfort on the Main			29.15	740.3	51.8	11.0	66	SSW			2		9			0.378	9.6	Raining	Physical Society.
Friedrichshafen			29.38	746.3	46.6	8.1	85	SW			5		10			0	0		M. Wilhelm.
Hamburg			29.07	738.3	43.5	6.4	98	SE			4		10			0.925	23.5	Raining	Captain F. Hegemann.
Kiel			29.06	738.1	39.7	4.3	92	ESE			6		10			0.598	15.2		Prof. G. Karsten.
Königsberg, (Prussia.)			29.69	754.0	25.2	— 3.8	83	NE			2		2			0.024	0.6		Prof. E. Luther.
Köslin			29.47	748.4	33.4	0.8		SE			6		4			0	0		H. Müller.
Leipsic			29.23	742.5	48.4	9.1	95	SSE			1		10			0.059	1.5	Raining	Prof. Bruhns.
Memel			29.76	755.9	41.4	5.2	74	E			4		0			0.012	0.3		Reinbrecht & Skalweit.
Münster			28.93	734.7	54.8	12.4	85	SW			5		10			0.197	5.0		Prof. E. Heis.
Neufahrwasser			29.61	752.0	32.7	0.4	73	SE			4		5			0	0	Squally	A Lothe.
Posen			29.43	747.5	33.4	0.8	91	ESE			8		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.22	742.3	52.7	11.5	68	SW			7		7	SW		0.260	6.6		Dr. Schur.
Stuttgart			29.29	744.0	49.6	9.8	73	W			3		10			0.091	2.3	Rainy	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.02	737.1	53.4	11.9	72	SW			8		10			0.382	9.7		Prof. Flesch.
Weissenburg, (Bavaria,)	27.81	706.4	29.30	744.2	47.3	8.5	84	SW			1		10	SW		0.004	0.1		Dr. von Bebber.
Wustrow, Naval School			29.32	744.7	34.9	1.6	93	ESE			5		10			0.539	13.7		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 4°, 12′, W. 30°, 36′.			30.10	764.4	80.1	26.7	77	SE			4		3	SE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.01	762.2	62.2	16.8		SW										Very clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.49	749.0	52.5	11.4	100	S	3.1	1.4			10			0.303	7.7	Raining	Prof. Giovanni Clodig.
Padua			29.43	747.4	51.8	11.0	97	N	5.[illegible]	2.5			10	SW		0.232	5.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.46	748.3	50.0	10.0	97	NW	0	0			10			0.732	18.6	Raining	Alm. Da Schio.
Verona			29.47	748.5	57.2	14.0	72	W			2		10			0.370	9.4	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof Trionfini Carlo.
Domodossola			29.47	748.6	44.2	6.8	73	Calm			0		10			0.689	17.5	Raining	Prof. Giuseppe Calza.
Milan			29.43	747.4	46.2	7.9	80	W			1		10	S		0.764	19.4	Raining	Ab. Gio. Capelli.
Pavia			29.44	747.7	44.6	7.0	93	W			4		10			0.524	13.3	Raining	Prof. Gio. Cantoni.
Moncalieri			29.44	747.7	46.0	7.8	90	WNW	0.7	0.3			10	NE		0.154	3.9	Raining	Prof. P. F. Denza.
Mondovi	27.55	699.7	29.49	749.0	42.8	6.0	89	NW			2		10			0.114	2.9	Raining	Prof. C. Bruno.
Porto Maurizio			29.45	747.9	60.6	15.9	88	SW			8		10	SW		0.248	6.3	Raining	Prof. L. Vassallo.
Genoa			29.45	748.0	60.4	15.8	87	SW	19.2	8.6			10	SW		0.386	9.8	Raining	Prof. Garibaldi.
Piacenza			29.39	746.5	46.2	7.9	94	E	4.9	2.2			10			0.189	4.8	Rain & fog	Dott. G. Manzi.
Parma			29.36	745.7	53.2	11.8	95	N			2		10			0.071	1.8	Raining	Prof. P. Pigorini.
Bologna			29.56	750.7	60.4	15.8	46	SW			8		7	E		0	0		Prof. A. Palagi.
Florence			29.54	750.2	63.5	17.5	67	SW			6		10	SW		0.114	2.9	Raining	Cav. F. Meucci.
Leghorn			29.54	750.3	62.2	16.8	81	SSW	15.[illegible]	6.9			10	WSW		0.272	6.9	Raining	Prof. P. Monte.
Siena	28.36	720.3	29.57	751.0	58.6	14.8	78	S	8.1	3.6			10	SW		0.031	0.8	Light rain	Prof. L. Toscani.
Urbino																			Prof. [illegible] Serpieri.
Pesaro			29.53	750.0	62.4	16.9	63	SSW	48.5	21.7			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.55	750.6	65.5	18.6	43	S			6		10			0	0		Prof. F. De— Bosis.
Grosseto			29.64	752.9	62.6	17.0	78	SSE			8		6	S		0.047	1.2	Raining	Avv. P. Ponticelli.
Rome			29.79	756.7	62.6	17.0	80	SSE	26.6	11.9			10	W		0.008	0.2	Light rain	Prof.s. P. Secchi & L. Respighi
Naples, O. U.			29.88	759.0	64.4	18.0	68	SW			6		10	SSW		0	0		Prof. L. Palmieri.
Lecce			29.96	760.9	61.9	16.6	78	SSE	23.0	10.3			7			0.024	0.6	Light rain	Prof. C. De—Giorgi.
Cosenza			29.94	760.4	64.9	18.3	59	ESE	2.5	1.1			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.87	758.7	70.9	21.6	38	SW	6.5	3.1			9			0	0		Prof. G. Cacciatore.
Caltanissetta	28.02	711.8	29.97	761.3	57.6	14.2	72	SSE			2		8	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.92	760.0	59.4	15.2	80	SW	6.9	3.1			10	NW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters, or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			28.75	730.3	51.8	11.0		SSW			6					0.492	12.5		
Groningen			28.78	730.9	51.8	11.0		S			5					0.220	5.6		
Helder			28.73	729.7	51.3	10.7		S			4					0.322	8.2		
Utrecht			28.77	730.7	53.2	11.8	70	S			6		5			0.220	5.6	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.13	740.0	37.4	3.0	50	E	27	12			10			0	0		
Brône			29.58	751.4	26.6	— 3.0	40	E	9	4			10			0	0		
Christiania			29.71	754.6	21.9	— 5.6	77	ENE	9.4	4.2			10			0	0		
Tromsö			29.62	752.3	24.4	— 4.2	66	SE	7	3			0			0	0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.56	750.9	64.0	17.8	88	W	7.4	3.3			5			0.205	5.2		Dr. J. A. Sampaio.
Campo Major			29.75	755.6	54.5	12.5	95	SSW	8.7	3.9			10	SSW		1.697	43.1	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.07	763.6	68.4	20.2	85	WSW	12.5	5.6			5			0	0		Capt. D. A. de Cunha.
Lisbon			29.71	754.7	56.8	13.8	100	SE	4.9	2.2			10			1.661	42.2	Heavy rain	The Observatory.
Ponta Delgada, (Azores)			29.67	753.5	66.9	19.4	85	W	10.5	4.7			2			1.071	27.2		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.54	750.2	30.7	— 0.7	96	E	18	8			10						Astronomical Obs.
Wilna			29.71	754.7	24.6	— 4.1	77	E	4	2			10						Astronomical Obs.
Dorpat			29.79	756.6	20.3	— 6.5	87	N	7	3			10						Physical Cabinet.
St. Petersburg			29.72	754.8	14.0	—10.0	82	NNW	11	5			10						Central Physical Obs.
Kuopio			29.81	757.1	4.5	—15.3	90	NW	7	3			3						Ch. Forsten.
Kieff			29.55	750.6	28.2	— 2.1	94	ESE	4	2			10					Raining	Physical Cabinet.
Nikolaiev			29.59	751.5	46.0	7.8	89	N	7	3			7						Kurdakof
Kertch			29.72	754.9	54.3	12.4	91	S	11	5			4						Lagorio.
Moscow			29.68	751.2	17.8	— 7.9	86	SSW	9	4			10					Light snow	Meteorological Obs.
Lugan			29.65	753.2	34.5	1.4	78	SW	7	3			10			Blank	Blank		Meteorological Obs.
Archangel			29.58	751.5	9.7	—12.4	100	N	7	3			2						Ogorodnikof.
Tiflis	28.65	727.6	30.07	763.8	53.2	11.8	66	N	9	4			2						Physical Observatory.
Astrakhan			29.82	757.4	39.9	4.4	70	WNW	7	3			3			Blank	Blank		Sebastianof.
Kasan			28.73	729.8	27.3	— 2.6	94	WNW	13	6			10						Physical Cabinet.
Orenburg			30.17	766.4	—19.7	—28.7		W	13	6			3						Tschernischef.
Ekaterinburg	28.00	711.2	28.96	735.5	28.6	— 1.9	96	SSE	18	8			10					Snowing	Meteorogical Obs.
Nukuss			29.95	760.6	46.4	8.0	81	S	4	2			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.19	766.9	17.6	— 8.0	88	SW	9	4			10						Meteorological Obs.
Yeniseisk			30.42	772.7	—24.3	—31.3	72	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.38	771.6	29.1	— 1.6	74	Calm	0	0			8						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					3.2	—16.0		W	16	7			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.74	755.4	50.9	10.5	88	SW	16.4	7.33			10			0.532	13.5	Rainy	Royal Observatory.
San Fernando			29.92	759.9	64.2	17.9	92	SSW	20.4	9.1		4	6	SSW	SW	0.315	8.0	Raining	Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.89	759.1	—16.6	—27.0		NNE			2		0			0	0		
Umea			29.88	759.0	— 2.2	—19.0	88	N			2		0			0	0		
Hernosand			29.84	757.9	8.6	—13.0	96	Calm			0		10			0	0		
Stockholm			29.79	756.6	28.8	— 1.8	90	ENE			4		9			0	0		
Wisby			29.76	755.8	29.1	— 1.6	96	E			4		5			0	0		
SUB-SERIES.																			
Upsala			29.81	757.1	26.2	— 3.2	86	ESE	0	0			10		E	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	27.98	710.8	29.42	747.2	51.3	10.7	60	S			4		10			0.646	16.4	Raining	The Observatory.
Zurich	27.82	706.5	29.47	748.6	47.7	8.7	78	W			1		8			0.228	5.8	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —16.3 mm; Thermometer, +7.0 cent.; Relative Humidity, —19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.93	760.2	61.9	16.6	66	SW	9	4.0			4		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.99	761.8	55.8	13.2		NW			1		10						
Valona			29.96	761.0	65.3	18.5		E			1		0						
Varna			29.69	754.0	57.2	14.0		NE			1		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.11	764.7	70.0	21.1	65	W			1		2ks		S	0	0	*D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			29.94	760.5	25.7	— 3.5	81	Calm	0	0			0						Hon. J. Ferguson.
Brockville, Ontario			30.35	770.9	19	— 7.2		Calm	0	0			10s		NE	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			29.91	759.7	27	— 2.8	90	N	5	2.2		5k	5ks	N	N	0.17	4.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.84	757.9	31	— 0.6	91	N	15	6.7			10n			0.33	8.4	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.04	763.0	20.9	— 6.2	86	NW			1	3cs	7n	E		0	0	Dull	James Smith, M. A.
Dalhousie, N. B			29.99	761.7	25.8	— 3.4	80	W			1					0.03	0.8	Clear	H. A. Johnson.
Esquimault, B. C			30.06	763.5	46.3	7.9	100	Calm					10n			0.32	8.1	Rainy	W. H. Bevis.
Fredericton, N. B			29.99	761.7	24.6	— 4.2	94	NW	3	1.3		0	1s			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.39	771.9	10	—12.2	89	S	10	4.5		2c	5ks	NW	NW	0	0	Fair	James Stewart.
Goderich, Ontario			30.42	772.7	17.8	— 7.9	89	Calm			0	3k	1s	W		0.10	2.5	Fine	H. J. Strang, M. A.
Granton, Ontario	29.18	741.1	30.38	771.6	16.4	— 8.7		Calm			0	2cs	0			0	0	Clear	James Grant.
*Halifax, N. S			29.77	756.1	34	1.1	90	NW	8	3.6			8n		N	0.060	1.65	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.35	770.9	19	— 7.2	89	N	2	0.9			10s			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.65	753.1	34.8	1.6	100	NE	8	3.6			10n		NE	Inap.	Inap.	Snow-squalls	C. H. Rigby.
*Montreal, Quebec			30.19	766.8	26	— 3.3	80	NW	8	3.6		5k	5ks			Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.25	768.3	20	— 6.7	77	W	6	2.7		10k	0	W		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.42	772.7	12	—11.1	90	N	8	3.6		2ck	5ks	NE	NE	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.37	771.4	16	— 8.9	93	NW	8	3.6		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S			29.70	754.4	36.4	2.4		NW	8	3.6						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.37	771.4	17	— 8.3	89	NW	4	1.8		2k	0	N		0	0	Clear	M. Payne.
*Quebec, Quebec			30.12	765.0	26	— 3.3	75	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B			29.96	761.0	32	0.0	77	N	4	1.8			10n			0	0	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			30.36	771.1	22	— 5.6	86	Calm	0	0			8ks			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.36	771.1	18	— 7.8	83	Calm	0	0			10n			0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.99	736.3	30.40	772.1	8.8	—12.9		Calm	0	0		3ks	0	NW		0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.68	753.9	34	1.1	94	NE	6	2.7			10n		NE	0.18	4.6	Sleeting	T. C. Hill.
*Toronto, Ontario			30.39	771.9	14	—10.0	91	N	1	0.4		0	2s			0	0	Clear	Magnetic Observatory.
Woodstock, Ontario			30.38	771.6	21.2	— 6.0	100	W	6	2.7		2k	0			0	0	Clear	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.55	750.6	33.0	0.6	100	N					10n			0.14	3.6	Sleeting	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Albany, N. Y.			30.18	766.6	24	— 4.4	87	NW	7	3.1			10ks		NW	0	0	Cloudy	
Alpena, Mich.			30.41	772.4	20	— 6.7	70	NW	6	2.7			10s		NW	0.07	1.8	Cloudy	
Atlantic City, N. J.			30.24	768.1	21	— 6.1	85	W	8	3.6		0	0			0	0	Clear	
Augusta, Ga.			30.40	772.1	25	— 3.9	81	Calm	0	0		0	0			0	0	Clear	
Baltimore, Md.			30.30	769.6	28	— 2.2	77	NW	4	1.8		Haze	Sm'e			0	0	Smoky	
Barnegat, N. J.			30.22	767.6	24	— 4.4	78	NW	11	4.9		2k	0	NW		0	0	Clear	
Bismarck, Dakota	28.49	723.6	30.34	770.6	4	—15.6	74	SE	2	0.9		0	0			0	0	Clear	
Boston, Mass.			30.06	763.5	28	— 2.2	78	NW	10	4.5			10s, fg			0	0	Cloudy	
Breckenridge, Minn.			30.64	778.2	— 5	—20.6	63	SE	8	3.6		0	0			0	0	Clear	
Buffalo, N. Y.			30.33	770.4	18	— 7.8	84	Calm	0	0		1c	Sm'e			Inap.	Inap.	Smoky	
Burlington, Vt.			30.22	767.6	27	— 2.8	88	N	4	1.8			10s			0	0	Cloudy	
Cairo, Ill.			30.59	777.0	18	— 7.8	68	N	1	0.4		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.23	767.8	34	1.1	79	N	12	5.4		0	0			0	0	Clear	
Cape Henry, Va.			30.31	769.9	33	0.6	70	NW	14	6.3		5k	0	NW		0	0	Fair	
Cape Lookout, N. C.			30.33	770.4	31	— 0.6	60	N	5	2.2		0	Haze			0	0	Clear	
Cape May, N. J.			30.26	768.6	28	— 2.2	67	N	26	11.6		0	0			0	0	Clear	
Charleston, S. C.			30.36	771.1	30	— 1.1	59	N	8	3.6		0	0			0	0	Clear	
Cheyenne, Wyoming	24.26	616.2	30.20	767.1	13	—10.6	79	NW	12	5.4		0	0			0	0	Clear	
Chicago, Ill.			30.46	773.7	25	— 3.9	75	NW	1	0.4			10s		N	0.01	0.3	Cloudy	
Cincinnati, Ohio			30.41	772.4	25	— 3.9	88	W	3	1.3			10s			Inap.	Inap.	Cloudy	
Cleveland, Ohio			30.36	771.1	24.5	— 4.2	94	SE	4	1.8			10s			0.14	3.6	Cloudy	
Corsicana, Tex.			30.49	774.4	34	1.1	61	NE	4	1.8		0	0			0	0	Clear	
Davenport, Iowa			30.62	777.7	10	—12.2	89	NW	4	1.8		0	Sm'e			0	0	Clear	
Denison, Tex.			30.57	776.5	29	— 1.7	67	E	4	1.8		0	0			0	0	Clear	
Denver, Col.	25.06	636.5	30.28	769.1	27	— 2.8	54	S	9	4.0		0	0			0	0	Clear	
Detroit, Mich.			30.37	771.4	26	— 3.3	88	NW	4	1.8			10s			0.11	2.8	Cloudy	
Dodge City, Kan.	27.82	706.6	30.38	771.6	12	—11.1	65	NE	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa			30.61	777.5	14	—10.0	81	NW	1	0.4			10s			0	0	Cloudy	
Duluth, Minn.			30.55	776.0	10	—12.2	58	SW	2	0.9			10s		SW	0	0	Cloudy	
Eastport, Me.			29.95	760.7	32	0.0	79	NW	14	6.3			10s		N	0.05	1.3	Cloudy	
Erie, Pa.			30.33	770.4	23	— 5.0	86	S	1	0.4		5k	Haze	NW		Inap.	Inap.	Fair	
Escanaba, Mich.			30.50	774.7	14	—10.0	66	W	8	3.6			10s		NW	0.01	0.3	Fair	
Fort Gibson, Indian Ter.			30.55	776.0	28	— 2.2	77	Calm	0	0		10ck	0	NW		0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.30	744.2	30.51	774.9	26	— 3.3	28	N	14	6.3		0	0			0	0	Clear	
Fort Sully, Dakota	28.68	728.5	30.55	776.0	6	—14.4	52	E	6	2.7		0	0			0	0	Clear	
Florence, Arizona	28.51	724.1	30.02	762.5	57	13.9		NE				0	0			0	0	Clear	
Galveston, Tex.			30.44	773.2	45	7.2	60	NE	18	8.0		1cs	0	W		0	0	Clear	
Grand Haven, Mich.			30.44	773.2	28	— 2.2	88	NE	3	1.3			10s		N	0.01	0.3	Cloudy	
Indianapolis, Ind.			30.48	774.2	23	— 5.0	86	Calm	0	0			10s, sm			0	0	Cloudy	
Indianola, Tex.			30.37	771.4	51	10.6	71	NE	20	8.9			8s			0	0	Cloudy	
Jacksonville, Fla.			30.34	770.6	28	— 2.2	59	NW	4	1.8		7k	0	SW		0	0	Fair	
Keokuk, Iowa			30.28	769.1	13	—10.6	81	Calm	0	0		0	0			0	0	Clear	
Key West, Fla.			30.28	769.1	47	8.3	85	NE	16	7.2		0	2ks			0	0	Clear	
Kittyhawk, N. C.			30.31	769.9	29	— 1.7	67	NW	14	6.3		2k	0			0	0	Fair	
Knoxville, Tenn.			30.48	774.2	24	— 4.4	86	N	6	2.7		8ck	Fog	NE		0	0	Cloudy	
La Crosse, Wis.			30.60	777.2	12	—11.1	61	W	5	2.2		Haze	Haze			0	0	Hazy	
Leavenworth, Kan.			30.69	779.5	14	—10.0	80	NW	2	0.9		0	0			0	0	Clear	
Louisville, Ky.			30.50	774.7	22	— 5.6	86	NW	4	1.8			10s		NW	Inap.	Inap.	Cloudy	
Lynchburg, Va.			30.38	771.6	25	— 3.9	70	NW	4	1.8		0	0			0	0	Clear	
Malone, N. Y.			30.22	767.6	23	— 5.0	86	W	1	0.4			10s		W	0	0	Cloudy	
Marquette, Mich.			30.48	774.2	19	— 7.2	84	W	12	5.4			10s			0	0	Cloudy	
Memphis, Tenn.			30.60	777.2	21	— 6.1	72	N	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.54	775.7	18	— 7.8	83	NW	8	3.6		0	2s			0	0	Clear	
Mobile, Ala.			30.48	774.2	27	— 2.8	55	N	6	2.7		0	Sm'e			0	0	Clear	
Montgomery, Ala.			30.48	774.2	25.5	— 3.6	75	Calm	0	0		0	Sm'e			0	0	Clear	
Morgantown, W. Va.	29.23	742.4	30.38	771.6	23	— 5.0	86	SW	3	1.3			10n			0.02	0.5	Light snow	
Mt. Washington, N. H.	23.54	597.9	29.90	759.4	13	—10.6	81	NE	30	13.4		8s	5s		NE	0	0	Cloudy	
Nashville, Tenn.			30.52	775.2	22	— 5.6	72	Calm	0	0		10k	Fog	NW		0	0	Cloudy	
New Haven, Conn.			30.17	766.3	29	— 1.7	78	NW	10	4.5			10s		NW	0	0	Cloudy	
New London, Conn.			30.12	765.0	27	— 2.8	77	NW	6	2.7		10k	0	NW		0	0	Cloudy	
New Orleans, La.			30.46	773.7	32.5	0.3	40	NE	12	5.4		1cs	Haze			0	0	Clear	
Newport, R. I.			30.10	764.5	29	— 1.7	77	NW	11	4.9			10ks		NW	0	0	Cloudy	
New York, N. Y.			30.20	767.1	28	— 2.2	67	NW	5	2.2		0	Sm'e			0	0	Clear	
Norfolk, Va.			30.32	770.1	28	— 2.2	67	N	9	4.0		0	Haze			0	0	Clear	
North Platte, Neb.	27.44	697.0	30.23	767.8	21	— 6.1	100	W	10	4.5			10s			0	0	Cloudy	
Omaha, Neb.	29.43	747.5	30.67	779.0	5	—15.0	100	Calm	0	0		0	Sm'e			0	0	Clear	
Oswego, N. Y.			30.30	769.6	25	— 3.9	75	N	7	3.1			10s		N	0	0	Cloudy	
Pembina, Dakota			30.42	772.7	3	—16.1	73	S	13	5.8		2c	0	N		0	0	Clear	
Philadelphia, Pa.			30.26	768.6	27	— 2.8	77	N	9	4.0		Haze	1s, sm			0	0	Hazy	
Pike's Peak, Col.	17.84	453.1	30.05	763.3	7	—13.9	77	NE	20	8.9		0	0			0	0	Clear	
Pittsburgh, Pa.			30.34	770.6	25	— 3.9	88	W	6	2.7			10s		W	0.01	0.3	Cloudy	
Port Huron, Mich.			30.37	771.4	23	— 5.0	86	W	1	0.4		0	5s			0.31	7.9	Fair	
Portland, Me.			30.05	763.3	33	0.6	69	NW	8	3.6			10ks			0	0	Cloudy	
Portland, Oregon			30.14	765.5	43	6.1	84	S	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.33	770.4	39.0	3.9	46	N	7	3.1		1cs	0	SW		0	0	Clear	
Rochester, N. Y.			30.30	769.6	23	— 5.0	86	W	8	3.6			10s		W	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.87	657.1	30.20	767.1	29	— 1.7	78	Calm	0	0		0	0			0	0	Clear	
Sandy Hook, N. J.			30.17	766.3	29	— 1.7	78	N	14	6.3		0	0			0	0	Clear	
San Diego, Cal.			30.03	762.7	49	9.4	32	NE	3	1.3		0	0			0	0	Clear	
San Francisco, Cal.			30.13	765.3	50	10.0	86	NW	4	1.8		0	8s			0	0	Cloudy	
Santa Fé, N. M.	23.42	594.9	29.96	761.0	32	0.0	60	N	2	0.9			10s			0	0	Cloudy	
Savannah, Ga.			30.36	771.1	28	— 2.2	77	N	6	2.7		0	0			0	0	Clear	
Shreveport, La.			30.59	777.0	28	— 2.2	65	NE	4	1.8		0	0			0	0	Clear	
Smithville, N. C.			30.33	770.4	24	— 4.4	72	N	8	3.6		0	0			0	0	Clear	
Springfield, Mass.			30.13	765.3	29	— 1.7	67	NW	8	3.6		5ck	2s	NE		0	0	Fair	
St. Louis, Mo.			30.59	777.0	24	— 4.4	74	N	4	1.8		0	5s			0	0	Fair	
St. Marks, Fla.			30.40	772.1	21	— 6.1	85	N	1	0.4		2c	0	W		0	0	Clear	
St. Paul, Minn.			30.59	777.0	10	—12.2	79	W	1	0.4			10s			0.01	0.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.07	763.8	33	0.6	79	NW	16	7.2			10s		NE	0	0	Cloudy	
Toledo, Ohio			30.37	771.4	28	— 2.2	77	NW	7	3.1			10s		NW	0.02	0.5	Cloudy	
Tucson, Arizona	27.61	701.3	30.16	766.1	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.58	776.7	23	— 5.0	78	NE	4	1.8		0	Sm'e		NE	0	0	Clear	
Virginia City, M. T.	24.46	621.3	29.94	760.5	29	— 1.7	59	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.32	770.1	24.5	— 4.2	82	Calm	0	0		1c	1s	N	N	0	0	Smoky	
Wilmington, N. C.			30.34	770.6	23	— 5.0	73	NW	4	1.8		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental errors. Inches.	Barometer. Corrected for instrumental errors. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.09	764.3	31	— 0.6	89	NW	10	4.5			8s		SW	0	0	Cloudy	
Yankton, Dakota	29.24	742.7	30.76	781.3	— 8	—22.2	58	NE	1	0.4		1c	0	NW		0	0	Clear	
Yuma, Arizona			30.06	763.5	51	10.6		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	75	23.9	81	Calm	0	0		8c	8n	NE	NE	0	0		James Gall.
Navassa, W. I.					75	23.9		N			4							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.21	691.1	30.00	762.0	66	18.9	83	NE	4.0	1.8			10k			0	0	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.04	762.0	79	26.1	87	E			3	5k	5ks	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	763.9			77.4	25.2		E								1.51	38.50		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			66.0	18.9	80	S			1	7cs	2ks			0.28	7.1	Cloudy	Thomas Herran.
York Factory, B. A.			30.04	763.0	18.0	— 7.8	92	S	18	8.0		7cs	0	N		0	0	Gloomy	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.06	763.5	74	23.3		S			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.07	763.8	65	18.3	73	Calm			0	0	0			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Provincetown, Mass.			30.01	762.2	37	2.8	81	NNW	10	4.5			10ks		N			Overcast	Capt. James Jorgensen.
Steamer Berlin, N. 49°, 34′, W. 8°, 52′.	E	10	28.75	730.2	55.6	13.1		W			6		..k,d			Heavy sea.		Squally	Capt. C. Pohle.
Steamer Leipzig, off Lizard.	W¼S	7	28.82	732.0	52.2	11.2		WSW			6		..km			Short, heavy.			Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperatures at York Factory, when below —40° Farenheit, are read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't. Assg'd.,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 5, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.01	762.3	75.6	24.2	55	Calm			0		8			0	0	Cloudy	Charnot.
Algiers			29.95	760.6	77.0	25.0	48	WSW			2		9			0	0	Hidden	Peter.
La Calle			29 94	760.4	77.7	25.4	57	W			2		4			0	0	Fair	Didier.
Tunis			29.96	760.9	68.0	20.0		W			2		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.07	763.8	70.3	21.3	36	SW			3		2			0	0	Clear	Millot.
Tebessa			30.05	763.2	67.1	19.5		SSE			1		0			0	0	Clear	Bourgeois.
Geriville			30.23	767.7	52.7	11.5	39	WSW			2		2			0	0	Clear	Lemaillot.
Laghouat			30.17	766.4	72.5	22.5	26	S			1		1			0	0	Clear	Guyot.
Biskra			30.09	764.3	64.6	18.1	47	NE			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.63	752.7	50.2	10.1	98	NE			1		10			0.433	11.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.58	751.3	48.6	9.2	76	WSW			2		10			0.524	13.3		Dr. Wierzbiski.
Eperies			29.58	751.2	49.1	9.5	83	S			3		6s			0.177	4.50		Julius Mikolik.
Gratz	28.39	721.0	29.64	752.9	44.6	7.0	90	SW			3		9			0.492	12.5		Andreas Rospini.
Hermannstadt	28.25	717.5	29.66	753.3	50.2	10.1	83	NW			3		9			0	0		Prof. Reissenberger.
Kremsmünster	28.19	716.0	29.53	750.0	46.0	7.8	83	NE			2		2			0	0		Prof. C. Wagner.
Lemberg			29.51	749.5	42.4	5.8	93	NW			2		10			0.248	6.3		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			29.61	752.2	57.7	14.3	95	NW			1		10s			0.204	5.19		I.R.Hydrographic Office.
Szegedin			29.67	753.5	52.7	11.5	70	Calm			0		7			0.230	5.85		Karl Stancel.
Trieste			29.63	752.6	56.1	13.4	94	Calm			0		9			1.264	32.1	Rain and fog	Prof. V. Farolfi.
Vienna			29.57	751.0	49.8	9.9	78	WSW			1		9			0 020	0.5		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.06	738.2	52.9	11.6	75	SSE			4		10ks		SW	0.016	0.40	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			28.73	729.7	46.9	8.3		SSW	7	3.1			2			0.475	12.07	Blue sky	William Boswell.
Ardrossan			28.66	728.0	49	9.4		SSE			2		6					*D. clouds	William McNeil.
Armagh, Observatory			28.56	725.4	46.4	8.0		ENE	5	2.2			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.51	724.1	45.1	7.3		Calm			0		10					Raining	J. Dreyer.
Bradford			28.67	728.2	46.7	8.2		E			5		10			0.22	5.6	Raining	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	78.2	25.7		NE			4		10					Raining	Sergt. J. F. Halanen, A.
Cambridge, Observatory			28.75	730.2	50.0	10.0		SSE			2		10					Raining	H. Todd. [H.C.
Cardington			28.72	729.5	50.0	10.0		SE			5		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.787	756.47	50.2	10.1		SSW			5		10			blank	blank	Overcast	Capt. Fellowes, R. E.
Dartmoor	27.25	692.1	28.71	729.2	46.4	8.0		SW			8		10			0	0	Raining	R. E. Power.
Davos Platz, (Switzerland)	24.44	620.8			38.2	3.4	82	Calm			0		1					Blue sky	Francis Redford, M. A.
Donaghadee			28.59	726.2	48	8.9		S			2		10					Overcast	J. Mac Gowan.
Dover			28.83	732.3	51	10.6		S			6		8					Squally	J. Costello.
Eccles, (near Manchester)			28.65	727.7	49.8	9.9		SE	6.1	2.7			10					Raining	Thomas Mackereth.
Falmouth, Observatory			28.58	725.9	50.3	10.2		SSW			6		10					Showery	The Staff.
Fort Napier, (Natal)	27.73	704.3	29.96	761.0	60.5	15.8		NE			3		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	84.0	28.9		Calm			0		6					*D. clouds	
Galway, Queen's College			28.49	723.6	50	10.0		SW			4		7					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.00	762.0	64.2	17.9		SW			7		10					Raining	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			28.68	728.5	48.2	9.0		E			1		10					Misty	Lewis Stuart.
Great Yarmouth			28.90	734.0	49	9.4		SSE			5		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y			28.74	730.0	50.3	10.2		SSE			4		10					Raining	The Staff, for G. B. Airy.
Guernsey			28.70	729.0	53	11.7		SSW			6		8			Bl nk	lank	*D. clouds	Dr. S. E. Hoskins.
Helston			28.49	723.6	52	11.1		S			7		8n			0.13	3.3	Stormy	M. P. Moyle.
Holyhead			28.42	721.9	48	8.9		ENE			5		10					Raining	John Tilston.
Kew, Observatory			28.72	729.5	51.3	10.7		SSE	25	11.2			10					Raining	The Staff.
Kingstown			28.50	723.9	49	9.4		ESE			3		10					Raining	George Mitchell.
Leicester Museum			28.68	728.5	49.8	9.9		SE			2		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.99	761.7	68.0	20.0		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			28.65	727.7	45	7.2		ENE			3		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.16	766.1	64.0	17.8		NW			5		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			28.70	729.0	49.9	9.9		SE			5		10n		SE	0.28	7.2	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			28.63	727.2	48.1	8.9		ESE			3		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			28.64	727.4	50	10.0		SE			4		10					Raining	J. Lucas.
Plymouth			28.57	725.7	52	11.1		SW			5		10					Raining	John Merrifield.
Roche's Point			28.51	724.1	48	8.9		NW			4		10					Raining	W. Kennedy.
Saint Ann's Head			28.38	720.8	53	11.7		S			6		5					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			28.75	730.2	52.8	11.6		SW			6		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			28.66	728.0	45.5	7.5		E	8	3.6			10					Misty	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.84	757.9	59.0	15.0		SW			4		10			blank	blank	Gloomy	Sergt. W. H. Lyne.
Sheffield			28.71	729.2	48.7	9.3		SE			2		10			0.948	23.9	Raining	W. F. Cooper.
Silloth Rectory			28.74	730.0	47.1	8.4	86	S			3		8			0.266	6.7	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			28.67	728.2	48.8	9.3		SE			2		10ns					Drizzling	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			28.59	726.2	46	7.8		SW			1		2					Blue sky	John Smith.
Stratfield Turgiss			28.68	728.5	50.0	10.0		SE			2		10					Raining	Rev. Charles H. Griffith.
Thurso			28.62	726.9	46	7.8		S			1		6					*D. clouds	John Trotter.
Truro, Royal Institution			28.63	727.2	55	12.8		W			6		8					Raining	W. Newcombe.
Valencia, Observatory			28.53	724.6	50.5	10.3		S	4	1.8			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					49	9.4		S			6		10			0.20	5.1		Henry Mercer.
Cape Good Hope, Obs'y			29.95	760.7	78.9	26.1	49	SSE	19	8.5		2	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.81	757.2	69.5	20.8	88	S			1		3k			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restrig Place			28.74	730.0	47.1	8.4		E			1		7k			0.08	2.0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			29.97	761.2				WSW	11.6	5.2						0	0		C. Meldrum.
Melbourne, Observatory			30.00	762.0	59.6	15.3	83	S	4	1.8			2			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.60	726.4	48	8.9		S			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			28.81	731.8	38	3.3		E			8		10			blank	lank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Copenhagen			29.40	746.8	37.6	3.1	95	ESE			6		10					
Fanöe			29.24	742.7	43.9	6.6	94	S			4		7					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			28.82	732.0	31.1	— 0.5	96	Calm			0		8					
Thorshavn, (Faröe)			28.74	730.0	42.8	6.0	84	ESE			6		10					Raining
Vestervig			29.21	742.0	40.3	4.6	100	SE			4		10					Foggy

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			28.90	734.0	51.8	11	93	SW			6		10			0.268	6.8	Covered	Normal School.
Amiens			28.94	735.1	52.2	11.2	85	W			6		10			0.079	2.0	Covered	Normal School.
Avignon			29.49	749.1	61.2	16.2	69	SE			1		2		W	0	0	Slightly cl'dy	Normal School.
Bar-sur-Seine			29.21	741.9	55.0	12.8	62	S			3		10		SW	0.004	0.1	Sprinkling	C. Saillard.
Beaumette, (near Angers)			29.02	737.2	57.7	14.3	62	SW	62.4	27.9					SW	0.154	3.9		Beaumette Observ'tory.
Beauvais			29.00	736.6	51.6	10.9	84	S			3		10		S	0.059	1.50	Covered	Normal School.
Besançon			29.34	745.2	60.1	15.6	47	SSE			6		2		SW	0	0	Slightly cl'dy	Normal School.
Bourg en Bresse			29.45	747.9	54.9	12.7	63	S			8		5n		NE	0	0	Cloudy	Normal School.
Bourges			29.19	741.3	53.6	12	87	SE			2		5		SW	0.08	2.	Cloudy	Normal School.
Brest			28.76	730.5	54.1	12.3	80	WSW			6		9		WSW	0.315	8.00	Squally	Naval Observatory.
Carcassonne			29.43	747.4	57.2	14	81	E			3		10		W	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			28.90	734.0	50.9	10.5	97	SW			4		10		SW	0	0	Covered	Normal School.
Châlons-sur-Marne			29.15	740.4	55.0	12.8	72	SSE			3		10n		NNW	0.039	1.0	Covered	Normal School.
Clermont			29.27	743.5	60.8	16.0	52	SSW			4		8		SW	0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.29	743.9	52.2	11.2	71	SSE			2		8		E	0.110	2.8	Very cloudy	Normal School.
Commune de Gréasque*			29.60	751.7	59.2	15.1	72	SE			2		8		SW	0.08	2.		M. Kina.
Grenoble			29.46	748.3	51.4	10.8	60	ENE			4		5ks,n		NE	0.069	1.75	Cloudy	Normal School.
La Roche-sur-Yon			29.10	739.0	55.4	13.0	81	SE			6		8		NE	0.52	13.2	Very cloudy	Normal School.
Le Mans			28.96	735.5	54.7	12.6	80	SW			8		8		SW	0.226	5.75	Very cloudy	Normal School.
Lons-Le-Saulnier			29.33	744.9	59.2	15.1	48	S			6		5		W	0.110	2.80	Cloudy	Normal School.
Lorient			28.92	734.6	57.2	14.0	69	SW			7		8		SW	0.772	19.6	Very cloudy	Naval Observatory.
Mâcon			29.43	747.4	54.7	12.6	93	S			6		5		SW	0	0	Cloudy	Normal School.
Metz			29.36	745.8	49.6	9.8	83	SE			4		10			0.126	3.2		M. Schuster.
Mirecourt			29.29	743.9	53.6	12	76	SSW			8		10		NNE	0	0	Covered	Normal School.
Nismes			29.52	749.7	59.0	15	75	E			1		10		SE	0	0	Covered	Normal School.
Orleans			29.08	738.5	52.5	11.4	86	W			4		5		SW	0.094	2.4	Cloudy	Normal School.
Paris, Observatory			29.03	737.4	52.2	11.2	88	S			3		10kn		SSW	0.011	0.27	Raining	National Observatory.
Parthenay																			Normal School.
Privas			29.60	751.8	57.2	14		SSW			2		2		S	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.17	740.8	59.0	15.0	77	SW			6		10		NNE	0.591	15.0	Covered	Naval Observatory.
Rouen			28.91	734.4	52.5	11.4	90	SSE			3		10			0.067	1.7	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.36	745.8	58.1	14.5	87	S			8		5		W	0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.50	749.2	63.3	17.4	67	SE			1		9					Raining	Marseilles Observatory.
Mont-Louis	24.46	621.3	29.75	755.7	45.5	7.5	100	SSW	37.3	16.66			10		SW	0.028	0.7		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.45	747.9	55.9	13.3	82	NE	7.4	3.33			10		NE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.87	530.1			26.4	— 3.1		WSW			6		10					Rainy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.06	560.4			40.6	4.8		WSW			4–6		10			0.031	0.8	Rainy	General de Nansouty.
Saint Maur, (near Paris)			29.04	737.6	51.8	11.0	88	S			4		10			0	0	Very cloudy	E. Renou.
Toulouse			29.40	746.8	54.1	12.3	93	SE			3		10			0.02	0.6		Toulouse Observatory.
Tours			29.08	738.6	55.0	12.8	86	SSW			7		7		SW	0.201	5.1		C. Marquet.
Versailles, (near Paris)			29.01	736.9	52.9	11.6	87	WSW			4		10			0.107	2.72	Raining	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.42	772.7	42.3	5.7	94	NNE	3.4	1.50			2			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow. Inches.	Rain-fall or melted snow. Millimeters.	Weather.	Observer.
Bamberg			29.49	749.0	48.7	9.3	76	W			2		1	W		0	0		Prof. T. Hoh.
Berlin			29.45	748.1	50.9	10.5	81	S			2		8			0.142	3.6		Prof. Arndt.
Breslau			29.54	750.4	51.8	11.0	78	SW			3		9			0.110	2.8		Royal University Obs'y.
Carlsruhe			29.34	745.2	56.1	13.4	67	SE			2		10			0	0		A. Senz.
Cassel			29.40	746.8	51.1	10.6	77	S			2		4	SW		0.047	1.2		Dr. H. Möhl.
Crefeld			29.21	741.9	53.8	12.1	76	SE			4		7			Inap.	Inap.		Director Lose.
Emden			29.27	743.5	48.9	9.4	89	S			1		3	SW		0.106	2.7		Prof. Prestel.
Frankfort on the Main			29.39	746.5	54.1	12.3	51	SE			1		5			0.087	2.2		Physical Society.
Friedrichshafen			29.42	747.3	54.0	12.2	55	SW			3		2			0.075	1.9	Raining	M. Wilhelm.
Hamburg			29.34	745.1	50.0	10.0	84	SSE			3		28			0.217	5.5	Clear	Captain F. Hegemann.
Kiel			29.31	744.5	47.3	8.5	93	S			2		2			0.291	7.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.70	754.3	25.9	— 3.4	83	E			5		10			0.024	0.6	Snowing	Prof. E. Luther.
Köslin			29.52	749.9	32.9	0.5		Calm			0		4			0	0		H. Müller.
Leipsic			29.47	748.5	49.5	9.7	79	S			2		3			0.138	3.5		Prof. Bruhns.
Memel			29.78	756.3	18.7	— 7.4	75	ESE			5		9ks			0	0		Reinbrecht & Skalweit.
Münster			29.27	743.4	55.9	13.3	71	SE			2		10			0.091	2.3		Prof. E. Heis.
Neufahrwasser			29.62	752.3	27.5	— 2.5	92	SE			3		10			0.941	23.9	Heavy snow	A Lothe.
Posen			29.50	749.4	40.3	4.6	94	SE			2		10			0.094	2.4		Dr. Magener.
Strassburg, (in Alsace)			29.35	745.6	55.8	13.2	60	SW			1		9	NW		0.004	0.1		Dr. Schur.
Stuttgart			29.40	746.8	54.0	12.2	60	SW			1		4			0.008	0.2		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.21	742.0	54.7	12.6	61	SE			3		10			0.390	9.9		Prof. Flesch.
Weissenburg, (Bavaria,)	27.96	710.2	29.45	748.0	50.7	10.4	59	SSE			2		3	S		0	0		Dr. von Bebber.
Wustrow, Naval School			29.41	747.1	43.5	6.4	96	SE			2		10			0.504	12.8		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 7°, 10′, W. 31°, 21′.			30.10	764.5	82.6	28.1	80	ESE			4		1	SE					Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.99	761.7	64.9	18.3		W										Misty	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.59	751.5	55.4	13.0	79	SE	1.3	0.6			5			0.071	1.8		Prof. Giovanni Clodig.
Padua			29.58	751.3	53.8	12.1	86	NNE	3.8	1.7			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.61	752.0	54.0	12.2	75	SE	3.8	1.7			1	W		0	0		Alm. Da Schio.
Verona			29.63	752.6	54.0	12.2	75	SW			1		6			1.079	27.4		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.67	753.6	46.8	8.2	85	Calm			0		8			0.039	1.0	Raining	Prof. Giuseppe Calza.
Milan			29.67	753.6	46.4	8.0	91	ENE			1		0			0.197	5.0		Ab. Gio. Capelli.
Pavia			29.67	753.5	46.4	8.0	84	SW			4		10			0	0		Prof. Gio. Cantoni.
Moncalieri			29.69	754.2	44.8	7.1	82	NNW	0.7	0.3			10			0.169	4.3	Raining	Prof. P. F. Denza.
Mondovi	27.73	704.3	29.67	753.6	48.2	9.0	73	NW			2		8	W		0	0		Prof. C. Bruno.
Porto Maurizio			29.67	753.5	59.2	15.1	72	ENE			2		9			0.07	1.9	Raining	Prof. L. Vassallo
Genoa			29.61	752.2	60.4	15.8	81	SE	2.5	1.1			10	S		0.181	4.6	Raining	Prof. Garibaldi.
Piacenza			29.67	753.6	42.8	6.0	94	NW	5.6	2.5			10			0	0	Dense fog	Dott. G. Manzi.
Parma			29.68	753.8	44.8	7.1	93	SW			4		10			0.043	1.1	Fog & rain	Prof. P. Pigorini.
Bologna			29.68	753.9	55.2	12.9	53	W			1		7	N		0	0		Prof. A. Palagi.
Florence			29.68	753.5	59.9	15.5	91	NW			2		10	SW		0.655	16.6	Raining	Cav. F. Meucci.
Leghorn			29.64	752.9	60.4	15.8	88	WSW	8.1	3.6			10	W		1.130	28.7	Raining	Prof. P. Monte.
Siena	28.45	722.6	29.66	753.3	57.4	14.1	85	SSW	0	0			10	SW		0.114	2.9	Raining	Prof. L. Toscani.
Urbino																			Prof. L. Serpieri.
Pesaro			29.66	753.3	53.8	12.1	94	N	13.0	5.8			10	N		0.110	2.8	Raining	Prof. Luigi Guidi.
Ancona			29.66	753.4	57.6	14.2	90	SE			4		10			0.463	11.5	Raining	Prof. F. De—Bovis.
Grosseto			29.69	754.1	61.9	16.6	94	SW			4		10	S		0.173	4.4	Raining	Avv. P. Ponticelli.
Rome			29.72	754.8	62.6	17.0	93	SSW	4.9	2.2			10			0.506	12.7	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.79	756.6	64.8	18.2	82	SW			6		10	WSW		0.906	23.0	Raining	Prof. L. Palmieri.
Lecce			29.88	758.9	60.4	15.8	83	S	16.1	7.2			10			0.028	0.7	Light rain	Prof. C. De—Giorgi.
Cosenza			29.93	760.1	63.3	17.4	67	SE	1.8	0.8			10			0.287	7.3	Raining	Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.82	757.4	71.2	21.8	44	SW	15.0	6.7			9			0	0		Prof. G. Cacciatore.
Caltanissetta	27.99	711.0	29.94	760.5	58.5	14.7	80	SE			1		6	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.83	757.6	61.3	16.3	85	WSW	11.2	5.0			10	SE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.04	737.5	51.1	10.6		SSE			5					0.071	1.8		
Groningen			29.15	740.3	50.5	10.3		S			4					0.012	0.3		
Helder			29.10	739.1	51.4	10.8		SSE			4					0.319	8.1		
Utrecht			29.10	739.0	53.1	11.7	71	SSE			4		5			0.252	6.4	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			28.98	736.0	41.7	5.4	46	E	45	20			9			0	0		
Brönö			29.45	747.9	29.8	— 1.2	50	E	34	15			!			0	0		
Christiania			29.55	750.5	27.3	— 2.6	92	NE	8.9	4.0			10			0.10	2.6	Snowing	
Tromsö			29.51	749.5	21.6	— 5.8	64	SE	18	8			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.61	752.2	60.8	16.0	77	WNW	8.1	3.6			3			0	0		Dr. J. A. Sampaio.
Campo Major			29.75	755.6	59.0	15.0	91	WSW	17.4	7.8			10	WSW		1.134	28.8	Raining	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.06	763.4	68.5	20.3	72	WNW	8.1	3.6			10			0	0		Capt. D. A. de Cunha.
Lisbon			29.76	755.8	63.7	17.6	96	SW	31.1	13.9			10			2.744	69.7	Raining	The Observatory.
Ponta Delgada, (Azores)			29.69	754.1	62.6	17.0	88	WNW	6.3	2.8			10			0.134	3.4	Rainy	

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.60	751.7	28.2	— 2.1	98	E	13	6			10					Snowing	Astronomical Obs.
Wilna			29.89	759.2	11.3	—11.5	78	ESE	2	1			7						Astronomical Obs.
Dorpat			30.09	764.2	16.0	— 8.9	88	ESE	11	5			10					Snowing	Physical Cabinet.
St. Petersburg			29.97	761.3	18.0	— 7.8	92	N	4	2			10					Light fog	Central Physical Obs.
Kuopio			30.18	766.5	—14.1	—25.6	100	Calm	0	0			10						Ch. Forsten.
Kieff			29.72	754.9	21.7	— 5.7	96	E	13	6			10					Snowing	Physical Cabinet.
Nikolaiev			29.61	752.1	40.1	4.5	98	Calm	0	0			10					Foggy	Kurdakof.
Kertch			29.68	753.9	53.8	12.1	95	SSW	11	5			10						Lagorio.
Moscow			29.93	760.2	10.8	—11.8	82	N	13	6			9						Meteorological Obs.
Lugan			29.77	756.2	23.0	— 5.0	71	E	7	3			10			Blank	Blank		Meteorological Obs.
Archangel			29.48	761.5	— 2.2	—19.0	86	N	9	4			10						Ogorodnikof.
Tiflis	28.51	724.2	29.91	759.8	59.0	15.0	35	N	18	8			6						Physical Observatory.
Astrakhan			29.75	755.7	36.9	2.7	87	NNW	4	2			10			Blank	Blank		Sebastianof.
Kasan			29.41	747.0	14.9	— 9.5	91	WNW	9	4			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.07	712.9	29.65	737.8	17.4	— 8.1	80	SSW	13	6			10						Meteorogical Obs.
Nukuss			29.93	760.3	45.7	7.6	86	SSE	4	2			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.12	765.0	21.7	— 5.7	75	SE	9	4			10						Meteorological Obs.
Yeniseisk			30.46	773.6	—23.8	—31.0	70	SE	2	1			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.52	775.3	25.9	— 3.4	89	SE	7	3			10			Blank	Blank		Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					7.3	—13.7		W	2	1			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.60	751.7	58.5	14.7	90	SW	34.3	15.34		0	10			0.500	12.7	Covered	Royal Observatory.
San Fernando			29.99	761.8	65.7	18.7	95	SW	18.3	8.2			10		SW	0.075	1.9	Light rain	Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.10	764.5	— 3.3	—19.6	100	SE			2		10			0	0	Foggy	
Umea			30.06	763.4	10.0	—12.2		Calm			0		0						
Hernosand			29.95	760.7	28.8	— 1.8	92	SE			4		10			0	0		
Stockholm			29.78	756.4	30.2	— 1.0	76	SE			6		10			0	0		
Wisby			29.74	755.5	28.4	— 2.0	84	ESE			6		10			0	0		
Sub-Series.																			
Upsala			29.82	757.3	29.1	— 1.6	77	ESE	14.1	6.3			10		SE	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.03	711.9	29.45	747.9	57.0	13.9	49	SSW			1		3			0.020	0.5	Clouds	The Observatory.
Zurich	27.83	706.8	29.48	748.7	50.9	10.5	70	W			1		3			0.031	0.8	Bright	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —15.2 mm; Thermometer, +10.3 cent.; Relative Humidity, —30 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.88	759.0	60.6	15.9	70	SW	13	6.0			8		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.94	760.5	56.3	13.5		N			1		10						
Valona			29.89	759.1	64.4	18.0		SE			6		10						
Varna			29.65	753.0	60.8	16.0		S			2		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.13	765.3	69.4	20.8	64	WNW			1		3ks		S	0	0	*D. clouds	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.93	760.2	25.7	— 3.5	57	NW	5	2.2			4						Hon. J. Ferguson.
Brockville, Ontario			30.30	769.6	12	—11.1		Calm	0	0		0	2s		W	0	0	Fair	W. R. Bigg.
*Chatham, N. B			29.84	757.9	20	— 6.7	92	SW	2	0.9		5c	2ks			0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.86	758.4	24	— 4.4	92	W	8	3.6		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			29.97	761.2	15.7	— 9.1	97	W			2	0	1s			0	0	Bright	James Smith, M. A.
Dalhousie, N. B			29.86	758.4	21.3	— 5.9	81	NW			2					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.63	778.0	33.1	0.6	100	Calm				0	0			0	0	Frosty	W. H. Bevis.
Fredericton, N. B			29.97	761.2	22.0	— 5.6	86	NW	4	1.8			7s		NW	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			29.59	751.6	16	— 8.9	94	SW	19	8.5		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.30	769.6	28.7	— 1.8	80	Calm			0	8k	0	W		0	0	Unsettled	H. J. Strang, M. A.
Granton, Ontario	29.13	739.9	30.34	770.6	12.5	—10.8		W			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S			29.88	758.9	19	— 7.2	84	Calm	0	0		0	0			0	0	Clear	F. Allison, M. A.
Heart's Content, N. F																			F. Weedon.
*Kingston, Ontario			30.30	769.6	15	— 9.4	91	Calm	0	0		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.73	755.1	32.0	0.0	95	N	5	2.2		7k	0	N		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.15	765.8	16	— 8.9	95	W	15	6.7		5ck	2s	W	W	0	0	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			30.19	766.8	14	—10.0	72	W	4	1.8		8k	0	W		0	0	Cloudy	J. B. Haney.
*Parry Sound, Ontario			30.22	767.6	10	—12.2	75	N	3	1.3		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.32	770.1	18	— 7.8	83	NW	8	3.6		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S			29.83	757.7	29.1	— 1.6		NW	16	7.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.34	770.6	16	— 8.9	86	NW	8	3.6		0	0			0	0	Clear	M. Payne.
*Quebec, Quebec			30.06	763.5	24	— 4.4	87	SW	5	2.2			10n		SW	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.98	761.5	24	— 4.4	87	NW	5	2.2		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.24	768.1	25	— 3.9	87	Calm	0	0		2k	0			0	0	Clear	K. Stewart.
Stayner, Ontario			30.23	767.8	25	— 3.9	88	W	5	2.2		8k	0	W		0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.93	734.8	30.33	770.4	12.1	—11.1		SW	3	1.3		0	0			0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.78	756.4	31	— 0.6	79	W	6	2.7		2c	8ks		NW	0.02	0.5	Fair	T. C. Hill.
*Toronto, Ontario			30.30	769.6	23	— 5.0	82	W	3	1.3			10n		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.33	770.4	12.7	—10.7	100	W	5	2.2		0	0			0	0	Clear	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.64	752.8	24.5	— 4.2	100	NW				10c	10sn			0	0	Cloudy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.14	765.5	23	— 5.0	73	NW	2	0.9		10k	0	NW		0	0	Cloudy	
Alpena, Mich.			30.28	769.1	11	—11.7	60	Calm	0	0		0	0			Inap.	Inap.	Clear	
Atlantic City, N. J.			30.17	766.3	21	— 6.1	71	NW	4	1.8		2cs	0	N		0	0	Fair	
Augusta, Ga.			30.40	772.1	28	— 2.2	88	Calm	0	0			Haze			0	0	Clear	
Baltimore, Md.			30.25	768.3	26	— 4.4	76	NW	8	3.6		2c	5s	NW		0	0	Cloudy	
Barnegat, N. J.			30.15	765.8	23	— 5.0	86	NW	12	5.4		10k	0	NW		0	0	Fair	
Bismarck, Dakota	28.08	713.2	29.85	758.2	11	—11.7	60	NW	1	0.4		0	0			0	0	Clear	
Boston, Mass.			30.05	763.3	25	— 3.9	74	NW	8	3.6		8ck	Sm'e	W		0	0	Fair	
Breckenridge, Minn.			29.92	760.0	10	—12.2	79	SE	10	4.5		0	0			0	0	Clear	
Buffalo, N. Y.			30.28	769.1	25	— 3.9	87	W	6	2.7			10s		W	0	0	Cloudy	
Burlington, Vt.			30.17	766.3	24	— 4.4	73	E	2	0.9		0	8s			0	0	Cloudy	
Cairo, Ill.			30.55	776.0	22	— 5.6	86	Calm	0	0			Fog			0	0	Foggy	
Cape Hatteras, N. C.			30.12	765.0	34	1.1	61	N	15	6.7			10s		N	0	0	Cloudy	
Cape Henry, Va.			30.20	767.1	32	0.0	79	NW	16	7.2		2k	2s	NW	NW	0	0	Fair	
Cape Lookout, N. C.			30.23	767.8	30	— 1.1	68	NW	7	3.1		0	5s			0	0	Fair	
Cape May, N. J.			30.17	766.3	27	— 2.8	77	N	23	10.3		5k	0	N		0	0	Fair	
Charleston, S. C.			30.36	771.1	31	— 0.6	41	N	6	2.7		0	Sm'e			0	0	Clear	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	32	0.0	61	NW	16	7.2		0	0			0	0	Clear	
Chicago, Ill.			30.42	772 7	18	— 7.8	52	SW	6	2.7		0	0			0	0	Clear	
Cincinnati, Ohio			30.43	772.9	23	— 5.0	73	W	2	0.9		Haze	0			0	0	Clear	
Cleveland, Ohio			30.38	771.6	18	— 7.8	84	S	6	2.7		Haze	2s			0.05	1.3	Fair	
Corsicana, Tex.			30.53	775.4	32	0.0	60	W	3	1.3		2cs	Haze			0	0	Fair	
Davenport, Iowa			30.41	772.4	14	—10.0	81	SW	4	1.8		5cs	5k	N	N	0	0	Fair	
Denison, Tex.			30.52	775.2	31	— 0.6	68	SE	3	1.3		0	0			0	0	Clear	
Denver, Col.	24.91	632.7	30.13	765.3	32	0.0	42	S	10	4.5		0	0			0	0	Clear	
Detroit, Mich.			30.36	771.1	15	— 9.4	82	W	1	0.4		0	Sm'e		W	0	0	Clear	
Dodge City, Kan.	27.55	699.8	30.00	762.0	22	— 5.6	72	W	6	2.7		0	0			0	0	Clear	
Dubuque, Iowa			30.35	770.9	14	—10.0	81	SW	1	0.4		10k	0	SW		0	0	Cloudy	
Duluth, Minn.			30.04	763.0	19	— 7.2	69	SW	8	3.6		0	0			0	0	Clear	
Eastport, Me.			29.98	761.5	25	— 3.9	78	NW	3	1.3		0	0			0	0	Clear	
Erie, Pa.			30.30	769.6	29	— 1.7	89	W	8	3.6			10ks		W	0	0	Cloudy	
Escanaba, Mich.			30.19	766.8	17	— 8.3	82	SW	6	2.7		0	8s		N	0	0	Fair	
Fort Gibson, Indian Ter.			30.48	774.2	18	— 7.8	84	E	2	0.9		2c	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.17	740.9	30.37	771.4	25	— 3.9	38	S	2	0.9		0	0			0	0	Clear	
Fort Sully, Dakota	28.22	716.8	30.03	762.7	8	—13.3	75	Calm	0	0		0	0			0	0	Clear	
Florence, Arizona	28.50	723.9	30.01	762.2	60	15.6		NE				0	0			0	0	Clear	
Galveston, Tex.			30.55	776.0	43	6.1	58	NE	14	6.3		2c	0	W		0	0	Fair	
Grand Haven, Mich.			30.31	769.9	30	— 1.1	83	W	10	4.5		0	5s		W	0	0	Fair	
Indianapolis, Ind.			30.47	773.9	19	— 7.2	84	Calm	0	0		0	Fog			0	0	Clear	
Indianola, Tex.			30.52	775.2	44	6.7	60	NE	16	7.2			10s		W	0	0	Cloudy	
Jacksonville, Fla.			30.34	770.6	29	— 1.7	67	NW	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa			30.28	769.1	21	— 6.1	71	SW	6	2.7		8c	0	SW		0	0	Fair	
Key West, Fla.			30.30	769.6	47	8.3	85	NE	16	7.2		0	8ks			0	0	Cloudy	
Kittyhawk, N. C.			30.20	767.1	31	— 0.6	68	NW	20	8.9			10ks			0	0	Cloudy	
Knoxville, Tenn.			30.50	774.7	24	— 4.4	86	NW	4	1.8		8ck	Fog	NW		0	0	Cloudy	
La Crosse, Wis.			30.28	769.1	14	—10.0	63	S	13	5.8		Haze	Haz			0.03	0.8	Hazy	
Leavenworth, Kan.			30.35	770.9	23	— 5.0	73	S	6	2.7		0	0			0	0	Clear	
Louisville, Ky.			30.49	774.4	22	— 5.6	72	W	3	1.3		0	Sm'e			0	0	Clear	
Lynchburg, Va.			30.30	769.6	27	— 2.8	70	W	3	1.3		10k	0	W		0	0	Cloudy	
Malone, N. Y.			30.16	766.1	23	— 5.0	86	W	7	3.1			10s		W	0	0	Cloudy	
Marquette, Mich.			30.09	764.3	25	— 3.9	75	S	4	1.8		0	5s			0	0	Fair	
Memphis, Tenn.			30.56	776.2	23	— 5.0	72	Calm	0	0		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.37	771.4	12	—11.1	80	SW	7	3.1		2c	0			0	0	Clear	
Mobile, Ala.			30.52	775.2	28	— 2.2	67	N	6	2.7		0	Fog			0	0	Clear	
Montgomery, Ala.			30.52	775.2	26.5	— 3.1	82	Calm	0	0		0	Sm'e			0	0	Clear	
Morgantown, W. Va.	29.23	742.4	30.37	771.4	25	— 3.9	75	SW	1	0.4			10s		W	0.02	0.5	Clearing	
Mt. Washington, N. H.	23.57	598.7	29.93	760.2	15	— 9.4	82	N	12	5.4		8s	5s	N	N	0	0	Cloudy	
Nashville, Tenn.			30.53	775.4	17	— 8.3	83	Calm	0	0		0	Fog			0	0	Foggy	
New Haven, Conn.			30.09	764.3	25	— 3.9	77	N	15	6.7		Haze	0			0	0	Clear	
New London, Conn.			30.08	764.0	28	— 2.2	67	NW	4	1.8		1cs	0	W		0	0	Clear	
New Orleans, La.			30.53	775.4	33	0.6	50	NE	8	3.6		4cs	Sm'e	W		0	0	Fair	
Newport, R. I.			30.07	763.8	31	— 0.6	79	NW	5	2.2		0	2s			0	0	Clear	
New York, N. Y.			30.15	765.8	27	— 2.8	77	NW	10	4.5		1ck	Sm'e	NW	NW	0	0	Clear	
Norfolk, Va.			30.23	767.8	29	— 1.7	78	N	10	4.5		2ck	2s			0	0	Fair	
North Platte, Neb.	27.11	688.6	29.85	758.2	17	— 8.3	83	W	8	3.6		0	0			0	0	Clear	
Omaha, Neb.	29.02	737.1	30.18	766.6	22	— 5.6	86	S	10	4.5		0	0			0	0	Clear	
Oswego, N. Y.			30.25	768.3	27	— 2.8	77	NW	7	3.1		Haze	2ks		NW	0	0	Fair	
Pembina, Dakota			29.68	753.9	12	—11.1	80	S	12	5.4		0	0			0	0	Clear	
Philadelphia, Pa.			30.18	766.6	26	— 3.3	76	N	12	5.4		0	1s,hz.			0	0	Fair	
Pike's Peak, Col.	17.87	453.9	30.08	764.0	19	— 7.2	77	N	8	3.6		0	0			0	0	Clear	
Pittsburgh, Pa.			30.33	770.4	27	— 2.8	88	NW	6	2.7			10ks			Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.34	770.6	16	— 8.9	66	W	5	2.2		2cs	0			Inap.	Inap.	Clear	
Portland, Me.			30.04	763.0	30	— 1.1	67	NW	4	1.8		10ck	0			0	0	Cloudy	
Portland, Oregon			30.50	774.7	33	0.6	100	SW	2	0.9			10s			0.15	3.8	Cloudy	
Punta Rassa, Fla.			30.31	769.9	40.0	4.4	56	N	6	2.7		Haze	0	SW		0	0	Clear	
Rochester, N. Y.			30.26	768.6	21	— 6.1	85	W	8	3.6			10s		W	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.92	658.4	30.25	768.3	24	— 4.4	87	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.11	764.8	27	— 2.8	77	NW	14	6.3		0	0			0	0	Clear	
San Diego, Cal.			29.95	760.7	54	12.2	23	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.11	764.8	48	8.9	77	Calm	0	0		5c	0			0	0	Fair	
Santa Fé, N. M.	23.46	595.9	30.00	762.0	21	— 6.1	71	N	7	3.1		0	0			0	0	Clear	
Savannah, Ga.			30.37	771.4	29	— 1.7	67	N	4	1.8		0	0			0	0	Clear	
Shreveport, La.			30.61	777.5	27	— 2.8	76	N	1	0.4		0	0			0	0	Clear	
Smithville, N. C.			30.28	769.1	25	— 3.9	77	NW	5	2.2		0	0			0	0	Clear	
Springfield, Mass.			30.09	764.3	27	— 2.8	76	Calm	0	0		8ck	0	N		Inap.	Inap	Fair	
St. Louis, Mo.			30.46	773.7	25	— 3.9	75	SW	4	1.8		0	0			0	0	Clear	
St. Marks, Fla.			30.42	772.7	25	— 3.9	88	N	6	2.7		0	0			0	0	Clear	
St. Paul, Minn.			30.06	763.5	14	—10.0	63	SE	6	2.7		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.06	763.5	30	— 1.1	78	NW	8	3.6		2ck	2s	NW	NW	Inap.	Inap.	Fair	
Toledo, Ohio			30.36	771.1	24	— 4.4	87	SW	4	1.8		5k	Haze	SW		0	0	Fair	
Tucson, Arizona																			
Tybee Island, Ga.	27.69	703.3	30.24	768.1	50	10.0		SE				8c	0	S		0	0	Fair	
Vicksburg, Miss.																			
Virginia City, M. T.			30.61	777.5	24	— 4.4	86	NE	1	0.4		1c	Sm'e		NE	0	0	Clear	
Washington, D. C.	24.44	620.8	29.92	760.0	27	— 2.8	54	Calm	0	0		8c	0	W		0	0	Cloudy	
Wilmington, N. C.			30.27	768.8	23	— 5.0	86	NW	4	1.8		0	2s		N	0	0	Smoky	
			30.28	769.1	26	— 3.3	64	NW	12	5.4		0	2s			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.07	763.8	29	— 1.7	78	NW	6	2.7		Haze	2s			0	0	Hazy	
Yankton, Dakota	28.68	728.5	30.04	763.0	23	— 5.0	73	S	5	2.2		0	0			0	0	Clear	
Yuma, Arizona			30.11	764.8	58	14.4		N				0	0			0	0	Clear	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.18	766.6	76	24.4	86	Calm	0	0		8c	2s	SE	SE	0	0		James Gall.
Navassa, W. I.					78	25.6		NE			3							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.13	689.1	29.93	760.2	67	19.4	94	N	2.0	0.9		5c	2k	NE		0.28	7.1	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.02	762.5	80	26.7	87	E			2	5k	5k	E		0.106	2.54	⅜ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.07	763.8			82.8	28.2		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8			63.5	17.5	85	Calm			0		10n			Inap.	Inap.	Cloudy	Thomas Herran.
York Factory, B. A.			29.06	738.1	18.0	— 7.8	92	SW	5	2.2		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	74	23.3		N			2					0	0	Overcast	Daniel Smith.
Makawao, Maui, H. I.			30.02	762.5	65	18.3	73	Calm			0	0	0			0	0		F. L. Clarke.

MARINE SERIES.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, off Brant Point, Mass.	W by N	3	30.02	762.5	36	2.2	90	NNW	11	4.9		2cs	0			Smooth		Clear	Capt. James Jorgensen
Steamer Berlin, N. 50°, 27′, W. 1°, 52′.	ENE ¾E	10	28.62	726.9	53.4	11.9		SW			7		..d			Heavy sea.		Squally	Capt. C. Rohle.
Steamer Leipzig, N. 49°, 47′, W. 9°, 47′.	W¼S	7.5	28.56	725.4	51.1	10.6		WSW			5		10			High swells	W	Squally	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The temperature at York Factory, when below —40° Fahrenheit, is read from a spirit thermometer. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv^t Assg^t.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 6, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.02	762,4	73.9	23.3	44	Calm			0		9			0	0	Hidden	Charnot.
Algiers			29.96	761.0	71.6	22.0	69	WNW			1		9			0	0	Hidden	Peter.
La Calle			29.96	761.0	77.4	25.2	42	W			3		4			0	0	Fair	Didier.
Tunis			30.00	762.0	71.6	22.0		W			3		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saïda			30.08	764.1	71.2	21.8	31	S			2		2			0	0	Clear	Millot.
Tebessa			30.10	764.5	65.7	18.7		W			4		8			0	0	Cloudy	Bourgeois.
Geriville			30.15	765.8	50.9	10.5	36	W			4		4			0	0	Fair	Lemaillot.
Laghouat			30.16	766.1	72.0	22.2	30	SW			1		1			0	0	Clear	Guyot.
Biskra			30.10	764.6	66.9	19.4	49	NW			2		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.54	750.2	49.1	9.5	91	SW			1		7			0.378	9.6		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.51	749.5	36.0	2.2	96	NE			1		10			0.075	1.9		Dr. Wierzbiski.
Eperies			29.51	749.5	44.1	6.7	96	Calm			0		10			0.016	0.40		Julius Mikolik.
Gratz	28.31	719.1	29.56	750.9	46.4	8.0	90	S			1		8			0.295	7.5		Andreas Rospini.
Hermannstadt	8.11	714 0	29.52	749.7	51.4	10.8	76	SE			3		10			0.169	4.30		Prof. Reissenberger.
Kremsmünster	8.19	715.9	29.53	750.0	45.1	7.3	85	SW			2		10			0	0		Prof. C. Wagner.
Lemberg			29.57	751.1	38.5	3.6	93	NE			2		10			0.224	5.7		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.56	750.8	55.6	13.1	95	WNW			3		10s			0.105	2.66		I.R.Hydrographic Of'ce.
Szegedin			29.45	748.1	49.1	9.5	93	Calm			0		10			0.848	21.55		Karl Stancel.
Trieste			29.56	750.9	53.2	11.8	97	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.56	750.8	44.8	7.1	91	NE			1		9			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.22	742.3	50.4	10.2	86	SW			5		10ka,n		WSW	0.329	8.36	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Upp'er 0—10.	Lower 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Aberdeen			28.59	726.2	46.0	7.8		W	12	5.4			9			0.440	11.18	Raining	William Boswell.
Ardrossan			28.74	730.0	50	10.0		W			3		7					*D. clouds	William McNeil.
Armagh, Observatory			28.81	731.8	46.9	8.3		SSW	21	9.4			3					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.91	734.3	47.0	8.3		SW			2		9					*D. clouds	J. Dreyer.
Bradford			28.94	735.1	48.1	8.9		W			7		2			0.55	14.0	Showery	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	83.5	28.6		SE			3		7					Overcast	Sergt. J. F. Halanen, A. H. C.
Cambridge, Observatory			29.09	738.9	52.0	11.1		SW			3		10					Overcast	H. Todd.
Cardington			29.11	739.4	50.0	10.0		S			2		1					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.16	740.7	50.2	10.1		SW			1		7					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.79	705.8	29.27	743.4	48.0	8.9		W			6		6					*D. clouds	R. F. Power.
Davos Platz, (Switzerland)	24.43	620.5			41.2	5.1	74	Calm			0		8			0.252	6.40	*D. clouds	Francis Redford, M. A.
Donaghadee			28.71	729.2	48	8.9		W			4		5					*D. clouds	J. Mac Gowan.
Dover			29.18	741.2	51	10.6		WSW			3		5					½ clouded	J. Costello.
Eccles, (near Manchester)			28.93	734.8	49.7	9.8		SW	5.0	2.2			10					Overcast	Thomas Mackereth.
Falmouth, Observatory			29.20	741.7	53.5	11.9		WSW			5		7					Squally	The Staff.
Fort Napier, (Natal)	27.19	690.6	29.43	747.5	86.6	30.3		NW			6		0					Blue sky	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			30.00	762.0	84.0	28.9		NE			7		6					*D. clouds	
Galway, Queen's College			28.81	731.8	52	11.1		S			8		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.98	761.5	65.6	18.7		SW			6		9					Overcast	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			28.71	729.2	47.5	8.6		SW			2		9					*D. clouds	Lewis Stuart.
Great Yarmouth			29.05	737.9	49	9.4		SW			3		4					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.16	740.7	51.7	10.9		WSW			4		9			Blank	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.30	744.2	51.5	10.8		SW			4.		5			Blank	Blank	*D. clouds	Dr. S. E. Hoskins.
Helston			29.17	740.9	55	12.8		SW			6		4ck			0.8	20.3	Fine	M. P. Moyle.
Holyhead			28.95	735.3	49	9.4		WSW			6		4					*D. clouds	John Tilston.
Kew, Observatory			29.16	740.7	52.4	11.3		WSW	20	8.9			7					*D. clouds	The Staff.
Kingstown			28.91	734.3	48	8.9		WSW			5		3			Blank	Blank	Blue sky	George Mitchell.
Leicester Museum			29.03	737.3	50.1	10.1		SW			4		5					*D. clouds	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)			29.96	761.0	71.0	21.1		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A. H. C.
Nairn			28.58	725.9	45	7.2		E			1		10					Raining	W. D. Penny.
Nassau, (Bahamas)			30.22	767.6	62.6	17.0		NW			7		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.02	737.1	50.1	10.1		SSW			3		10k,d		WSW	0.100	2.54	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.02	737.1	48.6	9.2		SW			6		9					Threatening	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.11	739.4	51	10.6		WSW			4		4					*D. clouds	J. Lucas.
Plymouth			29.21	741.9	52.8	11.6		SW			3		10					Raining	John Merrifield.
Roche's Point			29.01	736.8	51	10.6		W			5		5					½ clouded	W. Kennedy.
Saint Ann's Head			29.06	738.1	52	11.1		WSW			6		8					Overcast	John C. Walker.
Saint Helier, (Jersey)			29.31	744.5	54.8	12.7		W			6		5					½ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			28.58	725.9	46.2	7.9		ESE	28	12.5			10					Drizz'ing.	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.80	756.9	58.4	14.7		SW			2		7			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			28.94	735.1	49.6	9.8		SW			5		5			0.023	0.58	Blue sky	W. F. Cooper.
Silloth Rectory			28.88	733.5	47.4	8.6	86	SW			6		6			0.077	1.91	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			28.94	735.1	48.1	8.9		SW			4		6ks					Gloomy	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			28.55	725.2	46	7.8		WNW			1		8					*D. clouds	John Smith.
Stratfield Turgiss			29.12	739.6	50.9	10.5		SW			1		5					*D. clouds	Rev. Charles H. Griffith.
Thurso			28.52	724.4	47	8.3		ESE			3		10					Gloomy	John Trotter.
Truro, Royal Institution			29.22	742.2	55	12.8		W			5		4					*D. clouds	W. Newcombe.
Valencia, Observatory			28.99	736.3	49.3	9.6		WSW	35	15.6			10			Blank	Blank	*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					48	8.9		W			4		3			0.10	2.5		Henry Mercer.
Cape Good Hope, Obs'y			29.96	761.0	68.0	20.0	47	SSW	14	6.3		4	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.71	754.6	70.5	21.4	83	SE			1		3k			0	0		Francis Abbott, F. R. A. S.
Leith, Restalrig Park			28.71	729.2	49.6	9.4		W			5		10k			0.51	13.0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				W	8.6	3.8						0	0		C. Meldrum.
Melbourne, Observatory			29.99	761.7	60.0	15.6	82	SSE	10	4.5			10			0	0	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.64	727.4	51	10.6		SW			3	5	5	SW		0.1	2.5		J. Youngclause.
North Unst. (Shetland Is.)			28.81	731.8	43	6.1		SE			8		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Station	Corr. Inches	Corr. mm	Red. Inches	Red. mm	Fahr.	Cent.	Rel. Hum.	Wind from	Miles/hr	Meters/sec	Force	Clouds Upper	Clouds Lower	Dir. Upper	Dir. Lower	Rain Inches	Rain mm	Weather
Copenhagen			29.30	744.2	37.8	3.2	92	SE			4		10					
Fanöe			29.11	739.5	45.9	7.7	93	S			4		8					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			28.72	729.4	34.7	1.5	93	Calm			0		5					
Thorshavn, (Faröe)			28.75	730.3	44.2	6.8	91	ESE			6		10					Raining.
Vestervig			29.13	739.8	41.4	5.2	100	SE			6		10					Raining.

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			29.46	747.9	51.8	11	70	SW			6		5kn		SW	0.55	14.	Cloudy	Normal School.
Amiens			29.28	743 6	52.2	11.2	85	W			6		8		W	0.197	5.0	Very cloudy	Normal School.
Avignon			29.71	754.7	57.2	14	73	N			2		10			0	0	Lightly cov.	Normal School.
Bar-sur-Seine			29.50	749.4	54.1	12.3	65	W			6		8n		W	0.532	13.5	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.44	747.8	54.1	12.3	69	SW	31.8	14.2					SW	0.386	9.8		Beaumette Observ'tory.
Beauvais			29.38	746.2	53.6	12	68	W			3		8		W	0.217	5.50	Very cloudy	Normal School.
Besançon			29.62	752.3	51.4	10.8	77	S			6		8		SW	0.283	7.2	Very cloudy	Normal School.
Bourg en Bresse			29.73	755.2	54.9	12.7	74	S			2		2k		NE	0.087	2.2	Slightly cl'dy	Normal School.
Bourges			29.61	752.1	53.6	12	80	SW			6		2		SW	0.28	7.	Slightly cl'dy	Normal School.
Brest			29.30	744.3	57.4	14.1	60	SW			5		4		SW	0.079	2.00	Stormy	Naval Observatory.
Carcassonne			29.75	755.7	58.1	14.5	72	S			1		10		N	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			29.45	748.0	52.5	11.4	95	WSW			4		6		SW	0.051	1.3		Normal School.
Châlons-sur-Marne			29.41	746.9	53.2	11.8	69	SW			4		10n		NE	0.142	3.6	Covered	Normal School.
Clermont			29.58	751.4	55.2	12.9	55	S			4		5		SW	0.346	8.8	Cloudy	Puy de Dome Obs'y.
Commercy			29.24	742.7	50.4	10.2	82	W			8		8		E	0.185	4.7	Very cloudy	Normal School.
Commune de Gréasque*			29.78	756.3	55.9	13.3	71	NW			2		8		SW	0	0		M. Kina.
Grenoble			29.71	754.5	54.3	12.4	85	NE			1		2ks		NE	0.089	2.25	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.51	749.6	56.5	13.6	75	SW			1		8		NE	0.299	7.6	Very cloudy	Normal School.
Le Mans			29.47	748.4	55.0	12.8	70	W			4		2		W	0.31	8.	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.66	753.4	51.6	10.9	77	SW			3		5		WSW	0.169	4.30	Cloudy	Normal School.
Lorient			29.44	747.7	58.6	14.8	66	SW			6		5		SW	0.591	15.0	Cloudy	Naval Observatory.
Mâcon			29.75	755.7	54.1	12.3	95	SW			2		5		SW	0.110	2.8	Cloudy	Normal School.
Metz			29.49	749.0	50.4	10.2	92	SW			6		5		SW	0.335	8.5		M. Schuster.
Mirecourt			29.45	748.1	53.2	11.8	76	SW			8		10		NE	0	0	Covered	Normal School.
Nîsmes			29.69	754.0	60.8	16	52	NE			2		2		NW	0	0	Slightly cl'dy	Normal School.
Orleans			29.48	748.7	51.8	11	85	NW			4		5		NW	0.409	10.4	Cloudy	Normal School.
Paris, Observatory			29.42	747.3	54.1	12.3	63	WSW			3		8k		SW	0.107	2.72	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.63	752.6	59.7	15.4		W			1		2		W	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.61	752.0	58.6	14.8	70	SW			4		8		NNE	0.079	2.0	¾ covered	Naval Observatory.
Rouen			29.37	745.9	54.7	12.6	66	SW			2		2		S	0.173	4.4	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.65	753.0	60.8	16	82	SW			2		2		SW	0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.71	754.6	60.8	15.7	69	W			1		8					Rainy	Marseilles Observatory.
Mont-Louis	24.63	625.6	29.97	761.2	43.5	6.4	76	SSW	22.4	10.00			10		SW	0.114	2.9		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.78	756.4	59.7	15.4	60	N	3.7	1.67			10		WSW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.00	533.3			26.6	— 3.0		NW			3–4		9					Covered	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.25	565.2			35.2	1.8		NW			3–4		10			0	0	Covered	General de Nansouty.
Saint Maur, (near Paris)			29.43	747.4	55.0	12.8	66	SW			3		10			0.122	3.1	Cloudy	E. Renou.
Toulouse			29.78	756.3	55.8	13.2	77	S			1		8			0.004	0.1		Toulouse Observatory.
Tours			29.52	749.8	56.7	13.7	73	W			3		5		WNW	0.591	15.0		C. Marquet.
Versailles, (near Paris)			29.43	747.4	54.7	12.6	68	W			2		8			0.074	1.89	Cloudy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.41	772.4	46.2	7.9	84	E	7.4	3.33			0			0.016	0.4		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			29.32	744.7	50.0	10.0	74	S			2		6	SW		0.08	2.		Prof. T. Hoh.
Berlin			29.34	745.1	51.4	10.8	80	S			1		8			0	0		Prof. Arndt.
Breslau			29.45	747.9	49.1	9.5	85	SSW			3		5			0.031	0.8		Royal University Obs'y.
Carlsruhe			29.43	747.5	53.6	12.0	74	SW			10		10			0.220	5.6		A. Senz.
Cassel			29.37	746.0	49.6	9.8	84	S			4		8	SW		0.028	0.7		Dr. H. Möhl.
Crefeld			29.22	742.1	51.8	11.0	85	SW			4		9			0.16	4.		Director Lose.
Emden			29.21	741.9	49.3	9.6	90	SW			3		10			0.142	3.6		Prof. Prestel.
Frankfort on the Main			29.37	746.1	51.8	11.0	60	SW			2		9			0.165	4.2	Raining	Physical Society.
Friedrichshafen			29.60	751.7	46.8	8.2	83	SSW			5		10			0.150	3.8	Raining	M. Wilhelm.
Hamburg			29.21	741.9	50.0	10.0	84	S			3		8k	S		0.142	3.6	Fine	Captain F. Hegemann.
Kiel			29.18	741.1	47.8	8.8	93	SSE			3		10			0.193	4.9		Prof. G. Karsten.
Königsberg, (Prussia.)			29.66	753.4	22.3	— 5.4	82	SE			7		10			0	0		Prof. E. Luther.
Köslin			29.44	747.8	33.4	0.8		E			2		4			0	0		H. Müller.
Leipsic			29.33	745.0	52.2	11.2	71	SW			3		7	WSW		0.098	2.5		Prof. Bruhns.
Memel			29.75	755.7	17.2	— 8.2	73	ESE			6		9ks	S		Inap.	Inap.		Reinbrecht & Skalweit.
Münster			29.19	741.3	50.0	10.0	92	SW			2		10			0.193	4.9		Prof. E. Heis.
Neufahrwasser			29.57	751.0	27.9	— 2.3	89	SSE			2		10			0.075	1.9	Raining	A Lothe.
Posen			29.46	748.2	43.9	6.6	94	SE			2		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.49	749.1	54.5	12.5	66	SSW			3		10	SW		0.051	1.3		Dr. Schur.
Stuttgart			29.46	748.2	52.7	11.5	66	W			4		6			0.067	1.7	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.31	744.4	52.7	11.5	70	SW			7		10			0.071	1.8		Prof. Flesch.
Weissenburg, (Bavaria,)	27.97	710.5	29.46	748.2	51.1	10.6	70	SW			3		9	SW		0.028	0.7		Dr. von Bebber.
Wustrow, Naval School			29.34	745.1	42.8	6.0	96	SE			1		10			0.118	3.0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 10°, 21′, W. 31°, 44′.			30.13	765.2	82.0	27.8	71	E			5		4	SE	E			Rain-squall.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.93	760.3	66.4	19.1		W										Misty	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			29.53	750.1	55.6	13.1	72	W	0.7	0.3			7			0	0		Prof. Giovanni Clodig.
Padua			29.52	749.8	54.3	12.4	78	WSW	9.8	4.4			5	SW		0.630	16.0		Prof. Dott. Lorenzoni.
Vicenza			29.54	750.3	53.8	12.1	84	SW	2.5	1.1			2	W		0.571	14.5		Alm. Da Schio.
Verona			29.54	750.2	50.4	10.2	76	SW			1		10			0.417	10.6	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.60	751.8	48.2	9.0	81	Calm			0		7			0	0		Prof. Giuseppe Calza.
Milan			29.60	751.7	52.9	11.6	71	WNW			1		0			0.01	0.3		Ab. Gio. Capelli.
Pavia			29.58	751.4	51.6	10.9	80	W			4		7	SW		0.16	4.3	Raining	Prof. Gio. Cantoni.
Moncalieri			29.65	753.0	47.1	8.4	89	ESE	1.8	0.8			2			0	0		Prof. P. F. Denza.
Mondovi	27.70	703.5	29.64	752.8	47.7	8.7	76	SW			2		1	W		0	0		Prof. C. Bruno.
Porto Maurizio			29.61	752.2	59.5	15.3	80	WSW			4		3			0.46	11.7		Prof. L. Vassallo
Genoa			29.61	752.1	57.0	13.9	84	Calm	0	0			8	SW		0.19	5.0		Prof. Garibaldi.
Piacenza			29.59	751.5	52.2	11.2	79	NW	12.5	5.6			3	NW		0.21	5.5		Dott. G. Manzi.
Parma			29.60	751.9	52.3	11.3	89	W			4		2			0.25	6.5		Prof. P. Pigorini.
Bologna			29.62	752.3	53.4	11.9	53	NW			6		7	S		0	0		Prof. A. Palagi.
Florence			29.65	753.1	60.4	15.8	95	W			2		10	SW		0.256	6.5	Raining	Cav. F. Meucci.
Leghorn			29.62	752.3	62.6	17.0	80	SW	11.2	5.0			9	W		0.39	10.0		Prof. P. Monte.
Siena	28.44	722.4	29.65	753.1	59.9	15.5	95	SSE	0	0			10	SW		0.11	2.8	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.59	751.5	52.3	11.3	88	N	26.2	11.7			10	N		0.11	2.8	Raining	Prof. Luigi Guidi.
Ancona			29.60	751.7	53.4	11.9	90	NW			4		10			0.46	11.7	Raining	Prof. F. De— Bosis.
Grosseto			29.66	753.3	64.0	17.8	88	SSE			2		10	S		0.06	1.6		Avv. P. Ponticelli.
Rome			29.73	755.1	64.4	18.0	82	SSE	4.9	2.2			10	SSW		0.19	5.0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.76	755.9	65.5	18.6	89	WSW			4		10	SW		0.03	1.0	Raining	Prof. L. Palmieri.
Lecce			29.84	757.8	61.9	16.6	86	SSE	12.5	5.6			9			0.02	0.6	Light rain	Prof. C. De—Giorgi.
Cosenza			29.90	759.4	64.2	17.9	63	ESE	3.8	1.7			10			0.59	15.0	Raining	Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.83	757.6	72.9	22.7	48	WSW	5.6	2.5			10			0	0		Prof. G. Cacciatore.
Caltanissetta	28.01	711.4	29.96	760.9	62.2	16.8	66	W			2		4	NW		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.80	756.8	62.4	16.9	99	SW	6.3	2.8			10	S		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico	Mariano Barcena.	
	Vicente Reyes.	
	Miguel Perez.	(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Flushing	29.22	742.1	50.7	10.4		W			4					0.197	5.0	
Groningen	29.07	738.3	49.5	9.7		SW			5					0.028	0.7	
Helder	29.10	739.2	50.5	10.3		SSW			4					0	0	
Utrecht	29.13	739.9	51.3	10.7	80	SW			4		5			0.004	0.1	Cloudy

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.
Bergen	29.03	737.3	43.9	6.6	38	E	36	16			5			0	0	
Brône	29.52	749.7	33.4	0.8	80	E	25	11			6			0	0	
Christiania	29.54	750.2	28.8	— 1.8	92	ENE	6.3	2.8			10			0.161	4.1	Snowing
Tromsö	29.60	751.8	28.0	— 2.2	67	SE	4	2			3			0	0	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.59	751.5	56.8	13.8	67	W	29.3	13.1			5			0	0		Dr. J. A. Sampaio.
Campo Major			29.77	756.1	58.1	14.5	98	SSW	13.0	5.8			10	SW		1.575	40.0	Raining	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.02	762.4	64.9	18.3	88	WNW	11.9	5.3			10			0.492	12.5	Raining	Capt. D. A. de Cunha.
Lisbon			29.73	755.2	62.1	16.7	95	SW	29.8	13.3			10			2.772	70.4	Raining	The Observatory.
Ponta Delgada, (Azores)			29.66	753.4	61.5	16.4	66	WNW	26.6	11.9			3			0.035	0.9	Rainy	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Warsaw			29.59	751.6	26.2	— 3.2	94	ESE	18	8			10						Astronomical Obs.
Wilna			28.98	761.4	13.1	—10.5	72	E	2	1			0						Astronomical Obs.
Dorpat			30.20	767.1	1 9	—16.7	90	ESE	4	2			0						Physical Cabinet.
St. Petersburg			30.21	767.4	17.6	— 8.0	77	E	11	5			0						Central Physical Obs.
Kuopio			30.26	768.5	—17.5	—27.5		Calm	0	0			0						Ch. Forsten.
Kieff			29.95	760.6	18.5	— 7.5	81	ESE	11	5			10						Physical Cabinet.
Nikolaiev			29.91	759.6	29.7	— 1.3	90	NNE	13	6			9						Kurdakof.
Kertch			29.84	758.0	37.6	3.1	96	N	9	4			10						Lagorio.
Moscow			30.21	767.2	— 1.1	—18.4	83	NNW	7	3			7						Meteorological Obs.
Lugan			29.92	760.0	9.7	—12.4	70	NNE	27	12			9						Meteorological Obs.
Archangel			30.06	763.5	5.0	—15.0	93	WNW	7	3			0						Ogorodnikof.
Tiflis	28.49	723.7	29.90	759.4	57.2	14.0	46	NW	4	2			4						Physical Observatory.
Astrakhan			29.83	757.7	25.9	— 3.4	100	NE	9	4			10			Blank	Blank		Sebastianof.
Kasan			29.84	758.0	1.4	—17.0	90	N	2	1			10						Physical Cabinet.
Orenburg			30.20	767.1	—12.5	—24.7		S	13	6			2						Tschernischef.
Ekaterinburg	28.47	723.1	29.51	749.5	— 2.4	—19.1	74	SW	11	5			3						Meteorogical Obs.
Nukuss			29.82	757.4	50.7	10.4	76	ENE	4	2			3						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.89	759.1	27.9	— 2.3	79	SSW	31	14			10						Meteorological Obs.
Yeniseisk			30.02	762.4	— 8.9	—22.7	82	ESE	18	8			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.45	773.4	29.5	— 1.4	84	Calm	0	0			9						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					20.8	— 6.2		Calm	0	0			6						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Madrid			29.80	756.9	53.8	12.1	98	SW	14.9	6.67			10			0.268	6.8	Rainy	Royal Observatory.
San Fernando			30.00	762.0	66.2	19.0	83	SW	17.7	7.9		0	10		SW	0.094	2.4		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

Haparanda			30.10	764.5	21.9	— 5.6	90	S			4		10			0	0		
Umea			30.07	763.7	21.2	— 6.0	100	S			6		10			0	0		
Hernosand			29.93	760.1	28.0	— 2.2	96	SSE			6		10			0	0		
Stockholm			29.78	756.5	28.4	— 2.0	72	SE			7		7			0	0		
Wisby			29.71	754.5	27.3	— 2.6	96	SE			7		10			0	0		
SUB-SERIES.																			
Upsala			29.78	756.4	28.9	— 1.7	76	ESE	17.2	7.7			9	SSE	SE	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.25	717.5	29.69	754.0	51.1	10.6	72	SSW			7		10			0.248	6.3	Covered	The Observatory.
Zurich	27.99	711.0	29.67	753.5	44.1	6.7	93	W			1		10			0.646	16.4	Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —9.6 mm; Thermometer, +7.1 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck Superintendent of the Lee Observatory at Beirut.

Constantinople			29.83	757.7	60.4	15.8	77	SW	13	6.0			8		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.82	757.5	63.1	17.3		SE			1		2						
Valona			29.83	757.7	67.1	19.5		S			8		10						
Varna			29.65	753.0	53.6	12.0		N			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.16	766.0	70.7	21.5	65	SW			2		7ck,n		SW	0	0	*D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B			29.80	756.9	25.7	— 3.5	59	SW	5	2.2			0						Hon. J. Ferguson.
Brockville, Ontario			29.97	761.2	27	— 2.8		SW	10	4.5			8s		SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B			29.83	757.7	25	— 3.9	89	S	4	1.8		5k	2ks	SW	SW	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.90	759.4	28	— 2.2	85	Calm	0	0			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.75	755.6	28.7	— 1.8	92	W			4	3c	0			0	0	Fair	James Smith, M. A.
Dalhousie, N. B			29.72	754.9	20.3	— 6.5	94	NW			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.56	776.2	34.6	1.4	95	NE				2ck	0			0	0	Clear	W. H. Bevis.
Fredericton, N. B			29.92	760.0	19.0	— 7.2	84	W	1	0.4		0	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			29.67	753.6	17	— 8.3	92	W	18	8.0		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.86	758.4	29.6	— 1.3	80	SW			3	4k	0	SW		0	0	Unsettled	H. J. Strang, M. A.
Granton, Ontario	28.76	730.5	29.93	760.2	21.3	— 5.9		SW			2	0	0			0	0	Clear	James Grant.
*Halifax, N. S			29.92	760.0	21	— 6.1	85	W	2	0.9		0	0			0	0	Clear	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.94	760.5	33	0.6	83	SW	28	12.5			10ks		SW	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.86	758.4	31.2	— 0.4	98	W	2	0.9		8k	0	W		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			29.86	758.4	30	— 1.1	78	SW	16	7.2		2k	8ks		W	0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.86	758.4	22	— 5.6	70	S	8	3.6		0	0			0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			29.71	754.6	32	0.0	91	SW	18	8.0		5k	5 *	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.96	761.0	32	0.0	90	SW	23	10.3		10k	0	SW		0	0	Cloudy	H. Morgan.
Port Hastings, N. S			29.92	760.0	30.6	— 0.8		W	6	2.7						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.98	761.5	32	0.0	91	SW	28	12.5		2k	0	SW		0	0	Clear	M. Payne.
*Quebec, Quebec			29.84	757.9	26	— 3.3	88	SW	3	1.3		0	2ks		SW	0	0	Fair	Capt. Ashe, R. N.
St. John, N. B			29.96	761.0	23	— 5.0	79	W	2	0.9		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.77	756.1	31	— 0.6	89	SW	10	4.5			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.80	756.9	26	— 3.3	89	SE	9	4.0		5cs	2n	SW	W	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.55	725.2	29.91	759.7	21.2	— 6.0		SW	17	7.6		0	0			0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.90	759.4	32	0.0	85	SW	1	0.4			10s		W	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.90	759.4	27	— 2.8	84	SW	13	5.8		0	2s		W	0	0	Fair	Magnetic Observatory.
Woodstock, Ontario			29.93	760.2	27.5	— 2.5	85	SW	5	2.2		1k	0	SW		0	0	Clear	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.89	759.2	25.0	— 3.9	87	W				10k	10s			Inap.	Inap.	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Albany, N. Y.			30.03	762.7	26	— 3.3	88	S	1	0.4		10k	Haze	SW		0	0	Cloudy	
Alpena, Mich.			29.67	753.6	31	— 0.6	79	SW	6	2.7			10s		SW	0	0	Cloudy	
Atlantic City, N. J.			30.15	765.8	22	— 5.6	85	W	4	1.8		0	0			0	0	Clear	
Augusta, Ga.			30.37	771.4	22	— 5.6	93	Calm	0	0			Fog			0	0	Foggy	
Baltimore, Md.			30.21	767.3	27	— 2.8	77	NW	5	2.2		Haze	Sm'e			0	0	Smoky	
Barnegat, N. J.			30.13	765.3	25	— 3.9	81	NW	10	4.5		0	0			0	0	Clear	
Bismarck, Dakota	28.18	715.8	29.92	760.0	17	— 8.3	67	NW	12	5.4		0	0			0	0	Clear	
Boston, Mass.			29.99	761.7	25	— 3.9	63	W	2	0.9		0	Sm'e			0	0	Clear	
Breckenridge, Minn.			29.96	761.0	16	— 8.9	83	SW	18	8.0		0	0			0	0	Clear	
Buffalo, N. Y.			29.96	761.0	26	— 3.3	76	SW	15	6.7		8k	0	SW		Inap.	Inap.	Fair	
Burlington, Vt.			29.97	761.2	26	— 3.3	66	S	3	1.3		0	2s			0	0	Fair	
Cairo, Ill.			30.23	767.8	29	— 1.7	59	S	6	2.7		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.17	766.3	34	1.1	69	N	14	6.3			8s		N	0	0	Cloudy	
Cape Henry, Va.			30.24	768.1	34	1.1	71	NW	8	3.6		0	0			0	0	Clear	
Cape Lookout, N. C.			30.28	769.1	31	— 0.6	69	NW	3	1.3		0	0			0	0	Clear	
Cape May, N. J.			30.18	766.6	29	— 1.7	78	N	18	8.0		0	0			0	0	Clear	
Charleston, S. C.			30.34	770.6	30	— 1.1	48	NW	4	1.8		0	Sm'e			0	0	Clear	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	14	—10.0	91	W	4	1.8		1c	0			0	0	Clear	
Chicago, Ill.			29.96	760.7	29	— 1.7	67	SW	3	1.3		0	0			0	0	Clear	
Cincinnati, Ohio			30.13	765.3	26	— 3.3	76	S	3	1.3		2ck	0	S		0	0	Clear	
Cleveland, Ohio			30.04	763.0	24	— 4.4	74	S	20	8.9		0	0			0	0	Clear	
Corsicana, Tex.			30.26	768.6	43	6.1	66	S	4	1.8			10s			0	0	Cloudy	
Davenport, Iowa			30.09	764.3	25	— 3.9	88	W	8	3.6		5cs	Sm'e	SW		0	0	Fair	
Denison, Tex.			30.23	767.8	38	3.3	62	SW	12	5.4			10s		S	0	0	Cloudy	
Denver, Col.	24.91	632.7	30.13	765.3	26	— 3.3	52	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			29.91	759.7	26	— 3.3	77	S	14	6.3		2c	2s			0	0	Fair	
Dodge City, Kan.	27.52	699.0	29.94	760.5	26	— 3.3	76	NE	18	8.0		0	2s		NW	0	0	Clear	
Dubuque, Iowa			30.04	763.0	27	— 2.8	77	NW	4	1.8		2c	0			0	0	Fair	
Duluth, Minn.			29.72	754.9	26	— 3.3	76	W	13	5.8		0	0			0	0	Clear	
Eastport, Me.			29.96	761.0	25	— 3.9	76	Calm	0	0		0	0			0	0	Clear	
Erie, Pa.			30.00	762.0	24	— 4.4	87	S	20	8.9		0	1s			0	0	Clear	
Escanaba, Mich.			29.69	754.1	25	— 3.9	75	W	11	4.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter.			30.12	765.0	37	2.8	54	SE	6	2.7		0	Sm'e			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.89	733.8	30.06	763.5	30	— 1.1	41	SW	4	1.8		0	0			0	0	Clear	
Fort Sully, Dakota	28.38	720.8	30.14	765.5	25	— 3.9	75	NW	12	5.4		0	2s		NW	0	0	Fair	
Florence, Arizona	28.51	724.1	30.04	763.0	55	12.8		SW				0	0			0	0	Clear	
Galveston, Tex.			30.36	771.1	49	9.4	63	NE	3	1.3			10s		W	0	0	Cloudy	
Grand Haven, Mich.			29.86	758.4	37	2.8	80	W	18	8.0		0	5s		W	0	0	Fair	
Indianapolis, Ind.			30.09	764.3	27	— 2.8	77	S	4	1.8		0	Sm'e		S	0	0	Clear	
Indianola, Tex.			30.35	770.9	45	7.2	92	NE	9	4.0			10s			0.05	1.3	Cloudy	
Jacksonville, Fla.			30.38	771.6	29	— 1.7	67	NW	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa			30.06	763.5	27	— 2.8	66	N	8	3.6		8c	0	N		0	0	Fair	
Key West, Fla.			30.28	769.1	50	10.0	86	NE	12	5.4		0	0			0	0	Clear	
Kittyhawk, N. C.			30.24	768.1	29	— 1.7	89	NW	12	5.4		0	2s			0	0	Fair	
Knoxville, Tenn.			30.40	772.1	16	— 8.9	83	Calm	0	0		0	Fog			0	0	Fair	
La Crosse, Wis.			29.96	761.0	27	— 2.8	67	W	6	2.7		Haz.	Haz			0	0	Hazy	
Leavenworth, Kan.			30.16	766.1	33	0.6	89	N	6	2.7		0	2s		NW	0	0	Clear	
Louisville, Ky.			30.18	766.6	27	— 2.8	77	S	8	3.6		2cs	Sm'e	SW		0	0	Fair	
Lynchburg, Va.			30.22	767.6	26	— 3.3	68	W	2	0.9		0	0			0	0	Clear	
Malone, N. Y.			29.84	757.9	35	1.7	80	SW	16	7.2		0	0			0	0	Clear	
Marquette, Mich.			29.61	752.1	29	— 1.7	78	SW	16	7.2			10s		SW	0	0	Cloudy	
Memphis, Tenn.			30.30	769.6	31	— 0.6	69	S	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			29.92	760.0	26	— 3.3	76	W	14	6.3		2c	0	W		0	0	Clear	
Mobile, Ala.			30.42	772.7	29	— 1.7	77	N	1	0.4		5cs	Fog			0	0	Fair	
Montgomery, Ala.			30.42	772.7	26.5	— 3.1	82	Calm	0	0		0	Sm'e			0	0	Hazy	
Morgantown, W. Va.	29.10	739.1	30.24	768.1	20	— 6.7	70	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Mt. Washington, N. H.	23.48	596.4	29.84	757.9	15	— 9.4	65	NW	20	8.9		0	0			0	0	Clear	
Nashville, Tenn.			30.31	769.9	20	— 6.7	85	Calm	0	0		0	Fog			0	0	Clear	
New Haven, Conn.			30.08	764.0	28	— 2.2	77	NW	10	4.5		Haz.	0			0	0	Clear	
New London, Conn.			30.06	763.5	26	— 3.3	76	Calm	0	0		0	Haze			0	0	Clear	
New Orleans, La.			30.39	771.9	40.5	4.7	60	NE	3	1.3			10s			0	0	Cloudy	
Newport, R. I.			30.03	762.7	31	— 0.6	79	NW	6	2.7		0	0			0	0	Clear	
New York, N. Y.			30.11	764.8	27	— 2.8	66	W	10	4.5		0	Sm'e		W	0	0	Clear	
Norfolk, Va.			30.24	768.1	31	— 0.6	68	N	4	1.8		0	Sm'e			0	0	Clear	
North Platte, Neb.	27.23	691.6	29.98	761.5	20	— 6.7	85	NW	8	3.6		0	2s			0	0	Clear	
Omaha, Neb.	29.03	737.3	30.18	766.6	25	— 3.9	88	NW	8	3.6		0	0			0	0	Clear	
Oswego, N. Y.			30.00	762.0	26	— 3.3	75	S	10	4.5		2cs	Haz	W		0	0	Fair	
Pembina, Dakota			29.68	753.9	21	— 6.1	85	NW	16	7.2			10s		NW	0	0	Cloudy	
Philadelphia, Pa.			30.16	766.1	26	— 3.3	76	W	4	1.8		0	Sm'e			0	0	Smoky	
Pike's Peak, Col.	17.76	451.1	29.97	761.2	16	— 8.9	65	NW	14	6.3		0	0			0	0	Clear	
Pittsburgh, Pa.			30.19	766.8	20	— 6.7	85	S	8	3.6		0	0			0	0	Clear	
Port Huron, Mich.			29.88	758.9	25	— 3.9	88	S	15	6.7		Haz	0			0	0	Clear	
Portland, Me.			29.97	761.2	26	— 3.3	77	Calm	0	0		Haz	Haze			0	0	Hazy	
Portland, Oregon			30.36	771.1	35	1.7	90	N	1	0.4		0	0			0	0	Clear	
Punta Rassa, Fla.			30.33	770.4	40.0	4.4	67	N	10	4.5		0	0			0	0	Clear	
Rochester, N. Y.			29.96	761.0	22	— 5.6	72	SW	11	4.9		0	Haz			0	0	Clear	
Salt Lake City, Utah	25.93	658.6	30.26	768.6	21	— 6.1	100	N	4	1.8			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.07	763.8	29	— 1.7	78	NW	17	7.6		0	0			0	0	Clear	
San Diego, Cal.			30.13	765.3	55	12.8	34	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.19	766.8	49	9.4	77	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.30	591.8	29.84	757.9	25	— 3.9	75	N	6	2.7		0	0			0	0	Clear	
Savannah, Ga.			30.38	771.6	27	— 2.8	77	NW	4	1.8		0	0			0	0	Clear	
Shreveport, La.			30.36	771.1	34	1.1	71	S	1	0.4			10s			0	0	Cloudy	
Smithville, N. C.			30.30	769.6	24	— 4.4	72	NW	5	2.2		0	0			0	0	Clear	
Springfield, Mass.			30.03	762.7	22	— 5.6	71	Calm	0	0		0	Fog			0	0	Fair	
St. Louis, Mo.			30.10	764.5	35	1.7	61	SW	10	4.5		2c	Sm'e			0	0	Smoky	
St. Marks, Fla.			30.41	772.4	19	— 7.2	92	N	2	0.9		2c	0	W		0	0	Clear	
St. Paul, Minn.			29.89	759.2	24	— 4.4	87	W	1	0.4		0	1s			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.99	761.7	28	— 2.2	67	NW	12	5.4		0	0			0	0	Clear	
Toledo, Ohio			29.96	761.0	27	— 2.8	77	SW	12	5.4		5c	Haze	SW	SW	0	0	Fair	
Tucson, Arizona	27.70	703.6	30.25	768.3	36	2.2		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.42	772.7	29	— 1.7	67	SE	11	4.9		5cs	Sm'e	SW	SE	0	0	Fair	
Virginia City, M. T.	24.47	621.5	29.95	760.7	21	— 6.1	57	Calm	0	0		8c	0	W		0	0	Cloudy	
Washington, D. C.			30.22	767.6	22	— 5.6	86	NW	2	0.9		0	Sm'e			0	0	Smoky	
Wilmington, N. C.			30.31	769.9	25	— 3.9	75	NW	5	2.2		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.03	762.7	31	— 0.6	59	NW	4	1.8		0	0			0	0	Clear	
Yankton, Dakota	28.85	732.8	30.24	768.1	20	— 6.7	77	W	8	3.6		0	0			0	0	Clear	
Yuma, Arizona			30.15	765.8	59	15.0		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.21	767.3	77	25.0	82	Calm	0	0		8c	2s			0	0		James Gall.
Navassa, W. I.					78	25.6		NE			4							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	30.00	762.0	66	18.9	90				3					0.50	12.7		C. Partridge.
Paramaribo, D. Guiana, S.A			30.05	763.3	79	26.1	87	E				6ks	6ks	E		0.010	0.26	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	763.9			78.8	26		E								0.384	9.76		Dr. H. Groot.
Medellin, Colombia, S. A.	25.26	641.6			63.0	17.2	77	Calm			0	1cs	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.05	737.9	6.5	14.2	88	NW	41	18.3			10n			0.24	6.1	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.02	762.5	74	23.3		NNW			2					0.14	3.6	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.02	762.5	60	15.6	82	Calm			0	0	8k			0.60	15.2		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, Boston Light, Mass.			29.98	761.5	31	— 0.6	79	WSW	5	2.2		0	Haze						Capt. James Jorgensen.
																		Clear	
Steamer Leipzig, N. 49°, 43′, W. 14°.	W½S	7.5	29.07	738.4	53.4	11.9		W			5		..ks			High swells	W		Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 7, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.00	762.0	68.0	20.0	65	Calm			0		8			0	0	Cloudy	Charnot.
Algiers			29.96	761.0	71.2	21.8	49	NW			4		10			0	0	Hidden	Peter.
La Calle			30.01	762.2	74.3	23.5	54	S			3		7			0	0	Cloudy	Didier.
Tunis			30.05	763.3	73.4	23.0		W			2		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.09	764.2	73.0	22.8	23	SSW			3		2			0	0	Clear	Millot.
Tebessa			30.11	764.8	74.7	23.7		W			3		2			0	0	Clear	Bourgeois.
Geriville			30.08	764.1	57.2	14.0	85	SSW			1		3			0	0	Fair	Lemaillot.
Laghouat			30.15	765.8	73.4	23.0	20	W			2		2			0	0	Clear	Guyot.
Biskra			30.10	764.5	70.9	21.6	34	ENE			2		6			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.77	756.1	46.0	7.8	92	SW			2		10			0.071	1.8	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.75	755.6	45.0	7.2	91	W			1		3			0.016	0.4		Dr. Wierzbiski.
Eperies			29.74	755.3	41.0	5.0	95	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.48	723.5	29.76	755.8	43.5	6.4	84	E			1		5			0	0		Andreas Rospini.
Hermannstadt	28.37	720.6	29.80	756.8	48.4	9.1	81	NW			4		4			0	0		Prof. Reissenberger.
Kremsmünster	28.20	716.3	29.56	750.7	41.5	5.3	89	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.74	755.3	38.3	3.5	98	SE			1		10			0.126	3.2		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.80	756.8	57.6	14.2	96	SE			1		10s			0	0		I.R.Hydrographic Of'ce.
Szegedin			29.80	757.0	52.7	11.5	78	Calm			0		10			0	0		Karl Stancel.
Trieste			29.82	757.4	54.1	12.3	95	Calm			0		10			0.579	14.7	Rain and fog	Prof. V. Farolfi.
Vienna			29.67	753.5	48.4	9.1	62	W			2		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.22	742.3	52.7	11.5	82	SW			2		10n		SW	0.096	2.45	Raining	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upp'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.16	740.7	47.4	8.6		SSE	2	0.9			5			0.120	3.05	Misty	William Boswell.
Ardrossan			29.20	741.7	51	10.6		WSW			2		6					*D. clouds	William McNeil.
Armagh, Observatory			29.22	742.2	41.3	5.2		SSW	4	1.8			10					Foggy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.23	742.4	46.1	7.8		Calm			0		8					*D. clouds	J. Dreyer.
Bradford			29.25	742.9	40.1	4.5		SW			2		10			0.02	0.5	Foggy	J. McLandsborough.
Bridgetown, (Barbados)			29.97	761.2	84.5	29.2		NE			3		8					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.17	740.9	47.2	8.4		ENE			1		10					Drizzling	H. Todd. [H.C.
Cardington			29.17	740.9	48.0	8.9		E			1		10					Foggy	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.14	740.1	47.7	8.7		S			1		0					Hazy	Capt. Fellowes, R. E.
Dartmoor	27.69	703.3	29.18	741.1	44.0	6.7		NE			3		10					Raining	R. E. Power.
Davos Platz, (Switzerland)	24.48	621.8			41.0	5.0	73	SW			1		10			0.811	20.60	Overcast	Francis Redford, M. A.
Donaghadee			29.21	741.9	45	7.2		W			3		7					*D. clouds	J. Mac Gowan.
Dover			29.14	740.1	53	11.7		SE			3		9					Overcast	J. Costello.
Eccles, (near Manchester)			29.19	741.4	39.0	3.9		SSE					10					Foggy	Thomas Mackereth.
Falmouth, Observatory			29.10	739.1	50.6	10.3		NNE			1		8					Overcast	The Staff.
Fort Napier, (Natal)	27.55	699.8	29.78	756.4	68.7	20.4		NE			2		10					Overcast	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			30.00	762.0	85.0	29.4		Calm?			1?		3					*D. clouds	
Galway, Queen's College			29.18	741.1	52	11.1		SE			1		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.94	760.5	61.8	16.6		S			3		10					Raining	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.18	741.1	46.8	8.2		SSW			1		10					Threatening	Lewis Stuart.
Great Yarmouth			29.22	742.2	48	8.9		ESE			3		5					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.14	740.1	47.5	8.6		ENE			1		10					Raining	The Staff, for G. B. Airy.
Guernsey			29.10	739.1	53	11.7		SSW			3		8					Squally	Dr. S. F. Hoskins.
Helston			29.05	737.9	53	11.7		NE			4		3ck			0.3	7.6	Fine	M. P. Moyle.
Holyhead			29.18	741.1	48	8.9		ENE			1		5					*D. clouds	John Tilston.
Kew, Observatory			29.13	739.9	48.0	8.9		E	16	7.2			10					Rain & fog	The Staff.
Kingstown			29.21	741.9	47	8.3		WNW			3		7					*D. clouds	George Mitchell.
Leicester Museum			29.18	741.1	46.5	8.1		E			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.08	764.0	72.6	22.6		SW			1		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.10	739.1	47	8.3		SW			1		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.16	766.1	63.5	17.5		NE			0		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.21	741.9	44.8	7.1		Calm			0		10s			0.01	0.35	Foggy	F. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.17	740.9	44.0	6.7		NNE			2		10			3hm.	Blank	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.12	739.6	47	8.3		ENE			1		10					Drizzling	J. Lucas.
Plymouth			29.06	738.1	49.5	9.7		N			2		10					Gloomy	John Merrifield.
Roche's Point			29.19	741.4	46	7.8		NNE			3		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.16	740.7	49	9.4		NNE			2		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.12	739.6	53.5	11.9		SSW			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.10	739.1	47.5	8.6		SW	16	7.2			5					Showery	Rev. C. Clouston, LL.D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.83	757.7	57.2	14.0		WSW			2		8			3hm.	3hm.	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.22	742.2	45.5	7.5		E			1		10			0.067	1.70	Foggy	W. F. Cooper.
Silloth Rectory			29.21	741.9	49.0	9.4	36	Calm			0		4			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.22	742.2	44.1	6.7		NE			0		6c,k					Hazy	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			28.98	736.1	46	7.8		WSW			2		2					Blue sky	John Smith.
Stratfield Turgiss			29.12	739.6	46.7	8.2		NE			1		10					Raining	Rev. Charles H. Griffith.
Thurso			29.03	737.3	46	7.8		SSW			2		9					Gloomy	John Trotter.
Truro, Royal Institution			29.11	739.4	52	11.1		NE			4		10					Gloomy	W. Newcombe.
Valencia, Observatory			29.24	742.7	45.7	7.6		N	1	0.4			5					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					48	8.9		E			3		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.12	765.0	69.2	20.7	50	SW	9	4.0		4	2						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.62	752.3	70.0	21.1	88	S			1		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.21	741.9	49.0	9.4		W			2		6k			0.02	0.5	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.14	765.5				ENE	18.8	8.4						0	0		C. Meldrum.
Melbourne, Observatory			29.86	758.4	57.2	14.0	81	Calm	0	0			1			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides			29.16	740.7	54	12.2		SW			4	3	3	SW		0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			28.99	736.3	47	8.3		S			7	5	4	SW					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.55	750.5	41.2	5.1	98	S			2		10					Foggy	
Faröe			29.47	748.4	40.8	4.9	100	SSE			4		10					Foggy	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			28.59	726.1	37.9	3.3	93	SE			2		5						
Thorshavn, (Faröe)			28.76	730.6	46.0	7.8	88	SSW			4		10						
Vestervig			29.46	748.3	39.2	4.0	100	SE			4		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.28	743.8	51.8	11	87	WSW			2		10			0.173	4.4	Covered	Normal School.
Amiens			29.24	742.7	53.6	12.0	90	W			4		8		W	0.185	4.7	Very cloudy	Normal School.
Avignon			29.76	755.9	63.0	17.2	73	SW			2		8		S	0	0	Very cloudy	Normal School.
Bar-sur-Seine			29.43	747.5	54.0	12.2	73	S			3		8		SW	0.051	1.3	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.24	742.8	59.4	15.2	68	SW	43.4	19.4			10		SW	0.268	6.8	Raining	Beaumette Observ'tory.
Beauvais			29.28	743.7	54.0	12.2	81	S			1		10		WSW	0.039	1.00	Covered	Normal School.
Besançon			29.56	750.7	51.1	10.6	86	S			2		8		SW	0.150	3.8	Very cloudy	Normal School.
Bourg en Bresse			29.58	751.4	52.3	11.3	94	SE			1		10n		NE	0	0	Covered	Normal School.
Bourges			29.43	747.4	53.6	12	87	SE			2		8		SW	0.12	3.	Very cloudy	Normal School.
Brest			29.03	737.4	54.1	12.3	86	SW			3		9		SW	0.463	11.75	Stormy	Naval Observatory.
Carcassonne			29.49	749.1	58.1	14.5	73	E			1		5		W	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.27	743.5	54.1	12.3	90	SSW			4		8		SSW	0	0		Normal School.
Châlons-sur-Marne			29.36	745.7	53.4	11.9	86	SSW			4		10n			0.012	0.3	Covered	Normal School.
Clermont			29.52	749.9	55.4	13.0	70	NE			2		10		SW	0.020	0.5	Covered	Puy de Dome Obs'y.
Commercy			29.44	747.7	51.3	10.7	86	SW			2		8		E	0.047	1.2	Very cloudy	Normal School.
Commune de Gréasque*			29.66	753.4	60.3	15.7	81	SE			4		8		SW	0.130	3.3		M. Kina.
Grenoble			29.58	751.2	53.8	12.1	78	NNW			4		2ck		N	1.309	33.25	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.24	742.7	59.2	15.1	73	SW			2		2		N	0.417	10.6	Slightly cl'dy	Normal School.
Le Mans			29.30	744.1	57.7	14.3	74	SSW			4		5		SW	0.226	5.75	Cloudy	Normal School.
Lons-Le-Saulnier			29.57	751.0	50.9	10.5	90	S			2		10			0.299	7.60	Raining	Normal School.
Lorient			29.18	741.1	55.4	13.0	77	SSW			7		10			0.591	15.0	Covered	Naval Observatory.
Mâcon			29.66	753.4	54.5	12.5	95	W			2		5		SW	0.08	2.	Cloudy	Normal School.
Metz			29.50	749.4	48.2	9.0	93	S			3		10			0	0	Covered	M. Schuster.
Mirecourt			29.46	748.3	51.6	10.9	86	SSW			8		10		E	0.39	10.	Covered	Normal School.
Nismes			29.56	750.7	59.4	15.2	67	E			2		10		SE	0	0	Covered	Normal School.
Orleans			29.39	746.5	54.3	12.4	78	SW			2		5		W	0.071	1.8	Cloudy	Normal School.
Paris, Observatory			29.31	744.5	56.8	13.8	74	SW			6		9kn		SW	0.016	0.40	Almost cov'd	National Observatory.
Parthenay																			Normal School.
Privas			29.58	751.2	58.1	14.5		S			2		10		S	0	0	Covered	Normal School.
Rochefort, Observatory			29.37	746.0	59.0	15.0	76	S			3		8		N	0.059	1.5	¾ covered	Naval Observatory.
Rouen			29.24	742.6	54.3	12.4	77	SSE			2		10		SW	0.083	2.1	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.56	750.9	56.3	13.5	93	SE			1		8		S	0.04	1.	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.58	751.4	63.5	17.4	75	SSE			2		10			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.56	623.7	29.88	758.9	43.2	6.2	94	SSW	37.3	16.66			10		SW	0.024	0.6		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.56	750.9	58.1	14.5	83	E	5.6	2.50			10			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.91	531.0			26.6	— 3.0		SSW			6		9					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.14	562.4			33.4	0.8		SSW			6		10			0.020	0.5	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.32	744.7	57.9	14.4	73	S			3		10			0.016	0.4	Very cloudy	E. Renou.
Toulouse			29.54	750.4	57.7	14.3	90	SE			2		9			0.013	0.3		Toulouse Observatory.
Tours			29.34	745.3	58.3	14.6	74	SSW			2		5		W	0.386	9.8		C. Marquet.
Versailles, (near Paris)			29.32	744.7	56.1	13.4	82	SW			4		10			0.028	0.71	Rainy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.41	772.3	45.7	7.6	93	NW	1.9	0.83			10			0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.53	750.1	46.0	7.8	79	SW			2		10	W		0	0		Prof. T. Hoh.
Berlin			29.60	751.7	48.7	9.3	84	S			2		8			0	0		Prof. Arndt.
Breslau			29.68	753.9	48.0	8.9	82	SE			3		7			0	0		Royal University Obs'y.
Carlsruhe			29.50	749.2	45.5	7.5	93	SW			1		10			0.165	4.2		A. Senz.
Cassel			29.51	749.5	45.7	7.6	88	S			2		10	SW		0.094	2.4		Dr. H. Möhl.
Crefeld			29.31	744.4	47.8	8.8	85	SE			5		10			0.04	1.		Director Lose.
Emden			29.51	749.6	45.0	7.2	93	SE			1		10			0.051	1.3		Prof. Prestel.
Frankfort on the Main			29.49	749.1	46.6	8.1	69	S			1		10			0.024	0.6	Rain & fog	Physical Society.
Friedrichshafen			29.56	750.7	45.7	7.6	80	SW			5		10			0.461	11.7		M. Wilhelm.
Hamburg			29.51	749.6	44.2	6.8	91	SE			2		10ks			0.028	0.7		Captain F. Hegemann.
Kiel			29.50	749.4	44.4	6.9	92	SE			2		10			0.035	0.9		Prof. G. Karsten.
Königsberg, (Prussia.)			29.67	753.7	27.5	— 2.5	84	SE			5		10			0.075	1.9	Snow & hail	Prof. E. Luther.
Köslin			29.65	753.0	39.0	3.9		Calm			0		8			0	0		H. Müller.
Leipsic			29.52	749.8	46.8	8.2	87	SE			1		10			0.126	3.2		Prof. Bruhns.
Memel			29.78	756.4	24.4	— 4.2	84	SE			5		10n			0.047	1.2		Reinbrecht & Skalweit.
Münster			29.37	745.9	48.9	9.4	84	SE			2		10			0.047	1.2		Prof. E. Heis.
Neufahrwasser			29.73	755.2	33.4	0.8	96	SSW			2		10			0.047	1.2	Foggy	A Lothe.
Posen			29.67	753.7	48.0	8.9	89	S			1		9			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.53	750.1	46.4	8.0	90	SW			2		10	SW		0.008	0.2	Raining	Dr. Schur.
Stuttgart			29.52	749.8	46.4	8.0	98	W			1		10			0.126	3.2	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.35	745.5	49.6	9.8	76	W			2		10			0.228	5.8		Prof. Flesch.
Weissenburg, (Bavaria,)	28.04	712.2	29.55	750.6	42.8	6.0	75	SE			4		10	SE		0.063	1.6		Dr. von Bebber.
Wustrow, Naval School			29.61	752.1	43.5	6.4	95	SSE			1		8			0.110	2.8		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 13°, 8′, W. 31°, 12′.			30.17	766.2	75.7	24.3	90	SE			6		7	SE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.95	760.6	69.3	20.7		S										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.78	756.5	51.1	10.6	91	NE	2.5	1.1			10			0.799	20.3	Raining	Prof. Giovanni Clodig.
Padua			29.74	755.5	50.0	10.0	99	N	8.1	3.6			10			0.469	11.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.77	756.1	48.9	9.4	97	N	2.5	1.1			10			0.437	11.1	Raining	Alm. Da Schio.
Verona			29.73	755.1	53.8	12.1	76	SE			1		10			0.283	7.2	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.76	756.0	43.5	6.4	79	Calm			0		10			0.500	12.7	Raining	Prof. Giuseppe Calza.
Milan			29.76	756.0	47.5	8.6	87	E			1		10	E		0.630	16.0	Raining	Ab. Gio. Capelli.
Pavia			29.78	756.5	45.1	7.3	91	N			1		10			0.480	12.2	Raining	Prof. Gio. Cantoni.
Moncalieri			29.79	756.6	44.1	6.7	96	NNW	1.3	0.6			10	SE		0	0		Prof. P. F. Denza.
Mondovi	27.86	707.5	29.80	756.8	46.9	8.3	73	NW			2		9			0	0		Prof. C. Bruno.
Porto Maurizio			29.75	755.6	54.5	12.5	95	W			1		10			0.130	3.3	Raining	Prof. L. Vassallo.
Genoa			29.68	753.9	54.3	12.4	89	NE	6.9	3.1			10	S		1.784	45.3		Prof. Garibaldi.
Piacenza			29.76	755.8	45.5	7.5	99	SE	0.7	0.3			10			0.409	10.4	Raining	Dott. G. Manzi.
Parma			29.75	755.7	46.4	8.0	96	E			2		10			0.063	1.6	Raining	Prof. P. Pigorini.
Bologna			29.74	755.4	48.2	9.0	68	SE			1		10			0	0		Prof. A. Palagi.
Florence			29.75	755.6	56.3	13.5	93	E			2		10	SW		0.098	2.5	Raining	Cav. F. Meucci.
Leghorn			29.73	755.2	61.2	16.2	87	SSE	8.1	3.6			10	WSW		0	0		Prof. P. Monte.
Siena	28.56	725.5	29.78	756.4	57.9	14.4	91	SSW	4.3	1.9			10	SW		0.016	0.4	Light rain	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.76	755.9	57.0	13.9	85	S	13.6	5.8			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.78	756.5	58.5	14.7	76	SE			4		10			0	0		Prof. F. De—Rosis.
Grosseto			29.79	756.6	61.9	16.6	92	SSE			4		10	S		0.051	1.3	Raining	Avv. P. Ponticelli.
Rome			29.89	759.1	63.9	17.7	63	SSE	24.2	10.8			10	S		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U			29.95	760.6	65.3	18.5	81	SSW			6		10	SSE		0	0		Prof. L. Palmieri.
Lecce			30.00	762.0	64.4	18.0	72	S	4.3	1.9			2			0	0		Prof. C. De—Giorgi.
Cosenza			30.03	762.8	64.8	18.2	72	ESE	1.3	0.6						0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.93	760.3	73.4	23.0	41	SW	13.0	5.8			7			0	0		Prof. G. Cacciatore.
Caltanissetta	28.12	714.1	30.07	763.6	63.1	17.3	57	WSW			1		6	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.98	761.5	61.2	16.2	89	WSW	4.9	2.2			10	SW		0.008	0.2		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 555 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.23	742.4	48.6	9.2		S			4					0.035	0.9		
Groningen			29.31	744.5				ESE			3					0.024	0.6		
Helder			29.28	743.7	45.9	7.7		SE			2					0.138	3.5		
Utrecht			29.22	742.3	46.2	7.9	91	SSE			4		10			0.165	4.2	Overcast	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.29	744.0	44.8	7.1	64	SE	29	13			7			0	0		
Brôno			29.51	749.6	34.7	1.5	72	ESE	29	13			8			0	0		
Christiania			29.65	753.2	29.5	— 1.4	86	NNE	1.8	0.8			9			0.276	7.0		
Tromsö			29.58	751.3	27.3	— 2.6	60	Calm	0	0			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.95	760.8	54.0	12.2	74	NW	9.4	4.2			5			0.205	5.2		Dr. J. A. Sampaio.
Campo Major			29.80	757.0	58.6	14.8	75	SW	14.3	6.4			9	SW		2.122	53.9		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.03	762.7	64.4	18.0	71	WSW	4.3	1.9			10			0.059	1.5		Capt. D. A. de Cunha.
Lisbon			29.79	756.7	60.1	15.6	77	WSW	21.0	9.4			6	W		1.610	40.9		The Observatory.
Ponta Delgada, (Azores)			29.96	761.0	59.4	15.2	64	N	7.4	3.3			4	WSW		0.091	2.3	Rainy	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.74	755.4	31.1	— 0.5	100	ESE	9	4			10					Foggy	Astronomical Obs.
Wilna			29.93	760.2	21.7	— 5.7	74	SE	9	4			9						Astronomical Obs.
Dorpat			30.16	766.0	— 5.8	—21.0	93	E	9	4			0						Physical Cabinet.
St. Petersburg			30.24	768.2	1.4	—17.0	93	SE	7	3			0						Central Physical Obs.
Kuopio			30.20	767.1	2.1	—16.6	100	E	7	3			10						Ch. Forsten.
Kieff			29.90	761.0	10.6	—11.9	85	NE	9	4			10						Physical Cabinet.
Nikoluiev			29.61	752.1	22.5	— 5.3	93	NNE	40	18			10						Kurdakof.
Kertch			29.48	748.7	49.8	9.9	98	SSE	16	7			10					Raining	Lagorio.
Moscow			30.35	770.8	— 1.1	—18.4	89	W	9	4			10						Meteorological Obs.
Lugan			29.89	759.2	9.0	—12.8	80	ENE	34	15			10			Blank	Blank		Meteorological Obs.
Archangel			30.07	763.8	10.0	—12.2	85	W	22	10			10						Ogorodnikof.
Tiflis	28.56	725.4	29.97	761.2	57.4	14.1	59	Calm	0	0			4						Physical Observatory.
Astrakhan			30.10	764.5	14.9	— 9.5	97	ENE	7	3			3						Sebastianof.
Kasan			30.11	764.7	— 0.8	—18.2	79	Calm	0	0			1						Physical Cabinet.
Orenburg			30.24	768.0	—15.5	—26.4		E	13	6			3						Tschernischef.
Ekaterinburg	28.78	731.1	29.84	757.8	— 4.5	—20.3	75	WSW	13	6			0						Meteorogical Obs.
Nukus			29.87	758.7	44.6	7.0	91	N	4	2			2						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.65	753.1	40.8	4.9	59	S	9	4			10						Meteorological Obs.
Yenisseisk			29.61	752.1	16.9	— 8.4	94	E	13	6			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.39	772.0	28.0	— 2.2	29	NW	13	6			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					11.3	—11.5		W	7	3			4						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.70	754.4	52.7	11.5	84	SW	29.8	13.33			10			0.591	15.0	Rainy	Royal Observatory.
San Fernando			29.96	761.0	60.6	15.9	81	SW	15.9	7.1		3	7	S	SW	0.705	17.9		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.10	764.6	18.3	—10.4	93	SE			4		10			0	0		
Umea			30.02	762.4	20.5	— 6.4	95	S			4		10			0	0		
Hernosand			29.90	759.5	26.6	— 3.0	94	SE			2		10			0	0		
Stockholm			29.74	755.4	28.8	— 1.8	92	ESE			4		10			0.016	0.4		
Wisby			29.73	755.2	30.6	— 0.8	100	SSE			4		10			0.051	1.3		
SUB-SERIES.																			
Upsala			29.76	755.8	29.3	— 1.5	91	SE	4.9	2.2			10			0.191	4.85	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.17	715.5	29.63	752.6	43.5	6.4	100	NE			1		10			0.047	1.2	Raining	The Observatory.
Zurich	27.96	710.1	29.63	752.7	43.0	6.1	90	N			1		10			1.236	31.4	Raining	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —11.7 mm; Thermometer, +3.0 cent.; Relative Humidity, +21 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.87	758.6	61.7	16.5	78	WNW	6	2.5			10		WNW	0.882	22.4		
Fao, (Persian Gulf)																			
Salonica			29.93	760.2	72.1	22.3		SW			1		0						
Valona			30.01	762.3	67.8	19.9		NW			1		2						
Varna			29.92	760.0	59.0	15.0		N			2		8						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.17	766.4	66.2	19.0	81	SW			3		10n		SW	0	0	Overcast	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			29.49	749.0	25.7	— 3.5	81	SW	10	4.5			4						Hon. J. Ferguson.
Brockville, Ontario			29.65	753.1	29	— 1.7		W	8	3.6		0	2s		W	0	0	Fair	W. R. Bigg.
*Chatham, N. B			29.50	749.3	25	— 3.9	96	S	1	0.4		2k	8ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.55	750.6	35	1.7	90	SW	10	4.5			10ks			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.30	744.2	29.7	— 1.3	81	SW			2	0	1s			0	0	Bright	James Smith, M. A.
Dalhousie, N. B			29.51	749.5	26.7	— 2.9	85	W			1					0	0	Gloomy	H. A. Johnson.
Esquimault, B. C																0	0		W. H. Bevis.
Fredericton, N. B			29.58	751.3	17.0	— 8.3	100	W	1	0.4			Fog			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.06	763.5	—10	—23.3	95	N	5	2.2		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.62	752.3	28.1	— 2.2	81	SW			3	9k	0	SW		0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.49	723.6	29.65	753.1	20.3	— 6.5		W			1	1cs	0			0	0	Clear	James Grant.
*Halifax, N. S			29.59	751.6	38	3.3	82	SW	3	1.3			8n		SW	0	0	Cloudy	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.62	752.3	31	— 0.6	86	W	16	7.2		0	2s			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.61	752.1	34.5	1.4	95	W	2	0.9		9k	0	W		0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.50	749.3	29	— 1.7	87	SW	18	8.0			8k		W	0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.52	749.8	23	— 5.0	66	SW	5	2.2		2cs	0	SW		0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			29.51	749.5	28	— 2.2	88	W	20	8.9			10n		W	0.02	0.5	Light snow	Rev. R. Mosley.
Port Dover, Ontario			29.68	753.9	27	— 2.8	88	W	11	4.9		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S			29.63	752.6	33.4	0.8		S	6	2.7						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.71	754.6	25	— 3.9	87	W	18	8.0		0	0			0	0	Clear	M. Payne.
*Quebec, Quebec			29.49	749.0	29	— 1.7	100	SW	3	1.3			10n		SW	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.58	751.3	31	— 0.6	79	W	3	1.3		3ck	0			0	0	Fair	G. Murdoch, C. E.
*Saugeen, Ontario			29.53	750.0	29	— 1.7	91	W	3	1.3			10n			Inap.	Inap.	Light snow	K. Stewart.
Stayner, Ontario			29.53	750.0	26	— 3.3	89	W	10	4.5			10ks		W	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.28	718.3	29.63	752.6	20.5	— 6.4		SW	11	4.9		7s?	0?	W		0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.64	752.8	35	1.7	79	SW	7	3.1			10s		SW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.63	752.6	24	— 4.4	80	SW	11	4.9		0	0			0	0	Clear	Magnetic Observatory.
Woodstock, Ontario			29.67	753.6	20.6	— 6.3	95	SW	9	4.0		2c	0			0.06	1.5	Fair	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.61	752.1	32.5	0.3	89	S	2	0.9		5k	10s			0	0	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.66	753.4	28	— 2.2	88	S	2	0.9		10k	Haze	S		0	0	Cloudy	
Alpena, Mich.			29.53	750.0	21	— 6.1	86	SW	8	3.6			10n		SW	Inap	Inap.	Light snow	
Atlantic City, N. J.			29.80	756.9	32	0.0	60	SW	4	1.8		8k	0	W		0	0	Cloudy	
Augusta, Ga.			30.07	763.8	37	2.8	81	SW	2	0.9			Haze			0	0	Clear	
Baltimore, Md.			29.84	757.9	35	1.7	70	Calm	0	0		5c,ck	Sm'e	NW		0	0	Smoky	
Barnegat, N. J.			29.79	756.7	28	— 2.2	88	SW	4	1.8		8k	0	W		0	0	Fair	
Bismarck, Dakota	28.14	714.7	29.92	760.0	10	—12.2	79	NW	6	2.7			10n		NW	0.06	1.5	Light snow	
Boston, Mass.			29.66	753.4	30	— 1.1	59	SW	8	3.6			10s,sm'		W	0	0	Cloudy	
Breckenridge, Minn.			29.92	760.0	— 5	—20.6	82	NW	18	8.0			10s		NW	0	0	Cloudy	
Buffalo, N. Y.			29.65	753.1	32	0.0	79	W	16	7.2			10s		SW	0	0	Cloudy	
Burlington, Vt.			29.58	751.3	32	0.0	79	S	7	3.1		0	8s			0	0	Cloudy	
Cairo, Ill.			30.00	762.0	31	— 0.6	79	Calm	0	0		5cs	Fog	SW		0	0	Fair	
Cape Hatteras, N. C.			29.91	759.7	42	5.6	49	W	12	5.4		1ck	2s			0	0	Fair	
Cape Henry, Va.			29.89	759.2	37	2.8	53	W	8	3.6		0	0			0	0	Clear	
Cape Lookout, N. C.			30.00	762.0	45	7.2	60	W	26	11.2		5ck	0	W		0	0	Fair	
Cape May, N. J.			29.83	757.7	38	3.3	71	W	12	5.4		8k	0	NW		0	0	Fair	
Charleston, S. C.			30.07	763.8	41	5.0	48	SW	8	3.6		1cs	0			0	0	Clear	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	29	— 1.7	67	NW	24	10.7		8ck	0	NW		0	0	Fair	
Chicago, Ill.			29.75	755.6	27	— 2.8	65	SW	10	4.5		2k	5s	W		0	0	Fair	
Cincinnati, Ohio			29.85	758.2	29	— 1.7	89	SW	3	1.3		2c	Sm'e	W		0	0	Fair	
Cleveland, Ohio			29.76	755.9	23	— 5.0	79	S	18	8.0		2c	0	W		0	0	Fair	
Corsicana, Tex.			30.07	763.8	48	8.9	85	SW	5	2.2			10s			0.02	0.5	Cloudy	
Davenport, Iowa			29.88	758.9	23	— 5.0	86	W	10	4.5		5cs	0	W		0	0	Fair	
Denison, Tex.			30.07	763.8	34	1.1	79	NW	6	2.7		0	0			0	0	Clear	
Denver, Col.	24.82	630.4	30.04	763.0	29	— 1.7	59	SW	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			29.68	753.9	22	— 5.6	72	SW	10	4.5		2cs	0	SW		0	0	Fair	
Dodge City, Kan.	27.36	694.9	29.78	756.4	21	— 6.1	85	W	4	1.8		5ck	0	W		0	0	Fair	
Dubuque, Iowa			29.82	757.4	20	— 6.7	70	W	8	3.6		0	5s			0	0	Fair	
Duluth, Minn.			29.85	758.2	0	—17.8	69	NW	24	10.7		5k	0	NW		0.02	0.5	Fair	
Eastport, Me.			29.57	751.1	31	— 0.6	79	Calm	0	0		0	Sm'e			0	0	Clear	
Erie, Pa.			29.68	753.9	25	— 3.9	75	SE	16	7.2		1c	2ks		W	0	0	Fair	
Escanaba, Mich.			29.65	753.1	15	— 9.4	82	NW	12	5.4		0	2s		NW	0	0	Fair	
Fort Gibson, Indian Ter.			30.04	763.0	24	— 4.4	74	Calm	0	0		0	Sm'e			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.83	732.3	30.00	762.0	27	— 2.8	38	N	8	3.6		0	0			0	0	Clear	
Fort Sully, Dakota	28.18	715.8	29.88	758.9	32	0.0	79	NW	5	2.2		0	2s		NW	Inap	Inap.	Fair	
Florence, Arizona	28.60	726.4	30.14	765.5	54	12.2		NW				0	0			0	0	Clear	
Galveston, Tex.			30.10	764.5	56	13.3	93	SE	4	1.8		0	10s		W	0	0	Cloudy	
Grand Haven, Mich.			29.59	751.6	32	0.0	84	W	27	12.1			10n		W	Inap	Inap.	Light snow	
Indianapolis, Ind.			29.84	757.9	28	— 2.2	77	SW	7	3.1		5cs,hz.	Sm'e		SW	0	0	Fair	
Indianola, Tex.			30.16	766.1	51	10.6	100	N	11	4.9			10n			0.11	2.8	Light rain	
Jacksonville, Fla.			30.18	766.6	45	7.2	54	SW	3	1.3		10k	0	SW		0	0	Cloudy	
Keokuk, Iowa			29.85	758.2	28	— 2.2	78	W	4	1.8			10s		W	0	0	Cloudy	
Key West, Fla.			30.19	766.8	56	13.3	87	N	4	1.8		0	8ks			0	0	Cloudy	
Kittyhawk, N. C.			29.91	759.7	36	2.2	53	W	16	7.2		0	5s			0	0	Fair	
Knoxville, Tenn.			30.00	762.0	36	2.2	70	S	10	4.5			10n			Inap.	Inap.	Light snow	
La Crosse, Wis.			29.80	756.9	16	— 8.9	66	NW	12	5.4		0	0			0	0	Clear	
Leavenworth, Kan.			29.98	761.5	32	0.0	61	Calm	0	0			10s			0	0	Cloudy	
Louisville, Ky.			29.95	760.7	30	— 1.1	78	S	7	3.1		2c	Haze			0	0	Fair	
Lynchburg, Va.			29.88	758.9	35	1.7	57	Calm	0	0		10c	Sm'e	W		0	0	Cloudy	
Malone, N. Y.			29.49	749.0	35	1.7	80	SW	11	4.9			10s		SW	0	0	Cloudy	
Marquette, Mich.			29.65	753.1	15	— 9.4	82	W	12	5.4			10s		W	0	0	Cloudy	
Memphis, Tenn.			30.04	763.0	42	5.6	83	SW	4	1.8			10s		SW	0.11	2.8	Cloudy	
Milwaukee, Wis.			29.73	755.1	20	— 6.7	70	W	16	7.2		0	5s		W	0	0	Fair	
Mobile, Ala.			30.18	766.6	40	4.4	83	NE	2	0.9		5c	Fog			0	0	Fair	
Montgomery, Ala.			30.14	765.5	39.5	4.2	55	S	4	1.8		10cs	Haze	SW		0	0	Cloudy	
Morgantown, W. Va.	28.75	730.2	29.84	757.9	30	— 1.1	78	SW	8	3.6		2c	0	SW		0	0	Fair	
Mt. Washington, N. H.	23.12	587.2	29.48	748.8	5	—15.0	100	NW	72	32.2			Fog			0	0	Foggy	
Nashville, Tenn.			29.99	761.7	40	4.4	73	W	2	0.9		10k	Fog	W		0	0	Cloudy	
New Haven, Conn.			29.71	754.6	33	0.6	69	W	5	2.2		Fog	10s		W	0	0	Cloudy	
New London, Conn.			29.70	754.4	32	0.0	69	Calm	0	0		0	10s		W	0	0	Cloudy	
New Orleans, La.			30.16	766.1	48	8.9	63	Calm	0	0			10s			0	0	Cloudy	
Newport, R. I.			29.69	754.1	34	1.1	61	SW	14	6.3			10s		SW	0	0	Cloudy	
New York, N. Y.			29.76	755.9	31	— 0.6	78	W	8	3.6		2ck	2ks	W	W	0	0	Fair	
Norfolk, Va.			29.89	759.2	35.5	1.9	57	SW	6	2.7		0	Sm'e			0	0	Clear	
North Platte, Neb.	27.05	687.1	29.70	754.4	32	0.0	79	W	12	5.4			10s			0	0	Cloudy	
Omaha, Neb.	28.79	731.3	29.90	759.4	31	— 0.6	79	Calm	0	0			10s		NW	0	0	Cloudy	
Oswego, N. Y.			29.65	753.1	30	— 1.1	78	S	4	1.8		Haze	2s		W	0	0	Fair	
Pembina, Dakota			30.05	763.3	— 5	—20.6	82	NW	3	1.3			10s			Inap.	Inap.	Cloudy	
Philadelphia, Pa.			29.80	756.9	31	— 0.6	79	W	4	1.8		1c	1s,sm	W		0	0	Fair	
Pike's Peak, Col.	17.60	447.0	29.81	757.2	10	—12.2	79	NW	50	22.4		2c	0			0	0	Fair	
Pittsburgh, Pa.			29.78	756.4	29	— 1.7	89	SW	9	4.0		0	0			0	0	Clear	
Port Huron, Mich.			29.64	752.8	21	— 6.1	85	SW	9	4.0		2cs	0	W		0	0	Clear	
Portland, Me.			29.60	751.8	30	— 1.1	67	SW	4	1.8			10s,hz			0	0	Cloudy	
Portland, Oregon			30.32	770.1	33	0.6	89	N	1	0.4		0	0			0	0	Clear	
Punta Rassa, Fla.			30.20	767.1	51.0	10.6	80	N	1	0.4		2ck	2s	SW		0	0	Fair	
Rochester, N. Y.			29.62	752.3	29	— 1.7	83	SW	8	3.6			10s		W	0	0	Threatening	
Salt Lake City, Utah	25.89	657.6	30.22	767.6	23	— 5.0	100	N	4	1.8			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.72	754.9	34	1.1	69	W	15	6.7		2k	2s	W	W	0	0	Fair	
San Diego, Cal.			30.16	766.1	54	12.2	23	NE	8	3.6		0	0			0	0	Clear	
San Francisco, Cal.			30.22	767.6	50	10.0	71	N	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.20	589.3	29.74	755.4	27	— 2.8	77	N	14	6.3		0	0			0	0	Clear	
Savannah, Ga.			30.14	765.5	38	3.3	56	SW	10	4.5		1s	Sm'e			0	0	Smoky	
Shreveport, La.			30.13	765.3	50	10.0	65	S	4	1.8			10s			Inap.	Inap.	Cloudy	
Smithville, N. C.			30.02	762.5	45	7.2	54	SW	10	4.5		1ck	0	W		0	0	Clear	
Springfield, Mass.			29.70	754.4	28.5	— 1.9	67	Calm	0	0		5ok	5s			0	0	Cloudy	
St. Louis, Mo.			29.99	761.7	32	0.0	79	NW	4	1.8		0	0			0	0	Clear	
St. Marks, Fla.			30.19	766.8	34	1.1	90	W	1	0.4		0	0			0	0	Clear	
St. Paul, Minn.			29.81	757.2	9	—12.8	79	NW	8	3.6		0	2s			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.66	753.4	30	— 1.1	78	W	12	5.4		2c	8s	W	W	0	0	Cloudy	
Toledo, Ohio			29.68	753.9	28	— 2.2	77	SW	12	5.4			10s		SW	0	0	Cloudy	
Tucson, Arizona	27.72	704.1	30.27	768.8	32	0.0		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.16	766.1	44	6.7	56	S	4	1.8			10s,sm'		W,S	0	0	Cloudy	
Virginia City, M. T.	24.34	618.2	29.82	757.4	23	— 5.0	53	NW	1	0.4		0	0			0	0	Clear	
Washington, D. C.			29.84	757.9	28	— 2.2	83	SW	1	0.4		2ck	2s	W	SW	0	0	Smoky	
Wilmington, N. C.			30.01	762.2	39	3.9	56	SW	8	3.6		2ck	0	W		0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.70	754.4	38	3.3	54	NW	14	6.3			10s		SW	0	0	Cloudy	
Yankton, Dakota	28.60	726.4	29.94	760.5	27	— 2.8	82	SW	4	1.8			10s		W	0.02	0.5	Cloudy	
Yuma, Arizona			30.17	766.3	54	12.2		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.22	767.6	75	23.9	81	N	8	3.6		8c	0	N		0	0		James Gall.
Navassa, W. I.					78	25.6		NE			4							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.02	762.5	68	20.0	84	N	1.0	0.4		5c	0	N		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.02	762.5	81	27.2	87	E			2	5k	5k	E		0.030	0.76	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	764.0			78.8	26		SW								0.494	12.75		Dr. H. Groot.
Medellin, Colombia, S. A.	25.27	641.8			63.8	17.7	85	Calm			0	6k	2s			0.01	0.3	Cloudy	Thomas Herran.
York Factory, B. A.			29.67	753.6	— 7.0	—21.7	80	N	28	12.5		3c	2s	S		0.25	6.3		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	74	23.3		NNW			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.03	762.7	65	18.3	62	Calm			0	0	0			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Quincy, Mass.			29.66	753.4	31.5	— 0.3	84	SW	4	1.8		10ck	0					Cloudy	Capt. James Jorgensen.
Steamer Leipzig, N. 49°, 24′, W. 19°, 3′.	W½S	8.5	29.23	742.4	46.6	8.1		WSW			6		..nk		W		NW	Squally	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.6 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 8, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.02	762.6	62.4	16.9	79	Calm			0		10			0.283	7.2	Hidden	Charnot.
Algiers			29.98	761.5	65.8	18.8	77	NW			1		10			Inap.	Inap.	Hidden	Peter.
La Calle			29.95	760.7	68.7	20.4	75	NNW			2		4			0	0	Fair	Didier.
Tunis			29 97	761.2	69.8	21.0		W			2		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saïda			30.07	763.8	50.9	10.5	95	WNW			1		7			0.276	7.0	Cloudy	Millot.
Tebessa			30.01	762.2	63.5	17.5		SW			4		8			0	0	Cloudy	Bourgeois.
Geriville			30.04	763.0	50.0	10.0	54	SSE			1		1			0	0	Clear	Lemaillot.
Laghouat			30.09	764.3	68.0	20.0	40	W			2		6			0	0	Fair	Guyot.
Biskra			30.00	762.0	71.6	22.0	39	ENE			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.72	755.0	59.2	15.1	84	SW			2		10			0.370	9.4		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.71	754.5	47.8	8.8	87	WSW			1		6			0.016	0.4		Dr. Wierzbiski.
Eperies			29.69	754.0	46.9	8.3	88	Calm			0		9k,s			0.282	7.16		Julius Mikolik.
Gratz	28.52	724.4	29.78	756.3	47.8	8.8	96	SSW			1		4			0.236	6.0		Andreas Rospini.
Hermannstadt	28.30	718.8	29.72	754.9	49.6	9.8	83	SE			1		10			0.224	5.70	Rainy	Prof. Reissenberger.
Kremsmünster	28.39	721.0	29.73	755.2	46.4	8.0	92	E			1		1			0	0		Prof. C. Wagner.
Lemberg			29.71	754.5	34.3	1.3	91	SE			2		10			0.343	8.7		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.82	757.5	54.0	12.2	99	W			1		10			0	0	Dense fog	I.R. Hydrographic Of'ce.
Szegedin			29.73	755.2	55.8	13.2		W			2		8			0.203	5.15		Karl Stancel.
Trieste			29.85	758.1	52.9	11.6	99	Calm			0		10			0.315	8.0	Rain and fog	Prof. V. Farolfi.
Vienna			29.74	755.4	47.8	8.8	92	Calm			0		5			0.102	2.6	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.47	748.5	51.8	10.7	92	WSW			4		10		SW	0.112	2.85	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.66	753.4	41.9	5.5		W	3	1.3			2			0	0	Blue sky	William Boswell.
Ardrossan			29.71	754.6	45	7.2		SW			1		7					*D. clouds	William McNeil.
Armagh, Observatory			29.79	756.7	40.9	4.9		SSW	7	3.1			3					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.85	758.2	43.2	6.2		SW			1		1					Blue sky	J. Dreyer.
Bradford			29.71	754.6	45.1	7.3		N			1		1			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	84.0	28.9		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.64	752.8	47.0	8.3		NNW			2		10			blank	blank	Overcast	H. Todd. [H.C.
Cardington			29.67	753.6	47.0	8.3		N			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.61	752.1	47.2	8.4		N			1		9					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.33	719.6	29.85	758.2	46.0	7.8		N			3		5					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.61	625.1			36.8	2.7	89	Calm			0		3			0.221	5.62	*D. clouds	Francis Redford, M. A.
Donaghadee			29.65	753.1	43	6.1		W			2		3					*D. clouds	J. Mac Gowan.
Dover			29.56	750.8	49	9.4		NNW			4		7					¾ clouded	J. Costello.
Eccles, (near Manchester)			29.71	754.6	44.9	7.2		SW					7					Misty	Thomas Mackereth.
Falmouth, Observatory			29.83	757.7	50.1	10.1		NW			4		2					*D. clouds	The Staff.
Fort Napier, (Natal)	27.50	698.5	29.74	755.4	79.8	26.6		NW			3		0					Blue sky	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			30.00	762.0	86.0	30.0		Calm			0		4					*D. clouds	
Galway, Queen's College			29.98	761.5	46	7.8		SE			1		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.97	761.2	59.3	15.2		SW			3		8					Overcast	Corpl. C. Aitken, A H.C.
Glasgow, Observatory			29.70	754.4	41.0	5.0		NW			1		10					Drizzling	Lewis Stuart.
Great Yarmouth			29.52	749.8	47	8.3		NNW			3		7					Misty.	G. T. Watson.
Greenwich, Royal Obs'y			29.64	752.8	46.8	8.2		N			3		10			blank	blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.74	755.4	50.5	10.3		NW			4		7					*D. clouds	Dr. S. E. Hoskins.
Helston			29.78	756.4	52	11.1		N			4		1c			0	0	Fine	M. P. Moyle.
Holyhead			29.78	756.4	48	8.9		WNW			3		3					*D. clouds	John Tilston.
Kew, Observatory			29.66	753.4	48.0	8.9		NNW	15	6.7			10					Threatening	The Staff.
Kingstown			29.80	756.9	45	7.2		WNW			4		2					Blue sky	George Mitchell.
Leicester Museum			29.69	754.1	48.0	8.9		NW			1		10					Hazy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.06	763.5	72.0	22.2		SW			2		4c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.61	752.1	44	6.7		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	66.0	18.9		SE			1							Foggy	Surg. Maj. Henry.
Nottingham, Observatory			29.71	754.6	46.7	8.2		NNW			4		10k		N	0.030	0.76	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.71	754.6	45.6	7.6		NW			2		2					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.68	753.9	48	8.9		NW			1		10					Gloomy	J. Lucas.
Plymouth			29.78	756.4	51.5	10.8		N			3		2					*D. clouds	John Merrifield.
Roche's Point			29.85	758.2	47	8.3		NNW			3		2					Fine	W. Kennedy.
Saint Ann's Head			29.78	756.4	50	10.0		NNW			3		0					Blue sky	John C. Walker.
Saint Helier, (Jersey)			29.72	754.9	51.2	10.7		N			5		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.55	750.6	44.1	6.7		SSW	13	5.8			1					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.89	759.2	57.8	14.3		WSW			2		9					Gloomy	Sergt. W. H. Lyne.
Sheffield			29.68	753.9	48.1	8.9		NNW			1		8			0	0	Overcast	W. F. Cooper.
Silloth Rectory			29.72	754.9	38.0	3.7	95	Calm			0		0			0	0	Blue sky	Rev. Francis Redford
Stonyhurst, Observatory			29.74	755.4	41.1	5.1		W			0		6k					*D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.53	750.0	42	5.6		WSW			4		10					Showery	John Smith.
Stratfield Turgiss			29.66	753.4	46.2	7.9		N			1		10					Overcast	Rev. Charles H. Griffith
Thurso			29.54	750.3	41	5.0		SSW			2		4					*D. clouds	John Trotter.
Truro, Royal Institution			29.86	758.4	54	12.2		N			6		3					*D. clouds	W. Newcombe.
Valencia, Observatory			29.89	759.2	46.0	7.8		NNE	1	0.4			2					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					48	8.9		NW			3		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.26	768.6	69.1	20.6	52	SSE	15	6.7		9	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.51	749.5	68.0	20.0	78	NW			5		4k			0	0		Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.72	754.9	40.1	4.5		W			2		10k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.07	763.8				ENE	17.1	7.6						0	0		C. Meldrum.
Melbourne, Observatory			29.95	760.7	60.1	15.6	56	SW	11	4.9			10			0	0	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.61	752.1	50	10.0		W			6		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.49	749.0	46	7.8		S			4	6	4	SW					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.65	753.0	39.6	4.2	97	E			2		10						
Fanöe			29.60	751.8	42.3	5.7	96	ENE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			28.84	732.5	35.1	1.7	93	SE			4		5						
Thorshavn, (Faröe)			29.29	743.9	43.9	6.6	81	SSW			5		7					Raining	
Vestervig			29.66	753.4	38.8	3.8	100	ENE			6		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna system; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alengon			29.66	753.4	51.8	11	84	W			2		10k		W	0.39	10.	Covered	Normal School.
Amiens			29.52	749.7	51.4	10.8	93	SW			3		8		SW	0.217	5.5	Very cloudy	Normal School.
Avignon			29.84	757.8	56.3	13.5	84	NE			1		10			0	0	Covered	Normal School.
Bar-sur-Seine			29.67	753.5	51.4	10.8	86	SW			2		8		W	0.004	0.1	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.71	754.7	53.1	11.7	71	NW	10.3	4.6					NW	0.047	1.2		Beaumette Observ'tory.
Beauvais			29.59	751.6	51.3	10.7	85	WSW			2		10		W	0.256	6.50	Covered	Normal School.
Besançon			29.74	755.5	53.6	12	72	SW			4		2		SW	0.20	5.	Slightly cl'dy	Normal School.
Bourg en Bresse			29.85	758.2	53.8	12.1	75	S			2		5kn		NE	0.362	9.2	Cloudy	Normal School.
Bourges			29.74	755.4	51.8	11	93	W			6		8		W	0.059	1.5	Very cloudy	Normal School.
Brest			29.76	756.0	51.6	10.9	74	NNW			3		4k		NNW	0.295	7.50		Naval Observatory.
Carcassonne			29.92	759.9	57.2	14	69	W			1		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.59	751.5	51.4	10.8	97	SW			4		3		SW	0.098	2.5		Normal School.
Châlons-sur-Marne			29.60	751.8	52.2	11.2	83	SW			4		10n		NE	0.028	0.7	Covered	Normal School.
Clermont			29.78	756.5	52.3	11.3	63	SW			3		10		SW	0	0	Covered	Puy de Dome Obs'y.
Commercy			29.64	752.9	50.4	10.2	86	WSW			6		8		E	0.138	3.5	Very cloudy	Normal School.
Commune de Gréasque*			29.87	758.6	55.2	12.9	84	NW			2		10		W	0	0		M. Kina.
Grenoble			29.78	756.5	52.2	11.2	91	ENE			4		2k		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.78	756.3	52.9	11.6	73	SW			2		5		NE	0.189	4.8	Partly cl'dy	Normal School.
Le Mans			29.69	754.1	51.1	10.6	77	W			4		8		W	0.413	10.50	Very cloudy	Normal School.
Lons-Le-Saulnier			29.77	756.2	54.5	12.5	65	SW			3		8		SW	0	0	Very cloudy	Normal School.
Lorient			29.82	757.4	55.4	13.0	64	NNW			2		5		NW	0.039	1.0	Cloudy	Naval Observatory.
Mâcon			29.83	757.7	54.1	12.3	78	SW			2		5		SW	0.008	0.2	Cloudy	Normal School.
Metz			29.70	754.4	50.0	10.0	85	SW			3		7		SW	0.181	4.6	¾ covered	M. Schuster.
Mirecourt			29.47	748.4	52.0	11.1	77	SW			4		10		E	0.098	2.5	Covered	Normal School.
Nismes			29.83	757.7	56.1	13.4	71	NW			2		5		NW	0	0	Cloudy	Normal School.
Orleans			29.65	753.0	51.4	10.8	90	W			2		5		NW	0.04	1.	Cloudy	Normal School.
Paris, Observatory			29.61	752.0	51.3	10.7	83	SW			2		10k		SW	0.133	3.38	Light drizzle	National Observatory.
Parthenay																			Normal School.
Privas			29.85	758.2	55.0	12.8		W			1		2		W	0.598	15.2	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.83	757.6	55.4	13.0	81	W			2		8		E	0.039	1.0	¾ covered	Naval Observatory.
Rouen			29.53	750.0	51.6	10.9	90	SW			2		10		SW	0.228	5.8	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.79	756.7	55.6	13.1	72	SW			2		5			0.12	3.	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.78	756.5	58.1	14.5	78	NW			1		3			0	0		Marseilles Observatory.
Mont-Louis	24.68	626.9	30.04	762.9	42.8	6.0	76	SSW	7.4	3.33			7		SW	0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.87	758.7	58.3	14.6	50	W	1.9	0.83			9		SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.98	533.0			23.0	— 5.0		SW			1		7					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.30	566.4			28.8	— 1.8		SW			2		6			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.61	752.0	51.3	10.7	87	SW			2		10			0.311	7.9	Rainy	E. Renou.
Toulouse			29.93	760.3	53.8	12.1	71	WNW			1		9			0	0		Toulouse Observatory.
Tours			29.71	754.7	53.2	11.8	76	W			2		3		WNW	0.114	2.9		C. Marquet.
Versailles, (near Paris)			29.61	752.2	50.7	10.4	90	W			1		10			0.136	3.46	Rainy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.42	772.6	40.5	4.7	89	N	5.6	2.50			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Ramberg			29.61	752.0	47.8	8.8	84	SW			3		9	W		0.12	3.		Prof. T. Hoh.
Berlin			29.61	752.1	50.5	10.3	86	S			1		6			0.232	5.9	Rainy	Prof. Arndt.
Breslau			29.68	753.8	50.2	10.1	83	WSW			3		7			0	0		Royal University Obs'y.
Carlsruhe			29.62	752.3	55.8	13.2	66	SW			3		8			0.213	5.4		A. Senz.
Cassel			29.65	753.0	50.5	10.3	86	SSE			2		9	SW		0.102	2.6		Dr. H. Möhl.
Crefeld			29.49	749.1	50.5	10.3	93	SE			3		10					Drizzling	Director Lose.
Emden			29.58	751.2	49.6	9.8	97	S			1		10			0.004	0.1		Prof. Prestel.
Frankfort on the Main			29.63	752.7	50.0	10.0	75	S			1		8			0.322	8.2	Rain & fog	Physical Society.
Friedrichshafen			29.77	756.1	47.5	8.6	87	WSW			4		1			0	0		M. Wilhelm.
Hamburg			29.56	750.9	48.6	9.2	98	Calm			0		8k			0.331	8.4		Captain F. Hegemann.
Kiel			29.57	751.0	43.5	6.4	92	ENE			3		10			0.280	7.1		Prof. G. Karsten.
Königsberg, (Prussia.)			29.80	756.9	24.3	— 4.3	83	SE			5		10			0	0		Prof. E. Luther.
Köslin			29.65	753.0	34.5	1.4		Calm			0		4			0.532	13.5		H. Müller.
Leipsic			29.61	752.2	50.7	10.4	84	SSW			2		9	SW		0.154	3.9		Prof. Bruhns.
Memel			29.85	758.3	20.8	— 6.2	87	SE			5		10n			0	0		Reinbrecht & Skalweit.
Münster			29.49	749.0	52.7	11.5	90	SE			4		10			0.201	5.1		Prof. E. Heis.
Neufahrwasser			29.73	755.2	28.4	— 2.0	90	SSE			2		10			0.087	2.2	Smoke-haze	A Lothe.
Posen			29.65	753.1	45.1	7.3	93	S			1		10			0.024	0.6		Dr. Magener.
Strassburg, (in Alsace)			29.68	753.8	54.9	12.7	65	SSW			4		9	SSW		0.386	9.8		Dr. Schur.
Stuttgart			29.66	753.3	55.0	12.8	62	W			1		5			0.031	0.8	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.52	749.7	51.1	10.6	86	SW			8		10			0.059	1.5		Prof. Flesch.
Weissenburg, (Bavaria,)	28.18	715.8	29.67	753.7	51.6	10.9	68	S			1		4	S		0	0		Dr. von Bebber.
Wustrow, Naval School			29.67	753.7	39.9	4.4	98	E			4		10			0.193	4.9	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 15°, 29', W. 30°, 44'.			30.17	766.3	81.7	27.6	76	E			4		5	E					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.03	762.8	65.3	18.5		SW										Covered	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.80	756.9	52.5	11.4	93	Calm	0	0			10			0.02[illegible]	0.5		Prof. Giovanni Clodig.
Padua			29.79	756.7	49.5	9.7	94	N	3.1	1.4			10			0.04[illegible]	1.1	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.79	756.7	50.0	10.0	97	SSE	1.8	0.8			9	W		0.01[illegible]	0.3	Light rain	Alm. Da Schio.
Verona			29.78	756.5	51.1	10.6	90	E			1		10			0.12[illegible]	3.2	Raining	Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.83	757.6	45.3	7.4	94	Calm			0		9			0.07[illegible]	2.0	Raining	Prof. Giuseppe Calza.
Milan			29.83	757.7	46.8	8.2	83	N			1		10			0.11[illegible]	3.0	Raining	Ab. Gio. Capelli.
Pavia			29.81	757.2	47.7	8.7	89	SW			1		10			0.043	1.1	Raining	Prof. Gio. Cantoni.
Moncalieri			29.84	758.0	45.1	7.3	96	ENE	3.1	1.4			8	SW		0	0		Prof. P. F. Denza.
Mondovi	27.89	708.4	29.82	757.4	48.0	8.9	68	SE			1		10			0	0		Prof. C. Bruno.
Porto Maurizio			29.83	757.7	58.5	14.7	86	E			2		10			0.07[illegible]	2.0	Raining	Prof. L. Vassallo.
Genoa			29.79	756.7	58.6	14.8	90	SE	3.1	1.4			10	S		0.09[illegible]	2.5	Raining	Prof. Garibaldi.
Piacenza			29.82	757.5	49.3	9.6	87	NW	4.3	1.9			10	NW		0.07[illegible]	2.0	Raining	Dott. G. Manzi.
Parma			29.83	757.6	50.2	10.1	92	W			2		10			0	0		Prof. P. Pigorini.
Bologna			29.84	757.8	50.9	10.5	54	W			1		7	N		0	0		Prof. A. Palagi.
Florence			29.83	757.7	61.7	16.5	88	SE			2		10			0.09[illegible]	2.4	Raining	Cav. F. Meucci.
Leghorn			29.84	757.8	61.3	16.3	80	ENE	1.[illegible]	0.8			10	WSW		0.322	8.2	Raining	Prof. P. Monte.
Siena	28.63	727.3	29.84	758.0	56.8	13.8	92	SSW	0	0			10	SW		0.571	14.5	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.87	758.7	51.3	10.7	96	S	6.3	2.8			10	SW		0.19[illegible]	4.9	Raining	Prof. Luigi Guidi.
Ancona			29.86	758.4	57.9	14.4	84	SE			4		10			0.30[illegible]	7.8	Raining	Prof. F. De— Bosis.
Grosseto			29.85	758.2	62.2	16.8	90	SE			2		10	S		0.03[illegible]	0.9	Light rain	Avv. P. Ponticelli.
Rome			29.93	760.1	62.8	17.1	84	SSE	8.7	3.9			10	SW		0.01[illegible]	0.3	Light rain	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.97	761.2	66.6	19.2	83	SW			4		10	SW		0	0		Prof. L. Palmieri.
Lecce			29.99	761.7	64.0	17.8	38	SSE	13.7	6.1			6			0	0		Prof. C. De—Giorgi.
Cosenza			30.01	762.3	67.8	19.9	54	SW	1.8	0.8			4			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.94	760.4	75.7	24.3	40	S	1.3	0.6			6			0	0		Prof. G. Cacciatore.
Caltanissetta	28.09	713.5	30.04	763.0	63.5	17.5	58	WSW			1		3	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.00	762.0	62.2	16.8	93	WSW	4.3	1.9			10	SW		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 553 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the
Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.50	749.4	50.0	10.0		WNW			2					0.157	4.0		
Groningen			29.44	747.7	48.7	9.3		SE			3					0.142	3.6		
Helder			29.49	749.0	48.9	9.4		SSE			1					0.083	2.1		
Utrecht			29.45	747.9	50.9	10.5	88	S			2		10			0.181	4.6	Overcast	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.69	754.0	40.3	4.6	90	Calm	0	0			10			0.008	0.2		
Brönö			29.71	754.5	34.9	1.6	59	ESE	18	8			8			0	0		
Christiania			29.84	757.8	32.2	0.1	79	NE	0	0			10			0.004	0.1		
Tromsö			29.72	754.8	25.2	— 3.8	64	SE	13	6			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.31	769.9	57.2	14.0	76	SW	6.3	2.8			8			0	0		Dr. J. A. Sampaio.
Campo Major			29.93	760.3	54.3	12.4	83	SW	10.5	4.7			9	SW		0.276	7.0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.24	768.1	66.2	19.0	50	N	0.7	0.3			0			0	0		Capt. D. A. de Cunha.
Lisbon			29.92	759.9	56.8	13.8	76	WSW	17.4	7.8			9			0.201	5.1	Rainy	The Observatory.
Ponta Delgada, (Azores)			30.23	767.8	59.7	15.4	61	SSW	10.5	4.7			10			0.008	0.2		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.72	754.9	28.9	— 1.7	96	ENE	9	4			10						Astronomical Obs.
Wilna			30.01	762.2	15.6	— 9.1	65	SE	2	1			10						Astronomical Obs.
Dorpat			30.17	766.2	— 4.9	—20.5	93	E	9	4			1						Physical Cabinet.
St. Petersburg			30.25	768.4	— 2.9	—19.4	89	SE	9	4			2					Light fog	Central Physical Obs.
Kuopio			30.18	766.5	— 4.7	—20.4	100	E	13	6			10						Ch. Forsten.
Kieff			30.04	763.1	6.8	—14.0	96	E	7	3			10						Physical Cabinet.
Nikolaiev			30.07	763.7	17.1	— 8.3	79	Calm	0	0			10						Kurdakof.
Kertch			30.00	761.9	25.0	— 3.9	95	WNW	11	5			10						Lagorio.
Moscow			30.41	772.5	— 3.6	—19.8	87	WSW	4	2			0						Meteorological Obs.
Lugan			29.85	758.1	18.9	— 7.3	87	ENE	27	12			10			Blank	Blank		Meteorological Obs.
Archangel			30.19	766.7	2.5	—16.4	82	SW	13	6			10						Ogorodnikof.
Tiflis	28.53	724.6	29.95	760.7	51.8	11.0	42	N	31	14			6						Physical Observatory.
Astrakhan			30.07	763.6	21.6	— 5.8	95	NE	13	6			10						Sebastianof.
Kasan			30.24	768.0	— 1.8	—18.8	81	Calm	0	0			10						Physical Cabinet.
Orenburg			30.03	762.8	9.5	—12.5	77	E	13	6			10					Snowing	Tschernischef.
Ekaterinburg	28.95	735.3	30.00	762.0	— 0.2	—17.9	74	WSW	13	6			10						Meteorogical Obs.
Nukuss			30.07	763.7	30.9	— 0.6	96	E	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.96	761.0	5.9	—14.5	91	NW	9	4			10						Meteorological Obs.
Yeniseisk			29.73	755.2	12.2	—11.0	84	W	7	3			8			Blank	Blank		Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.01	777.5	19.4	— 7.0	30	NNW	9	4			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					5.5	—14.7		Calm	0	0			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.94	760.5	50.5	10.3	74	SW	9.7	4.34		0	7			0.020	0.5	Cloudy	Royal Observatory.
San Fernando			30.03	762.7	60.1	15.6	78	SSE	3.6	1.6		0	7		S	0.650	16.5		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.28	769.1	— 3.6	—19.8	84	N			2		10			0	0		
Umea			30.02	762.5	18.3	— 7.6	100	SSE			2		10			0	0		
Hernosand			29.92	760.0	32.0	0.0	96	S			2		10			0.165	4.2	Snowing	
Stockholm			29.76	756.0	32.7	0.4	100	SSE			2		10			0.063	1.6		
Wisby			29.84	758.0	33.1	0.6	92	SE			4		10			0.094	2.4		
SUB-SERIES.																			
Upsala			29.85	758.1	33.1	0.6	91	ESE	4.3	1.9			10			0.024	0.60	Foggy	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.37	720.6	29.80	756.9	53.6	12.0	65	SSW			3		10			0.803	20.4	Covered	The Observatory.
Zurich	28.13	714.6	29.78	756.5	50.9	10.5	73	W			1		3			0.079	2.0	Bright	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —6.6 mm; Thermometer, +8.7 cent.; Relative Humidity, —14 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Constantinople			29.94	760.4	59.0	15.0	78	SW	9	4.0			10		WSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.95	760.6	63.9	17.7		SW			1		2						
Valona			29.96	760.9	68.0	20.0		SW			3		2						
Varna			29.88	759.0	53.6	12.0		E			2		5						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.15	765.9	66.0	18.9	84	S			1		10n		SW	0.67	17.0	Raining	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.46	748.3	28.6	— 1.9	78	N	6	2.7			6						Hon. J. Ferguson.
Brockville, Ontario			29.69	754.1	13	—10.6		N	1	0.4			10s		NE	0.03	0.8	Light snow	W. R. Bigg.
*Chatham, N. B.			29.40	746.7	16	— 8.9	98	Calm	0	0		8ck	2ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.43	747.5	30	— 1.1	96	Calm	0	0			10s			Inap.	Inap.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.36	745.7	13.7	—10.2	93	N			1		10s			0.05	1.3	Unsettled	James Smith, M. A.
Dalhousie, N. B.			29.52	749.8				NW			1					0	0	Gloomy	H. A. Johnson.
Esquimault, B. C.			30.33	770.4	37.1	2.8	90	N					10s			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			29.49	749.0	16.7	— 8.5	95	W	4	1.8		7ck	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.11	764.8	—23	—30.6	100	N	18	8.0		0	0			Inap.	Inap.	Clear	James Stewart.
Goderich, Ontario			29.55	750.6	21.1	— 6.1	77	Calm			0		10n			0.30	7.6	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.43	722.1	29.59	751.6	16.4	— 8.7		W			2		10n			0.600	15.24	Cloudy	James Grant.
*Halifax, N. S.			29.42	747.3	32	0.0	93	W	1	0.4			8n			0.020	0.51	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.63	752.6	19	— 7.2	69	NE	2	0.9		5ck	0	SW		0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.			29.43	747.5	32.0	0.0	95	SW	3	1.3		7k	0	W		0	0		C. H. Rigby.
*Montreal, Quebec			29.62	752.3	9	—12.8	74	NE	9	4.0		5ck	5ks	NE		0.02	0.5	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.62	752.3	7	—13.9	65	NW	4	1.8			10n		NW	0.05	1.3	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.57	751.1	9	—12.8	89	N	5	2.2		2ck	5ks	W	W	0.10	2.5	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.62	752.3	21	— 6.1	93	W	8	3.6			10n		SW	0.07	1.8	Threatening	H. Morgan.
Port Hastings, N. S.			29.44	747.8	33.8	1.0		W	4	1.8						0.05	1.3	Fine	Peter Grant.
Port Stanley, Ontario			29.64	752.8	22	— 5.6	74	W	22	9.8			8ks		W	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec			29.57	751.1	14	—10.0	82	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			29.48	748.8	29	— 1.7	77	SW	2	0.9			10n					Snowing	G. Murdoch, C. E.
*Saugeen, Ontario			29.51	749.5	15	— 9.4	82	SE	2	0.9			10s			0.17	4.3	Light snow	K. Stewart.
Stayner, Ontario			29.53	750.0	16	— 8.9	85	Calm	0	0			10n		W	0.20	5.1	Cloudy	R. J. Cole.
Stratford, Ontario	28.24	717.3	29.60	751.8	15.1	— 9.4		SW	7	3.1			10s			0.80	20.3	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.44	747.8	32	0.0	88	SW	2	0.9			10s			0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.58	751.3	21	— 6.1	85	W	11	4.9			10ks		W	0.01	0.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.64	752.8	18.4	— 7.6	88	SW	9	4.0			10s			0.120	3.05	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.48	748.8	33.0	0.6	89	S				Fog	Fog			0.05	1.3	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.60	751.8	27	— 2.8	77	S	2	0.9		5k	0	SW		0	0	Fair	
Alpena, Mich.			29.47	748.5	16	— 8.9	83	SW	6	2.7			10s		SW	0.02	0.5	Cloudy	
Atlantic City, N. J.			29.80	756.9	31	— 0.6	68	SW	5	2.2		10ck	0	W		0	0	Cloudy	
Augusta, Ga.			29.91	759.7	39	3.9	95	NW	2	0.9			Fog			0	0	Foggy	
Baltimore, Md.			29.79	756.7	34	1.1	61	W	3	1.3		5c	5s	W	SW	0	0	Cloudy	
Barnegat, N. J.			29.78	756.4	28	— 2.2	88	W	7	3.1		5k	2s	W		0	0	Cloudy	
Bismarck, Dakota	8.53	724.6	30.49	774.4	—18	—27.8	67	NW	42	18.8		0	0			0.01	0.3	Clear	
Boston, Mass.			30.58	776.7	32	0.0	79	SW	8	3.6		0	4s,hz.			0	0	Fair	
Breckenridge, Minn.			30.20	767.1	—15	—26.1	72	NW	36	16.1			10n		NW	Inap.	Inap.	Light snow	
Buffalo, N. Y.			29.58	751.3	20	— 6.7	85	W	14	6.3			10n			0.30	7.6	Heavy snow	
Burlington, Vt.			29.61	752.1	21	— 6.1	100	N	8	3.6			10n			0.02	0.5	Light snow	
Cairo, Ill.			29.90	759.4	34	1.1	51	W	7	3.1		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.84	757.9	41	5.0	74	W	4	1.8		2ck	2s,hz.	W		0	0	Fair	
Cape Henry, Va.			29.85	758.2	38	3.3	72	W	1	0.4		5c	0			0	0	Fair	
Cape Lookout, N. C.			29.92	760.0	45	7.2	76	SW	1	0.4		5ck	2s	SE		0	0	Fair	
Cape May, N. J.			29.80	756.9	36	2.2	62	NW	20	8.9		8cs	0	W		0	0	Fair	
Charleston, S. C.			29.93	760.2	48	8.9	77	SW	2	0.9			10n			0.01	0.3	Light rain	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	22	— 5.6	72	NW	24	10.7		0	1s			Inap.	Inap.	Clear	
Chicago, Ill.			29.63	752.6	12	—11.1	61	SW	9	4.0		2k	2s	W	W	0	0	Fair	
Cincinnati, Ohio			29.69	754.1	34	1.1	61	SW	4	1.8		10k	0	W		0	0	Cloudy	
Cleveland, Ohio			29.67	753.6	20	— 6.7	70	S	8	3.6			10s		S	0	0	Cloudy	
Corsicana, Tex.			30.18	766.6	37	2.8	62	NW	4	1.8		0	0			0	0	Clear	
Davenport, Iowa			29.70	754.4	13	—10.6	80	SW	12	5.4			10n			0.01	0.3	Light snow	
Denison, Tex.			30.18	766.6	37	2.8	62	NW	7	3.1		0	0			0	0	Clear	
Denver, Col.	24.77	629.2	29.99	761.7	35	1.7	28	W	8	3.6		0	5s			0	0	Fair	
Detroit, Mich.			29.57	751.1	17	— 8.3	67	SW	10	4.5		2c	2s	W	W	0.02	0.5	Fair	
Dodge City, Kan.	27.45	697.2	29.87	758.7	25	— 3.9	75	NW	10	4.5		2ck	2s	NW	NW	0	0	Fair	
Dubuque, Iowa			29.67	753.6	8	—13.3	78	W	4	1.8			10n			Inap.	Inap.	Light snow	
Duluth, Minn.			29.71	754.6	— 2	—18.9	67	NW	16	7.2			10s			0	0	Cloudy	
Eastport, Me.			29.46	748.3	30	— 1.1	89	W	4	1.8			10s			Inap.	Inap.	Cloudy	
Erie, Pa.			29.60	751.8	21	— 6.1	88	SW	18	8.0		0	7ks		SW	0.02	0.5	Fair	
Escanaba, Mich.			29.47	748.5	11	—11.7	79	W	9	4.0			10s			0	0	Threatening	
Fort Gibson, Indian Ter.			30.09	764.3	24	— 4.4	61	Calm	0	0		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.95	735.3	30.12	765.0	32	0.0	32	NW	3	1.3		0	0			0	0	Clear	
Fort Sully, Dakota	28.55	725.2	30.44	773.2	— 2	—18.9	67	NW	28	12.5		0	0			Inap.	Inap.	Clear	
Florence, Arizona	28.62	726.9	30.16	766.1	53	11.7		S				0	0			0	0	Clear	
Galveston, Tex.			30.12	765.0	51	10.6	93	N	22	9.8		0	Fog			0.33	8.4	Clear	
Grand Haven, Mich.			29.53	750.0	21	— 6.1	79	W	23	10.3			10s		W	0.04	1.0	Cloudy	
Indianapolis, Ind.			29.72	754.9	29	— 1.7	78	SW	5	2.2			10s		W	0	0	Cloudy	
Indianola, Tex.			30.18	766.6	52	11.1	93	N	17	7.6		8cs	0			0.05	1.3	Cloudy	
Jacksonville, Fla.			29.93	760.2	51	10.6	86	S	4	1.8			10s		SW	0.15	3.8	Cloudy	
Keokuk, Iowa			29.67	753.6	23	— 5.0	86	NE	16	7.2		0	5s		NE	0	0	Fair	
Key West, Fla.			30.04	763.0	63	17.2	88	N	6	2.7		0	5ks			0	0	Fair	
Kittyhawk, N. C.			29.89	759.2	36	2.2	70	W	8	3.6		2c	2s	W		0	0	Fair	
Knoxville, Tenn.			29.86	758.4	25	— 3.9	87	Calm	0	0		8cs,ck	Sm'r	S		Inap.	Inap.	Cloudy	
La Crosse, Wis.			29.62	752.3	10	—12.2	100	W	6	2.7			10n		W	0.04	1.0	Light snow	
Leavenworth, Kan.			29.85	758.2	29	— 1.7	67	W	10	4.5		0	2s			0	0	Clear	
Louisville, Ky.			29.76	755.9	34	1.1	69	S	8	3.6		5cs	Haze	S		0	0	Fair	
Lynchburg, Va.			29.80	756.9	36	2.2	62	SW	2	0.9		2c	0	W		0	0	Clear	
Malone, N. Y.			29.56	750.8	18	— 7.8	84	N	1	0.4			10s		W	0.16	4.1	Cloudy	
Marquette, Mich.			29.40	746.7	9	—12.8	78	W	14	6.3			10s		W	0	0	Cloudy	
Memphis, Tenn.			29.99	761.7	40	4.4	83	W	4	1.8		0	2s,sm			0	0	Fair	
Milwaukee, Wis.			29.59	751.6	5	—15.0	75	W	15	6.7			10n			Inap.	Inap.	Light snow	
Mobile, Ala.			29.92	760.0	48	8.9	92	N	8	3.6			10n			0.22	5.6	Light rain	
Montgomery, Ala.			29.91	759.7	46	7.8	92	Calm	0	0			10n			0.25	6.3	Light rain	
Morgantown, W. Va.	28.64	727.4	29.72	754.9	29	— 1.7	78	S	8	3.6			10s		SW	0	0	Threatening	
Mt. Washington, N. H.	23.04	585.2	29.40	746.7	4	—15.6	100	NW	12	5.4			10n		NW	0.28	7.1	Light snow	
Nashville, Tenn.			29.85	758.2	37	2.8	80	W	6	2.7			10s		SW	0	0	Cloudy	
New Haven, Conn.			29.68	753.9	33	0.6	60	SW	10	4.5		2k	Fog	W		0	0	Clear	
New London, Conn.			29.67	753.6	31	— 0.6	68	W	7	3.1		2c	1k	W	W	0	0	Fair	
New Orleans, La.			29.97	761.2	49.5	9.7	96	NW	10	4.5			10s		N	0.28	7.1	Threatening	
Newport, R. I.			29.65	753.1	32	0.0	69	SW	20	8.9		0	0			0	0	Clear	
New York, N. Y.			29.74	755.4	30	— 1.1	60	W	14	6.3		8cs	Sm'r	W	W	0	0	Fair	
Norfolk, Va.			29.84	757.9	38	3.3	54	S	3	1.3		5c	Sm'r	W		0	0	Fair	
North Platte, Neb.	27.11	688.6	29.79	756.7	27	— 2.8	88	NW	12	5.4			10s			0	0	Threatening	
Omaha, Neb.	28.84	732.5	29.98	761.5	18	— 7.8	68	NW	36	16.1			10s		NW	Inap.	Inap.	Cloudy	
Oswego, N. Y.			29.58	751.3	25	— 3.9	88	S	4	1.8		2cs	8s	NW	W	0.13	3.3	Cloudy	
Pembina, Dakota			30.32	770.1	—25	—31.7	53	NW	28	12.5		0	0			0.06	1.5	Clear	
Philadelphia, Pa.			29.76	755.9	32	0.0	79	NW	5	2.2		2ck	2s,sm	W		0	0	Cloudy	
Pike's Peak, Col.	17.53	445.2	29.74	755.4	3	—16.1	32	NW	64	28.6		8ck	0	NW		0	0	Fair	
Pittsburgh, Pa.			29.67	753.6	30	— 1.1	89	SW	10	4.5		0	5ks		SW	0	0	Fair	
Port Huron, Mich.			29.54	750.3	19	— 7.2	84	SW	8	3.6			10s		SW	0.27	6.9	Threatening	
Portland, Me.			29.54	750.3	30	— 1.1	67	W	8	3.6		1k	0			0	0	Clear	
Portland, Oregon			30.25	768.3	31	— 0.6	89	NW	2	0.9			Fog			0	0	Foggy	
Punta Rassa, Fla.			30.02	762.5	56.0	13.3	87	SE	8	3.6			10s		SW	0	0	Cloudy	
Rochester, N. Y.			29.58	751.3	23	— 5.0	86	SW	5	2.2			10s		W	0.07	1.8	Cloudy	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	20	— 6.7	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.71	754.6	33	0.6	69	W	24	10.7		5ck	0	W		0	0	Fair	
San Diego, Cal.			30.16	766.1	50	10.0	32	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.22	767.6	48	8.9	77	N	6	2.7		0	0			0	0	Clear	
Santa Fé, N. M.	23.35	593.1	29.89	759.2	24	— 4.4	61	NE	4	1.8		0	0			0	0	Clear	
Savannah, Ga.			29.94	760.5	48	8.9	56	Calm	0	0			Fog			Inap.	Inap.	Light rain	
Shreveport, La.			30.17	766.3	39	3.9	91	W	2	0.9		0	1s			0	0	Clear	
Smithville, N. C.			29.91	759.7	44	6.7	75	Calm	0	0		2k	8ks	W	W	0	0	Cloudy	
Springfield, Mass.			29.64	752.8	32	0.0	68	W	4	1.8		0	1s			0	0	Clear	
St. Louis, Mo.			29.88	758.9	30	— 1.1	89	NW	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			29.88	758.9	48	8.9	96	NE	8	3.6			10n		NE	0.74	18.8	Light rain	
St. Paul, Minn.			29.70	754.4	1	—17.2	72	NW	28	12.5			10n			Inap.	Inap.	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.58	751.3	32	0.0	50	W	12	5.4		0	1k		W	0	0	Clear	
Toledo, Ohio			29.62	752.3	22	— 5.6	72	SW	10	4.5		2k	Haze	SW	SW	0.01	0.3	Fair	
Tucson, Arizona	27.74	704.6	30.29	769.4	28	— 2.2		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.07	763.8	43	6.1	88	N	4	1.8		9cs,ck	Sm'r	W	N	0.45	11.4	Cloudy	
Virginia City, M. T.	24.37	619.0	29.85	758.2	22	— 5.6	58	Calm	0	0		5k	0	NW		0	0	Cloudy	
Washington, D. C.			29.80	756.9	33.5	0.8	61	SW	4	1.8		2ck	8s	W	W	0	0	Smoky	
Wilmington, N. C.			29.91	759.7	42	5.6	74	Calm	0	0			10s		SW	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.64	752.8	34	1.1	61	NW	14	6.3		0	2s		NW	0	0	Fair	
Yankton, Dakota	28.81	731.8	30.25	768.3	3	—16.1	73	NW	36	16.1		0	8s		NW	0.01	0.3	Cloudy	
Yuma, Arizona			30.19	766.8	48	8.9		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.20	767.1	77	25.0	86	Calm	0	0		8c	2s		SE	0.14	3.6		James Gall.
Navassa, W. I.					79	26.1		E			2							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.02	762.5	67	19.4	90	N	1.0	0.4		8c	2k	N		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.04	763.0	81	27.2	87	NE			3	5ck	6ck?	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.11	764.9			77.9	25.5		E								0.049	1.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.26	641.6			65.0	18.3	83	SW			2	5k	3s			0.02	0.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.00	762.0	—29.0	—33.9		W	28	12.5			10n			0.03	0.8	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	73	22.8		N			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Quincy, Mass.			29.56	750.8	32	0.0	79	W	8	3.6		0	0					Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 47°, 49′, W. 24°, 7′.	WSW	9	30.06	763.5	51.1	10.6		NW			4		..kn						Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,100.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 9, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.10	764.6	56.1	13.4	57	SW			1		9			0.327	8.3	Hidden	Charnot.
Algiers			30.01	762,2	61.9	16.6	83	N			1		7			0.532	13.5	Cloudy	Peter.
La Calle			29.86	758.5	61.2	16.2	81	NW			1		6			0.157	4.0	Fair	Didier.
Tunis			29.87	758.8	71.6	22.0		SW			2		6			0	0		Jacques.
Sfax																			Chauvey.
Saida			30.11	764.8	42.1	5.6	91	SW			2		7			0.205	5.2	Cloudy	Millot.
Tebessa			29.89	759.3	55.4	13.0		NNW			2		0			0	0	Clear	Bourgeois.
Geriville			30.07	763.7	64.4	18.0	42	S			2		5			0	0	Fair	Lemaillot.
Laghouat			30.01	762.3	61.7	16.5	41	W			1		5			0	0	Fair	Guyot.
Biskra			29.86	758.4	67.1	19.5	23	NW			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.82	757.5	50.9	10.5	86	SW			1		10			0.028	0.7		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.84	758.0	39.9	4.4	96	W			1		10			0.008	0.2		Dr. Wierzbiski.
Eperies			29.83	757.7	45.0	7.2	80	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.60	726.5	29.86	758.4	47.3	8.5	88	S			2		8			0.689	17.5		Andreas Rospini.
Hermannstadt	28.35	720 2	29.78	756.4	47.3	8.5	88	E			1		10			0.152	3.85		Prof. Reissenberger.
Kremsmünster	28.52	724.4	29.87	758.8	46.8	8.2	78	W			3		10			0.315	8.0		Prof. C. Wagner.
Lemberg			29.83	757.6	36.7	2.6	96	SE			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.84	757.8	54.0	12.2	94	NW			1		10s			0.397	10.08		I.R.Hydrographic Of'ce.
Szegedin			29.78	756.5	51.3	10.7	73	Calm			0		10			0.482	12.25		Karl Stancel.
Trieste			29.86	758 5	52.3	11.3	97	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.86	758.5	46.9	8.3	88	WNW			2		10			0.378	9.6		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.66	753.4	48.4	9.1	82	NW			2	6cs	5k	NNE	NNW	0.154	3.90		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.92	760.0	41.8	5.4		SW	6	2.7			6			0.007	0.13	Misty	William Boswell.
Ardrossan			30.03	762.7				NW			2		7					*D. clouds	William McNeil.
Armagh, Observatory			30.13	765.3	44.1	6.7		SSW	10	4.5			8					Overcast	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			30.17	766.3	46.7	8.2		SW			1		10					Overcast	J. Dreyer.
Bradford			30.08	764.0	46.1	7.8		N			2		6			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.98	761.5	84.2	29.0		NE			3		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.11	764.8	48.0	8.9		NW			1		0					Blue sky	H. Todd. [H.C.
Cardington			30.15	765.8	47.0	8.3		W			1		3					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.13	765.3	44.4	6.9		N			1		2					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.75	730.2	30.29	769.4	44.8	7.1		NW			2		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.74	d28.4			34.7	1.5	95	Calm			0		10			0.06	1.60	Overcast	Francis Redford, M. A.
Donaghadee			30.07	763.8	44	6.7		W			2		7					*D. clouds	J. Mac Gowan.
Dover			30.12	765.0	45	7.2		WNW			2		7					¾ clouded	J. Costello.
Eccles, (near Manchester)			30.09	764.3	45.9	7.7		NW	1.5	0.6			9					Misty	Thomas Mackereth.
Falmouth, Observatory			30.24	768.1	48.7	9.3		WNW			1		8					Overcast	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.90	759.4	69.7	20.9		SE			4		4					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			30.01	762.2	83.0	28.3		W			0		3					*D. clouds	
Galway, Queen's College			30.16	766.1	45	7.2		SE			3		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.05	763.3	56.5	13.6		NW			3		6					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.88	758.9	46.5	8.1		WSW			1		9					Gloomy	Lewis Stuart.
Great Yarmouth			30.07	763.8	44	6.7		WNW			2		4					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			30.15	765.8	42.2	5.7		WNW			1		2					Hazy	The Staff, for G. B. Airy.
Guernsey			30.19	766.8	51	10.6		NW			1		7					*D. clouds	Dr. S. E. Hoskins.
Helston			30.24	768.1	52	11.1		NW			4		4ck			0	0	Fine	M. P. Moyle.
Holyhead			30.14	765.5	49	9.4		W			3		4					*D. clouds	John Tilston.
Kew, Observatory			30.15	765.8	46.0	7.8		WSW	5	2.2			5					*D. clouds	The Staff.
Kingstown			30.15	765.8	48	8.9		W			3		8					Overcast	George Mitchell.
Leicester Museum			30.13	765.3	43.8	6.6		W			1		7					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.89	759.2	71.6	22.0		S			2		6ck					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.88	758.9	47	8.3		WSW			1		2					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	69.6	20.9		W			7		10					Raining	Surg. Maj. Henry.
Nottingham, Observatory			30.13	765.3	46.0	7.8		WSW			1		8k,c		WSW	0.01	0.30	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.13	765.3	45.1	7.3		W			2		9					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.14	765.5	46	7.8		W			1		10					Overcast	J. Lucas.
Plymouth			30.21	767.3	48.3	9.1		NW			1		1					*D. clouds	John Merrifield.
Roche's Point			30.18	766.6	48	8.9		NW			3		5					½ clouded	W. Kennedy.
Saint Ann's Head			30.18	766.6	50	10.0		W			2		2					Blue sky	John C. Walker.
Saint Helier, (Jersey)			30.20	767.1	52.5	11.4		N			2		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.90	759.4	46.8	8.2		W	26	11.6			5					Showery	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.91	759.7	61.2	16.2		SW			1		8					*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.04	763.0	48.1	8.9		WSW			1		7			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.05	763.3	47.2	8.4	91	SW			1		7			0.015	0.38	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.08	764.0	47.0	8.3		NW			2		10s					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.89	759.2	44	6.7		W			3		10					Showery	John Smith.
Stratfield Turgiss			30.16	766.1	46.9	8.3		W			1		0					Blue sky	Rev. Charles H. Griffith
Thurso			29.80	756.9	47	8.3		W			4		7					*D. clouds	John Trotter.
Truro, Royal Institution			30.23	767.8	54	12.2		NW			4		4					*D. clouds	W. Newcombe.
Valencia, Observatory			30.19	766.8	50.3	10.2		SW	18	8.0			10					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					45	7.2		NW			3		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.30	769.6	78.3	25.7	45	NW	9	4.0		4	10						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	67.0	19.4	82	W			5		8k			0.03	0.8		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.00	762.0	47.3	8.5		W			3		10k			0	0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				ENE	17.0	7.6						0	0		C. Meldrum.
Melbourne, Observatory			30.17	766.3	54.8	12.7	80	SE	4	1.8			0			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.93	760.2	51	10.6		W			7	5	5	W		0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.64	752.8	46	7.8		W			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.92	759.9	36.7	2.6	85	E			2		9						
Faröe			29.96	760.9	40.1	4.5	96	NW			2		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.37	746.1	34.3	1.3	96	SE			4		8						
Thorshavn, (Faröe)			29.59	751.6	43.2	6.2	56	WNW			4		1						
Vestervig			29.93	760.3	35.2	1.8	96	Calm			0		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.17	766.4	51.8	11	73	N			2		2cs		N	0.016	0.4	Slightly cl'dy	Normal School.
Amiens			30.11	764.7	46.4	8.0	89	NNW			3		2		NW	0	0	Slightly cl'dy	Normal School.
Avignon			29.89	759.2	53.2	11.8	67	N			6		0			0.04	1.	Very clear...	Normal School.
Bar-sur-Seine			30.10	764.4	45.1	7.3	88	N			2		10		N	0.520	13.2	Raining.....	C. Saillard.
Beaumette, (near Angers)			30.21	767.2	49.1	9.5	71	NW	8.1	3.6					NW	0	0		Beaumette Observ'tory.
Beauvais			30.17	766.3	47.3	8.5	77	NNW			2		5		NNW	0.083	2.10	Cloudy.....	Normal School.
Besançon			30.08	764.0	46.0	7.8	89	W			2		8		W	0.39	10.	Very cloudy	Normal School.
Bourg en Bresse			30.13	765.4	46.4	8	86	N			4		10m		S	0.24	6.	Covered	Normal School.
Bourges			30.19	766.7	46.4	8	78	W			2		2		W	0.059	1.5	Slightly cl'dy	Normal School.
Brest			30.19	766.9	55.2	12.9	65	NNW			1		7		NNW	0.030	0.75	Rain-squall..	Naval Observatory.
Carcassonne			30.07	763.8	55.4	13	78	W			2		1		E	0	0	Clear.....	Normal School.
Caen																			Normal School.
Chartres			30.12	765.1	50.5	10.3	100	NW			3		10		NW	0.051	1.3	Covered	Normal School.
Châlons-sur-Marne			30.08	764.0	47.3	8.5	83	N			3		10n		S	0.110	2.8	Covered	Normal School.
Clermont			30.12	765.1	44.4	6.9	71	NW			2		10		N	0.008	0.2	Covered	Puy de Dome Obs'y.
Commercy			30.02	762.6	46.2	7.9	86	NW			4		8		E	0.209	5.3	Very cloudy	Normal School.
Commune de Gréasque*			29.88	759.0	52.3	11.3	63	NW			2		2		NW	0	0		M. Kina.
Grenoble			29.98	761.5	49.8	9.9	68	NNW			4		10m		SW	0.069	1.75	Covered	Normal School.
La Roche-sur-Yon			30.21	767.3	48.9	9.4	81	SE			2		0			0	0	Clear.....	Normal School.
Le Mans			30.20	767.0	44.6	7	88	N			2		5		N	0.020	0.50	Cloudy.....	Normal School.
Lons-Le-Saulnier			30.07	763.7	46.6	8.1	89	NE			2		10		N	0.228	5.80	Covered	Normal School.
Lorient			30.27	768.9	51.4	10.8	65	NNW			1		0			0.004	0.1	Clear	Naval Observatory.
Mâcon			30.12	765.1	46.8	8.2	89	NW			2		10			0.051	1.3	Covered	Normal School.
Metz			30.08	763.9	47.5	8.6	85	NW			2		9		NW	0.106	2.7	Almost cov'd	M. Schuster.
Mirecourt			30.00	762.0	46.6	8.1	83	NW			4		10		E	0.059	1.5	Covered	Normal School.
Nismes			29.92	759.9	54.3	12.4	77	N			4		0			0	0	Clear.....	Normal School.
Orleans			30.14	765.6	46.8	8.2	83	N			2		5		N	0.024	0.6	Cloudy.....	Normal School.
Paris, Observatory			30.15	765.8	47.8	8.8	71	NNW			3		5		NW	0.015	0.37	Hazy.....	National Observatory.
Parthenay																			Normal School.
Privas			30.03	762.8	49.6	9.8		NNE			6		5		N	0	0	Cloudy.. ...	Normal School.
Rochefort, Observatory			30.23	767.7	55.0	12.8	67	N			2		0			0	0	Blue sky.....	Naval Observatory.
Rouen			30.17	766.3	50.7	10.4	73	NNW			2		2		N	0.059	1.5	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.14	765.6	47.3	8.5	80	NNW			2		10		N	0.071	1.8	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique.																			L'Abbé Marchési.
Marseilles			29.82	757.4	56.5	13.6	61	NW			3		4			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.81	630.1	30.24	768.1	34.2	1.2	81	N	7.4	3.33			8		NW	0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			30.03	762.8	55.2	12.9	56	NW	24.2	10.83			4		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.10	535.9			17.6	— 8.0		NW			2		10					Snowy.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.44	569.9			23.9	— 4.5		NW			1		10			0.209	5.3	Snowy.....	General de Nansouty.
Saint Maur, (near Paris)			30.14	765.5	48.7	9.3	72	NW			2		0			0.047	1.2	Clear.....	E. Renou.
Toulouse			30.16	766.0	48.6	9.2	71	NNW			3		4			0	0		Toulouse Observatory.
Tours			30.17	766.4	49.6	9.8	72	WNW			1		3		NNE	0.008	0.2		C. Marquet.
Versailles, (near Paris)			30.15	765.8	48.6	9.2	76	N			2		5			0.043	1.10	Cloudy.....	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.58	776.7	30.9	— 0.6	87	Calm	0	0			0			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.75	755.6	48.2	9.0	88	WSW			4		10	W		0.08	2.		Prof. T. Hoh.
Berlin			29.85	758.2	43.3	6.3	89	N			1		10			0.012	0.3		Prof. Arndt.
Breslau			29.82	757.4	49.6	9.8	82	WSW			3		8			0.020	0.5		Royal University Obs'y.
Carlsruhe			29.91	759.8	47.1	8.4	94	SW			1		10					Raining.....	A. Senz.
Cassel			29.91	759.8	44.2	6.8	98	NW			9		10	WNW		0.024	0.6		Dr. H. Möhl.
Crefeld			29.98	761.6	47.8	8.8	80	N			3		9			0.35	9.		Director Lose.
Emden			30.04	763.1	45.0	7.2	86	N			1		2			0	0		Prof. Prestel.
Frankfort on the Main			29.94	760.5	49.1	9.5	68	W			1		9			0.280	7.1		Physical Society.
Friedrichshafen			30.01	762.3	46.2	7.9	82	SW			5		10			0.213	5.4		M. Wilhelm.
Hamburg			29.93	760.3	40.1	4.5	96	NE			2		10			0.126	3.2	Rainy.....	Captain F. Hegemann.
Kiel			29.94	760.4	41.2	5.1	90	NE			3		10			0.067	1.7		Prof. G. Karsten.
Königsberg, (Prussia.)			29.85	758.2	24.8	— 4.0	86	SE			2		10			0	0		Prof. E. Luther.
Köslin			29.86	758.4	34.5	1.4		Calm			0		4			0	0		H. Müller.
Leipsic			29.84	757.9	48.2	9.0	97	WSW			2		10			0.059	1.5	Rain & fog...	Prof. Bruhns.
Memel			29.91	759.7	21.0	— 6.1	77	E			2		10ks			0	0		Reinbrecht & Skalweit.
Münster			29.93	760.1	47.8	8.8	93	NE			4		10			0.154	3.9		Prof. E. Heis.
Neufahrwasser			29.81	757.1	30.9	— 0.6	92	ENE			1		10	SW		0.039	1.0	Light fog....	A Lothe.
Posen			29.80	756.8	43.5	6.4	98	NW			2		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.00	762.0	48.7	9.3	86	SW			1		10	W		0.039	1.0	Raining.....	Dr. Schur.
Stuttgart			29.93	760.2	48.7	9.3	80	W			2		10			0.031	0.8	Raining.....	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.95	760.7	48.7	9.3	69	NW			5		8			0.012	0.3		Prof. Flesch.
Weissenburg, (Bavaria,)	28.37	720.7	29.90	759.5	45.3	7.4	90	WSW			3		10	W				Raining.....	Dr. von Bebber.
Wustrow, Naval School			29.91	760.6	39.2	4.0	89	E			2		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 17°, 30′, W. 30°, 0′.			30.15	765.7	80.4	26.9	78	ENE			4		4	E					Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.98	761.4	67.1	19.5		S											

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			29.82	757.5	52.7	11.5	90	W	0.7	0.3			6			0.189	4.8		Prof. Giovanni Clodig.
Padua			29.83	757.7	49.1	9.5	92	E	0.7	0.3			10			0.059	1.5		Prof. Dott. Lorenzoni.
Vicenza			29.84	757.9	50.5	10.3	91	SE	3.1	1.4			7	E		0.031	0.8		Alm. Da Schio.
Verona			29.82	757.4	50.4	10.2	85	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.85	758.1	50.0	10.0	80	Calm			0		0			0	0		Prof. Giuseppe Calza.
Milan			29.87	758.6	48.7	9.3	91	ENE			1		5			0	0		Ab. Gio. Capelli.
Pavia			29.84	758.0	49.3	9.6	80	SW			2		1			0	0		Prof. Gio. Cantoni.
Moncalieri			29.87	758.7	41.7	5.4	98	ESE	0.7	0.3			8			0	0		Prof. P. F. Denza.
Mondovi	27.92	709.2	29.86	758.5	48.6	9.2	54	W			2		1	SW		0	0		Prof. C. Bruno.
Porto Maurizio			29.85	758.1	57.4	14.1	69	ENE			2		2			0	0		Prof. L. Vassallo.
Genoa			29.82	757.5	58.1	14.5	58	Calm.	0	0			4	S		0	0		Prof. Garibaldi.
Piacenza			29.86	758.5	47.8	8.8	87	NW	3.8	1.7			7	W		0.024	0.6	Rain & fog...	Dott. G. Manzi.
Parma			29.86	758.5	48.0	8.9	94	W			4		10			0	0		Prof. P. Pigorini.
Bologna			29.87	758.8	53 4	11.9	55	W			1		6	NE		0.236	6.0	Raining.....	Prof. A. Palagi.
Florence			29.85	758.1	58.1	14.5	92	SW			2		9	SW		0.016	0.4	Light rain...	Cav. F. Meucci.
Leghorn			29.82	757.3	60.1	15.6	69	N	0.7	0.3			9	WSW		0	0		Prof. P. Monte.
Siena	28.60	726.3	29.80	757.0	53.8	12.1	89	NW	0	0			10	SW		0.118	3.0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.87	758.7	48.7	9.3	96	WNW	13.0	5.8			10			0.337	8.5	Rain & fog..	Prof. Luigi Guidi.
Ancona			29.87	758.6	51.1	10.6	89	NW			4		10			0.32[illegible]	8.2	Raining.....	Prof. F. De— Bosis.
Grosseto			29.83	757.6	55.8	13.2	97	E			2		9	SE		0.04[illegible]	1.1	Raining.....	Avv. P. Ponticelli.
Rome			29.82	757.3	55.4	13.0	98	N	4.9	2.2			10			0.58[illegible]	14.8	Raining.....	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.82	757.4	63.1	17.3	70	S			2		10	SW		0	0		Prof. L. Palmieri.
Lecce			29.86	758.5	63.3	17.4	85	SE	19.2	8.6			10	SE		0	0		Prof. C. De—Giorgi.
Cosenza			29.85	758.1	72.5	22.5	59	SW	0	0			9			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Caflero.
Palermo			29.74	755.5	68.0	20.0	58	NE	0.7	0.3			10			0	0		Prof. G. Cacciatore.
Caltanissetta	27.91	708.9	29.86	758.4	60.6	15.9	62	S			2		7	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.82	757.3	59.4	15.2	86	ESE	0.7	0.3			10	SSE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico — Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Flushing			30.10	764.6	48.2	9.0		NW			2					0.024	0.6		
Groningen			29.94	760.4	46.6	8.1		N			3					0.008	0.2		
Helder			30.01	762.3	48.0	8.9		NW			4					0	0		
Utrecht			29.98	761.6	49.8	9.9	74	NW			3		5			0.016	0.4	Cloudy.....	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Bergen			29.71	754.5	41.0	5.0	94	S	7	3			10			0.087	2.2	Light rain....	
Brönö			29.58	751.4	37.4	3.0	57	E	25	11			4			0	0		
Christiania			29.89	759.3	32.0	0.0	96	N	0	0			10			0	0	Foggy	
Tromsö			29.72	754.8	25.9	— 3.4	54	Calm	0	0			8			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.12	765.0	61.7	16.5	77	WNW	10.5	4.7			3			0.165	4.2		Dr. J. A. Sampaio.
Campo Major			30.14	765.6	54.3	12.4	61	NNW	14.3	6.4			1			0.406	10.3		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.31	769.9	64.4	18.0	62	Calm	0	0			9			0	0		Capt. D. A. de Cunha.
Lisbon			30.20	767.0	56.3	13.5	54	NNE	16.1	7.2			1			0.181	4.6		The Observatory.
Ponta Delgada, (Azores)			30.16	766.1	65.5	18.6	84	NW	3.1	1.4			4			0.516	13.1		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.78	756.4	34.9	1.6	98	SE	4	2			10					Rain & fog	Astronomical Obs.
Wilna			30.00	762.0	19.8	— 6.8	78	SE	2	1			10					Snowing	Astronomical Obs.
Dorpat			30.21	767.2	— 6.9	—21.6	85	E	9	4			6						Physical Cabinet.
St. Petersburg			30.16	766.1	— 2.9	—19.4	88	SE	9	4			0					Light fog	Central Physical Obs.
Kuopio			30.20	767.1	— 3.1	—19.5	100	SSE	7	3			0						Ch. Forsten.
Kieff			30.10	764.6	14.5	— 9.7	87	ESE	7	3			10						Physical Cabinet.
Nikolaiev			30.10	764.5	19.2	— 7.1	87	NNE	9	4			10						Kurdakof.
Kertch			30.00	761.9	31.8	— 0.1	96	N	7	3			10						Lagorio.
Moscow			30.45	773.4	1.9	—16.7	85	WSW	4	2			7						Meteorological Obs.
Lugan			30.00	761.9	16.3	— 8.7	79	NE	13	6			10						Meteorological Obs.
Archangel			30.25	768.3	—15.5	—26.4	83	Calm	0	0			10					Foggy	Ogorodnikof.
Tiflis	28.44	722.4	29.87	758.6	49.6	9.8	58	N	9	4			7						Physical Observatory.
Astrakhan			29.94	760.5	24.4	— 4.2	95	NE	4	2			10			Blank	Blank		Sebastianof.
Kasan			30.25	768.4	— 2.6	—19.2	87	N	2	1			10						Physical Cabinet.
Orenburg			29.58	751.4	27.0	— 2.8	89	SE	13	6			10						Tschernischef.
Ekaterinburg	29.09	738.9	30.13	765.4	4.5	—15.3	76	WSW	4	2			10						Meteorogical Obs.
Nukuss			29.80	756.9	38.8	3.8	97	SE	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.19	766.9	—12.5	—24.7	99	W	4	2			6						Meteorological Obs.
Yeniseisk			29.94	760.4	—10.7	—23.7	81	S	4	2			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.42	772.7	20.7	— 6.3	56	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					13.1	—10.5		W	2	1			10					Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.11	764.9	50.9	10.5	59	NE	9.7	4.34		0	2			0	0	Partly cloudy	Royal Observatory.
San Fernando			30.13	765.3	55.0	12.8	68	NW	8.7	3.9		0	6		W	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.07	763.8	16.2	— 8.8	94	SE			2		10					Snowing	
Umea			30.02	762.4	28.4	— 2.0	100	SW			4		10					Snowing	
Hernosand			29.93	760.1	33.4	0.8	92	S			2		10			0.075	1.9	Snowing	
Stockholm			29.78	756.3	29.5	— 1.4	96	ESE			2		10			0.063	1.6		
Wisby			29.94	760.5	30.6	— 0.8	92	ESE			2		10			0.004	0.1		
SUB-SERIES.																			
Upsala			29.94	760.4	30.7	— 0.7	88	ESE	2.5	1.1			10			0.006	0.16		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.57	725.7	30.01	762.3	48.9	9.4	72	NNE			1		10			0.016	0.4	Covered	The Observatory.
Zurich	28.37	720.5	30.04	762.9	45.1	7.3	88	W			1		10			0.142	3.6	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —1.5 mm; Thermometer, +6.3 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.96	760.9	63.5	17.5	76	WSW	3	1.5			9		SSW	0	0		
Fao, (Persian Gulf)																			
Salónica			29.93	760.2	63.7	17.6		SE			1		10						
Valona			29.91	759.6	66.2	19.0		N			1		2						
Varna			29.88	759.0	48.2	9.0		SW			2		10					Dense fog	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.10	764.4	68.7	20.4	79	SW			4		9ks		SW	0.34	8.6	Overcast	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			29.57	751.1	7.0	—13.9	77	SW	4	1.8			10						Hon. J. Ferguson.
Brockville, Ontario			29.36	745.7	14	—10.0		SW	5	2.2			10s		SW	0.20	5.1	Cloudy	W. R. Bigg.
*Chatham, N. B			29.49	749.0	11	—11.7	89	N	6	2.7		2k	8ks	N	N	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.50	749.3	24	— 4.4	84	NE	10	4.5			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			28.99	736.3	17.0	— 8.3	86	W			7		10n			0.07	1.8	Snowing	James Smith, M. A.
Dalhousie, N. B			29.56	750.8	2.5	—16.4	86	NW			1					0	0	Gloomy	H. A. Johnson.
Esquimault, B. C			30.26	768.6	37.1	2.8	95	NW					10s			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.48	748.8	14.1	— 9.9	70	NE	8	3.6			10s			0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba			30.22	767.6	—26	—32.2	100	S	7	3.1		5k	Haze	NW		0	0	Cloudy	James Stewart.
Goderich, Ontario			29.69	754.1	7.8	—13.4	91	NW			6		10n			0.10	2.5	Storming	H. J. Strang, M. A.
Granton, Ontario	28.40	721.3	29.60	751.8	5.6	—14.7		NW			4		10n			0.300	7.62	Snowing	James Grant.
*Halifax, N. S			29.37	746.0	29	— 1.7	89	NE	10	4.5			10n			0.030	0.76	Heavy snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.33	745.0	12	—11.1	83	W	3	1.3			10s			0.37	9.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.47	748.5	31.2	— 0.4	98	NE	7	3.1			10n		SE	0.30	7.6	Snowing	C. H. Rigby.
*Montreal, Quebec			29.09	738.9	23	— 5.6	93	SE	10	4.5			10n		SE	0.07	1.8	Heavy snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.19	741.4	15	— 9.4	75	SW	14	6.3			10n		SW	0.22	5.6	Light snow	J. B. Haney.
*Parry Sound, Ontario			29.45	748.0	— 1	—18.3	87	N	22	9.8			10n		N	0.85	21.6	Light snow	Rev. R. Mosley.
Port Dover, Ontario			29.53	750.0	8	—13.3	91	W	25	11.2			10n		SW	0.22	5.6	Light snow	H. Morgan.
Port Hastings, N. S			29.46	748.3	28.7	— 1.8		NE	4	1.8						0.20	5.1	Fine	Peter Grant.
Port Stanley, Ontario			29.67	753.6	7	—13.9	82	W	44	19.7			10n		W	0.04	1.0	Cloudy	M. Payne.
*Quebec, Quebec			29.31	744.5	15	— 9.4	82	NE	36	16.1			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.43	747.5	19	— 7.2	84	N	7	3.1			10n			0.55	13.97	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.58	751.3	0	—14.4	78	NW	25	11.2			10s			0.40	10.2	Light snow	K. Stewart.
Stayner, Ontario			29.39	746.5	5	—15.0	97	NW	25	11.2			10n		NW	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.20	716.3	29.59	751.6	5.2	—14.9		NW	22	9.8			10n					Snowing	C. J. MacGregor, M. A.
*Sydney, C. B			29.57	751.1	26	— 3.3	90	SE	2	0.9			10n			0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.37	746.0	13	—10.6	82	W	28	12.5		0	5s		SW	Inap.	Inap.	Fair	Magnetic Observatory.
Woodstock, Ontario			29.62	752.3	6.8	—14.0	100	W	27	12.1			10s			0.40	10.16	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.76	755.9	23.5	— 4.7		E				10	10			0.02	0.5	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters	Weather.	Observer.
Albany, N. Y.			29.25	742.9	15	— 9.4	82	NW	35	15.6			10n			0.08	2.0	Light snow	
Alpena, Mich.			29.71	754.6	— 4	—20.0	64	NW	30	13.4			10s		NW	0.08	2.0	Cloudy	
Atlantic City, N. J.			29.56	750.8	16	— 8.9	48	W	30	13.4		0	1s		W	Inap.	Inap.	Clear	
Augusta, Ga.			30.12	765.0	30	— 1.1	78	NW	20	8.9		0	0			0.24	6.1	Clear	
Baltimore, Md.			29.76	755.9	12	—11.1	61	W	16	7.2		0	0			0.01	0.3	Clear	
Barnegat, N. J.			29.50	749.3	18	— 7.8	68	NW	40	17.9		0	2s		NW	0.07	1.8	Fair	
Bismarck, Dakota	28.09	713.5	29.94	760.5	—10	—23.3	54	Calm	0	0			10s		S	0	0	Threatening	
Boston, Mass.			29.08	738.6	32.5	0.3	100	SE	24	10.7			10n			0.02	0.5	Light snow	
Breckenridge, Minn.			30.37	771.4	—21	—29.4	63	SE	8	3.6			10ks		NW	Inap.	Inap.	Cloudy	
Buff'lo, N. Y.			29.35	745.5	10	—12.2	79	W	36	16.1			10n		W	0.55	14.0	Light snow	
Burlington, Vt.			29.15	740.4	20	— 6.7	100	W	16	7.2			10n			0.07	1.8	Heavy snow	
Cairo, Ill.			30.48	774.2	3	—16.1	32	N	17	7.6		0	0			Inap.	Inap.	Clear	
Cape Hatteras, N. C.			29.69	754.1	42	5.6	66	W	20	8.9		0	Sm'e			0.25	6.3	Clear	
Cape Henry, Va.			29.72	754.9	28	— 2.2	43	W	33	14.8		0	0			Inap.	Inap.	Clear	
Cape Lookout, N. C.			29.79	756.7	44	6.7	60	W	38	17.0		5k	0	W		0.30	7.6	Fair	
Cape May, N. J.			29.63	752.6	17	— 8.3	51	W	70	31.3		2k	0	NW		Inap.	Inap.	Fair	
Charleston, S. C.			30.02	762.5	41	5.0	48	W	12	5.4		0	0			0.23	5.8	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	30	— 1.1	48	NW	20	8.9		2ck	5s			0	0	Fair	
Chicago, Ill.			30.28	769.1	—12	—24.4	75	W	12	5.4		0	0			0.02	0.5	Clear	
Cincinnati, Ohio			30.30	769.6	— 6	—21.1	100	W	12	5.4		0	0			0.05	1.3	Clear	
Cleveland, Ohio			29.90	759.4	— 2	—18.9	83	SW	36	16.1		Haze	0	SW		0.08	2.0	Hazy	
Corsicana, Tex.			30.21	767.3	32	0.0	69	N	4	1.8		0	0			0	0	Clear	
Davenport, Iowa			30.47	773.9	—17	—27.2		NW	8	3.6		5cs	0	NW		0.04	1.0	Fair	
Denison, Tex.			30.29	769.4	18	— 7.8	68	NE	7	3.1		8cs	0	N		0	0	Cloudy	
Denver, Col.	24.73	628.1	29.95	760.7	39	3.9	39	N	8	3.6		0	5s			0	0	Fair	
Detroit, Mich.			29.83	757.7	3	—16.1	73	W	19	8.5			10s			0.04	1.0	Cloudy	
Dodge City, Kan.	27.49	698.2	30.03	762.7	5	—15.0	75	SE	16	7.2		0	5s			0	0	Fair	
Dubuque, Iowa			30.43	772.9	—18	—27.8	100	NW	6	2.7		0	0			Inap.	Inap.	Clear	
Duluth, Minn.			30.36	771.1	—25	—31.7		SW	4	1.8		0	0			0	0	Clear	
Eastport, Me.			29.32	744.7	32	0.0	89	NE	22	9.8			10s		E	0.01	0.3	Threatening	
Erie, Pa.			29.59	751.6	10	—12.2	100	W	48	21.5			10n			Inap.	Inap.	Light snow	
Escanaba, Mich.			30.04	763.0	— 9	—22.8	89	NW	26	11.6		0	2s		NW	0.04	1.0	Clearing	
Fort Gibson, Indian Ter.			30.34	770.6	15	— 9.4	65	E	3	1.3		5c	5s			0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.02	737.1	30.25	768.3	13	—10.6	44	N	11	4.9		8cs	0	N		0	0	Cloudy	
Fort Sully, Dakota	28.33	719.6	30.16	766.1	5	—15.0	87	SE	12	5.4			10s			0	0	Cloudy	
Florence, Arizona	28.58	725.9	30.12	765.0	52	11.1		NE				0	0			0	0	Clear	
Galveston, Tex.			30.25	768.3	49	9.4	77	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Mich.			30.02	762.5	3	—16.1	73	NW	24	10.7			10n		NW	0.24	6.1	Light snow	
Indianapolis, Ind.			30.35	770.9	— 8	—22.2	56	W	8	3.6			10s			0.08	2.0	Cloudy	
Indianola, Tex.			30.23	767.8	46	7.8	85	NW	3	1.3		0	0			0	0	Clear	
Jacksonville, Fla.			30.16	766.1	43	6.1	67	SW	4	1.8		0	0			0.24	6.1	Clear	
Keokuk, Iowa			30.41	772.4	— 9	—22.8	78	NW	7	3.1		0	0			0	0	Clear	
Key West, Fla.			30.20	767.1	62	16.7	94	NE	24	10.7		0	8ks			0.15	3.8	Threatening	
Kittyhawk, N. C.			29.74	755.4	35	1.7	70	NW	32	14.3		2k	0	W		0.05	1.3	Fair	
Knoxville, Tenn.			30.33	770.4	7	—13.9	54	SW	12	5.4		0	0			0.01	0.3	Clear	
La Crosse, Wis.			30.41	772.4	—20	—28.9	64	Calm	0	0		0	0			0.08	2.0	Clear	
Leavenworth, Kan.			30.41	772.4	3	—16.1	86	NE	4	1.8			10s			Inap.	Inap.	Cloudy	
Louisville, Ky.			30.38	771.6	— 3	—19.4	66	W	18	8.0		0	2s		W	0.02	0.5	Clear	
Lynchburg, Va.			29.97	761.2	11	—11.7	20	NW	16	7.2		0	0			0	0	Clear	
Malone, N. Y.			29.16	740.7	18	— 7.8	100	W	12	5.4			10n		W	0.11	2.8	Light snow	
Marquette, Mich.			30.01	762.2	— 6	—21.1	61	W	28	12.5			Haze			0.05	1.3	Cloudy	
Memphis, Tenn.			30.44	773.2	14	—10.0	61	N	4	1.8		2c	Sm'e			0	0	Clear	
Milwaukee, Wis.			30.26	768.6	—19	—28.3	66	NW	28	12.5		0	0			0.04	1.0	Clear	
Mobile, Ala.			30.30	769.6	40	4.4	64	N	4	1.8		0	0			Inap.	Inap.	Clear	
Montgomery, Ala.			30.32	770.1	32	0.0	49	NW	13	5.8		0	0			0.01	0.3	Clear	
Morgantown, W. Va.	28.85	732.8	30.02	762.5	1	—17.2	56	W	32	14.3			10s		W	0.12	3.0	Cloudy	
Mt. Washington, N. H.	22.71	576.8	29.07	738.4	4	—15.6	100	E	120	53.6			10n		E	0.32	8.1	Heavy snow	
Nashville, Tenn.			30.42	772.7	7	—13.9	77	NW	6	2.7		0	0			0.01	0.3	Clear	
New Haven, Conn.			29.23	742.4	29	— 1.7	78	W	25	11.2			10n			0.25	6.3	Heavy snow	
New London, Conn.			29.14	740.1	33	0.6	100	W	28	12.5		5s	5ks	W	W	0.22	5.6	Threatening	
New Orleans, La.			30.29	769.4	44	6.7	56	N	8	3.6		0	Sm'e		N	0	0	Clear	
Newport, R. I.			29.10	739.1	39	3.9	80	SW	14	6.3		0	9ks		SW	0.56	14.2	Cloudy	
New York, N. Y.			29.36	745.7	18	— 7.8	68	W	34	15.2		0	Haze			0.02	0.5	Clear	
Norfolk, Va.			29.80	756.9	26.5	— 3.1	46	NW	30	13.4		0	0			Inap.	Inap.	Clear	
North Platte, Neb.	27.00	685.8	29.76	755.9	11	—11.7	79	W	12	5.4		0	5s			Inap.	Inap.	Fair	
Omaha, Neb.	29.16	740.7	30.39	771.9	— 2	—18.9	100	E	2	0.9			10s			0	0	Cloudy	
Oswego, N. Y.			29.34	745.2	17	— 8.3	83	SW	14	6.3			10s		SW	Inap.	Inap.	Cloudy	
Pembina, Dakota			30.18	766.6	—31	—35.0		S	12	5.4			10s			0	0	Cloudy	
Philadelphia, Pa.			29.58	751.3	13	—10.6	62	NW	29	13.0		Haz.	Haze			0.05	1.3	Hazy	
Pike's Peak, Col.	17.50	444.5	29.71	754.6	4	—15.6	74	N	54	24.1		2k	0	NW		0	0	Fair	
Pittsburgh, Pa.			29.93	760.2	— 3	—16.1	100	W	20	8.9			10s		W	0.02	0.5	Cloudy	
Port Huron, Mich.			29.73	755.1	6	—14.4	76	W	26	11.6			10n		W	0.02	0.5	Light snow	
Portland, Me.			29.19	741.4	30	— 1.1	89	NE	16	7.2		10k	Haze	S		0	0	Threatening	
Portland, Oregon			30.26	768.6	28	— 2.2	88	NW	4	1.8		0	5s			0	0	Fair	
Punta Rassa, Fla.			30.24	768.1	51.0	10.6	68	N	17	7.6		5cs	Haze	SW		0.05	1.3	Fair	
Rochester, N. Y.			29.33	745.0	8	—13.3	89	SW	17	7.6		Haze	5n	W	W	0.04	1.0	Light snow	
Salt Lake City, Utah	25.81	655.6	30.14	765.5	19	— 7.2	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.35	745.5	20	— 6.7	70	W	74	33.1		0	0			0	0	Clear	
San Diego, Cal.			30.11	764.8	48	8.9	42	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.17	766.3	48	8.9	85	Calm	0	0			10s			0	0	Cloudy	
Santa Fé, N. M.	23.20	589.3	29.74	755.4	27	— 2.8	66	N	12	5.4		0	0			0	0	Clear	
Savannah, Ga.			30.09	764.3	43	6.1	58	W	8	3.6		0	0			0.74	18.8	Clear	
Shreveport, La.			30.34	770.6	32	0.0	59	NE	4	1.8		0	0			0	0	Clear	
Smithville, N. C.			29.88	758.9	42	5.6	56	W	15	6.7		0	0			0.34	8.6	Clear	
Springfield, Mass.			29.14	740.1	22	— 5.6	85	NW	24	10.7			10n			0.36	9.1	Heavy snow	
St. Louis, Mo.			30.47	773.9	— 4	—20.0	82	NE	12	5.4		0	0			0.02	0.5	Clear	
St. Marks, Fla.			30.22	767.6	40	4.4	63	NW	8	3.6		0	0			0.68	17.3	Clear	
St. Paul, Minn.			30.38	771.6	—24	—31.1	57	NW	2	0.9		0	0			Inap.	Inap.	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.09	738.9	35	1.7	90	SE	28	12.5						0.20	5.1	Heavy snow	
Toledo, Ohio			29.92	760.0	— 1	—18.3	84	SW	28	12.5		0	Haze		SW	0.14	3.6	Hazy	
Tucson, Arizona	27.07	702.8	30.2	767.6	29	— 1.7		S				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.39	771.9	30	— 1.1	78	NE	6	2.7		Haze	Sm'e			0	0	Smoky	
Virginia City, M. T.	24.26	616.2	29.74	755.4	37	2.8	37	W	14	6.3		2k	0	NW		0	0	Fair	
Washington, D. C.			29.83	757.7	8	—13.3	55	NW	24	10.7		0	Haze			Inap.	Inap.	Clear	
Wilmington, N. C.			29.86	758.4	41	5.0	41	W	16	7.2		0	0			0.27	6.9	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.13	739.9	35	1.7	90	SE	18	8.0			10n		NW	0.38	9.7	Heavy snow	
Yankton, Dakota	28.92	734.6	30.42	772.7	—11	—23.9	76	E	6	2.7			10n			0.02	0.5	Light snow	
Yuma, Arizona			30.13	765.3	50	10.0		NE				0	2s		NE	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.21	767.3	77	25.0	82	Calm	0	0		5c	2s			0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.6	30.04	763.0	65	18.3	90	SE	1.0	0.4			10k			0	0	Dull	C. Partridge.
Paramaribo, D. Guiana, S. A			30.02	762.5	82	27.8	83	E			2	5ck	5k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.11	764.9			79.2	26.2		NE								0.020	0.50		Dr. H. Groot.
Medellin, Colombia, S. A.	25.28	642.1			64.5	18.1	81	Calm			0	7k	1s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			29.95	760.7	—33.0	—36.1		W	4	1.8		0	0			0.03	0.8	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	74	23.3		N			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.93	760.2	64	17.8	83	Calm			0	0	0			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Quincy, Mass.			29.08	738.6	35	1.7	100	SE	18	8.0			10n		SE			Snowing	Capt. James Jorgensen.
Steamer Leipzig, N. 46°, 41′, W. 28°, 41′.	WSW ¾W	6	29.56	750.8	55.6	13.1		WSW			6		10		W	High sea.			Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg't,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 10, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.18	766.6	63.3	17.4	53	WNW			3		6			0.079	2.0	Fair	Charnot.
Algiers			30.06	763.5	54.7	12.6	87	WNW			2		7			1.012	25.7	Cloudy	Peter.
La Calle			29.87	758.8	54.3	12.4	87	W			3		8			0.512	13.0	Cloudy	Didier.
Tunis			29.86	758.5	64.4	18.0		W			3		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.18	766.5	46.0	7.8	83	NW			4		7			0.283	7.2	Cloudy	Millot.
Tebessa			29.90	759.5	36.5	2.5		W			4		10			0.236	6.0	Hidden	Bourgeois.
Geriville			30.14	765.5	67.1	19.5	52	NNW			4		5			0.394	10.0	Fair	Lemaillot.
Laghouat			30.08	763.9	52.7	11.5	46	W			2		5			0.039	1.0	Fair	Guyot.
Biskra			29.93	760.2	64.0	17.8	59	NW			3		8			0	0	Cloudy	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.95	760.7	49.3	9.6	75	Calm			0		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.06	763.4	35.6	2.0	98	W			1		10			0.016	0.4		Dr. Wierzbiski.
Eperies			29.92	760.0	43.9	6.6	83	N			2		10k,s		S	0	0		Julius Mikolik.
Gratz	28.72	729.5	29.98	761.5	49.8	9.9	61	SE			4		3			0	0		Andreas Rospini.
Hermannstadt	28.40	721.4	29.84	757.8	45.7	7.6	90	SW			1		10			0.321	8.16	Raining	Prof. Reissenberger.
Kremsmünster	28.71	729.2	30.08	764.1	42.1	5.6	94	W			2		10			0.252	6.4		Prof. C. Wagner.
Lemberg			29.92	760.0	35.6	2.0	96	NW			1		10			0.047	1.2		Dr. T. Stanecki.
Nylregyhaza																			Habzsuda Daniel.
Pola			29.90	759.5	54.3	12.4	65	ENE			2		9cks			0	0		I.R.Hydrographic Of'ce.
Szegodin			29.86	758.5	50.9	10.5	75	Calm			0		10			0.219	5.55		Karl Stancel.
Trieste			29.93	760.3	54.5	12.5	65	ENE			1		8			0	0	Partly cov'd	Prof. V. Farolfi.
Vienna			30.02	762.6	41.4	5.2	80	NW			2		9			0.071	1.8		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.16	766.1	45.1	7.3	89	WSW			1		10k		W	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.98	761.5	41.0	5.0		WSW	4	1.8			4			0	0	Hazy	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.99	761.7	47.3	8.5		SSE	18	8.0									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.98	761.5	50.2	10.1		SSE			1		8					*D. clouds	J. Dreyer.
Bradford																			J. McLandsborough.
Bridgetown, (Barbados)			29.95	761.5	85.6	29.4		NE			1		9					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.16	766.1	46.8	8.2		WSW			1		10					Overcast	H. Todd. [H.C.
Cardington			30.17	766.3	47.0	8.3		W			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.20	767.1	42.2	5.7		SW			1		8					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.70	729.0	30.24	768.1	43.0	6.1		Calm			0		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.84	630.9			32.0	0.0	94	NE			1		9			0	0	Overcast	Francis Redford, M. A.
Donaghadee			30.03	762.7	48	8.9		SW			3		10					Overcast	J. Mac Gowan.
Dover			30.18	766.6	46	7.8		W			1		7					Gloomy	J. Costello.
Eccles, (near Manchester)			30.10	764.5	48.0	8.9		SW	3.0	1.3			6					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.17	766.3	51.3	10.7		S			3		7					Overcast	The Staff.
Fort Napier, (Natal)	27.42	696.5	29.65	753.1	77.3	25.2		E			2		8					*D. clouds	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.90	759.4	85.0	29.4		N			0		2					*D. clouds	
Galway, Queen's College			29.93	760.2	47	8.3		S			3		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.26	768.6	60.6	15.9		NW			5		2					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.01	762.2	47.4	8.6		SW			1		10					Overcast	Lewis Stuart.
Great Yarmouth			30.13	765.3	45	7.2		W			2		5					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			30.20	767.1	46.5	7.9		WSW			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			30.20	767.1	49.5	9.7		SSW			1		8					Gloomy	Dr. S. F. Hoskins.
Helston			30.11	764.8	52	11.1		S			4		4ck			0.1	2.5	Fine	M. P. Moyle.
Holyhead			30.07	763.8	49	9.4		SSW			2		10					Raining	John Tilston.
Kew, Observatory			30.20	767.1	46.1	7.8		SW	5	2.2			10					Hazy	The Staff.
Kingstown			30.06	763.5	48	8.9		SSE			1		7					*D. clouds	George Mitchell.
Leicester Museum			30.16	766.1	46.6	7.8		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.80	756.9	65.2	18.4		SW			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.93	760.2	44	6.7		WNW			1		5					⅜ clouded	W. D. Penny.
Nassau, (Bahamas)			30.22	767.6	67.6	19.8		NE			3		8					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			30.16	766.1	47.3	8.5		SW			1		10k,d			0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.14	765.5	46.3	7.9		SSW			2		9					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.16	766.1	46	7.8		WSW			1		10					Gloomy	J. Lucas.
Plymouth			30.18	766.6	48.6	9.2		SE			2		10					Gloomy	John Merrifield.
Roche's Point			29.99	761.7	52	11.1		S			5		10					Overcast	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			30.20	767.1	51.0	10.6		W			1		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.91	759.7	47.1	8.4		SW	7	3.1			4					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.88	758.9	59.6	15.3		WSW			1		10					*D. clouds	Sergt. W. H. Lyne.
Sheffield			30.11	764.8	48.8	9.3		WSW			1		10			0	0	Overcast	W. F. Cooper.
Silloth Rectory			30.03	762.7	49.8	9.9	85	SW			1		7			0.045	1.14	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			30.11	764.8	47.3	8.5		W			1		10s					Misty	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.86	758.4	47	8.3		SSW			4		10					Overcast	John Smith.
Stratfield Turgiss			30.20	767.1	45.5	7.5		SW			1		10					Overcast	Rev. Charles H. Griffith.
Thurso			29.90	759.4	48	8.9		S			1		5					*D. clouds	John Trotter.
Truro, Royal Institution			30.15	765.8	54	12.2		S			4		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.88	758.9	51.4	10.8		S	37	16.5			10					Raining	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		SW			3		5			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.14	765.5	73.4	23.0	48	SE	3	1.3		2	6						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.64	752.8	74.0	23.3	79	S			1		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.03	762.7	48.2	9.0		W			2		8k			0	0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				ENE	10.7	4.8						0.02	0.5		C. Meldrum.
Melbourne, Observatory			29.82	757.4	67.8	19.9	86	E	4	1.8			3			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.80	756.9	49	9.4		S			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.87	758.7	45	7.2		W			3		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Copenhagen			29.82	757.3	42.6	5.9	91	NW			2		9					
Fanöe			29.93	760.2	44.1	6.7	94	W			4		9					
Godthaab, (Greenland)																		
Stykkisholm, (Iceland)			29.29	744.0	37.9	3.3	93	SE			6		9					
Thorshavn, (Faröe)			29.78	756.3	44.2	6.8	93	S			2		10					
Vestervig			29.89	759.3	41.9	5.5	100	W			2		4					Foggy

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			30.25	768.3	49.1	9.5	94	NW			2		10k		NW	0	0	Covered	Normal School.
Amiens			30.21	767.2	38.8	3.8	91	W			3		10			0	0	Covered	Normal School.
Avignon			30.06	763.4	49.5	9.7	64	N			8		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.26	768.5	41.2	5.1	90	N			1		10			0.055	1.4	Covered	C. Saillard.
Beaumette, (near Angers)			30.23	767.8	46.0	7.8	91	E	2.0	0.9					NNE	0	0		Beaumette Observ'tory.
Beauvais			30.25	768.3	41.0	5	92	ENE			1		10			0	0	Covered	Normal School.
Besançon			30.21	767.4	45.5	7.5	78	NE			3		5		NE	0.12	3.	Cloudy	Normal School.
Bourg en Bresse			30.23	767.8	45.5	7.5	77	N			4		2kn		S	0.020	0.5	Slightly cl'dy	Normal School.
Bourges			30.27	768.8	41.0	5	100	NW			2		5		NW	0	0	Cloudy	Normal School.
Brest			30.14	765.5	50.9	10.5	79	SSE			3		8		SSE	0.020	0.50		Naval Observatory.
Carcassonne			30.22	767.6	52.2	11.2	61	W			2		5		E	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			30.28	769.0	42.1	5.6	100	NNW			2		10		NNW	0	0	Covered	Normal School.
Châlons-sur-Marne			30.24	768.2	40.6	4.8	97	NW			2		10n			0	0	Covered	Normal School.
Clermont			30.23	767.7	42.3	5.7	78	N			1		10			0.008	0.2	Covered	Puy de Dome Obs'y.
Commercy			30.22	767.6	40.3	4.6	97	WNW			2		10			0.012	0.3	Covered	Normal School.
Commune de Gréasque*			30.00	761.9	50.5	10.3	58	N			1		0			0	0		M. Kina.
Grenoble			30.11	764.7	46.0	7.8	79	NW			4		5n		N	Inap.	Inap.	Raining	Normal School.
La Roche-sur-Yon			30.26	768.5	51.8	11.0	69	W			2		5		E	0	0	Cloudy	Normal School.
Le Mans			30.27	768.8	42.4	5.8	97	N			2		8		N	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.12	765.1	45.1	7.3	85	NW			2		2			0.16	4.	Slightly cl'dy	Normal School.
Lorient			30.23	767.9	52.2	11.2	59	Calm			0		5		SE	0	0	Cloudy	Naval Observatory.
Mâcon			30.28	769.1	45.9	7.7	82	N			2		5		N	0.020	0.5	Cloudy	Normal School.
Metz			30.27	768.8	41.9	5.5	82	NW			2		10			0.024	0.6	Covered	M. Schuster.
Mirecourt			30.20	767.1	41.5	5.3	75	NW			2		10			0	0	Covered	Normal School.
Nismes			29.99	761.7	47.5	8.6	56	N			2		0			0	0	Clear	Normal School.
Orleans			30.24	768.1	41.0	5	81	N			2		10		N	0	0	Covered	Normal School.
Paris, Observatory			30.25	768.3	41.9	5.5	90	S			2		10k		N	Inap.	Inap.	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.13	765.3	47.1	8.4		NNE			6		5		NNE	0	0	Cloudy	Normal School.
Rochefort, Observatory			30.24	768.1	54.3	12.4	72	ESE			2		1		SW	0	0	Blue sky	Naval Observatory.
Rouen			30.20	767.0	43.5	6.4	87	NW			2		10		N	0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.20	767.0	46.6	8.1	96	NW			2		8			0	0	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.94	760.4	55.6	13.1	51	W			3		0			0	0	Clear	Marseilles Observatory.
Mont-Louis	24.83	630.7	30.26	768.7	34.3	1.3	56	NNW	16.8	7.50			0			0.012	0.3		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			30.10	764.6	51.3	10.7	43	NW	29.8	13.33			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.12	536.5			20.5	— 6.4		N			1		1					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.44	569.9			30.2	— 1.0		N			1		1			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.24	768.1	40.6	4.8	100	SSW			1		10			0	0	Covered	E. Renou.
Toulouse			30.25	768.3	46.2	7.9	70	NW			4		9			0	0		Toulouse Observatory.
Tours			30.24	768.0	42.6	5.9	94	N			1		10			0	0	Foggy	C. Marquet.
Versailles, (near Paris)			30.23	767.9	42.4	5.8	97	N			1		10			0.009	0.23	Misty	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.4	47.1	8.4	93	ESE	24.0	10.75			3			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			30.07	763.7	43.3	6.3	68	NW			3		7	NW		0	0		Prof. T. Hoh.
Berlin			30.07	763.8	42.4	5.8	85	W			2		10			0.106	2.7	Raining	Prof. Arndt.
Breslau			30.07	763.8	36.7	2.6	78	WNW			3		10			0.016	0.4	Raining	Royal University Obs'y.
Carlsruhe			30.17	766.4	44.2	6.8	88	SW			1		10			0.169	4.3		A. Senz.
Cassel			30.15	765.8	42.8	6.0	91	SSE			3		10	W		0.055	1.4		Dr. H. Möhl.
Crefeld			30.13	765.4	46.4	8.0	91	W			3		10			0.04	1.	Foggy	Director Lose.
Emden			30.14	765.6	46.6	8.1	95	W			1		9			0	0		Prof. Prestel.
Frankfort on the Main			30.19	766.7	44.6	7.0	68	SSW			1		10			0.020	0.5	Foggy	Physical Society.
Friedrichshafen			30.22	767.5	41.7	5.4	78	N			4		9			0	0		M. Wilhelm.
Hamburg			30.02	762.5	45.3	7.4	96	WNW			3		10			0.075	1.9	Covered	Captain F. Hegemann.
Kiel			29.95	760.8	46.0	7.8	91	W			2		10			0.016	0.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.84	758.0	33.1	0.6	86	SW			2		9			0	0		Prof. E. Luther.
Köslin			29.89	759.1	38.3	3.5		SW			4		5			0	0		H. Müller.
Leipsic			30.11	764.8	41.7	5.4	85	WSW			3		9	WNW		0.150	3.8		Prof. Bruhns.
Memel			29.84	757.9	26.2	— 3.2	94	S			3		10ks					Snowing	Reinbrecht & Skalweit.
Münster			30.10	764.4	47.5	8.6	90	NW			2		10			0.008	0.2		Prof. E. Heis.
Neufahrwasser			29.87	758.7	35.4	1.9	88	W			3		10			0.051	1.3		A Lothe.
Posen			30.06	763.4	39.2	4.0	85	WNW			2		10			0.173	4.4		Dr. Magener.
Strassburg, (in Alsace)			30.22	767.5	45.3	7.4	82	Calm			0		10	NE		0.091	2.3		Dr. Schur.
Stuttgart			30.19	766.7	43.9	6.6	88	N			1		10			0.016	0.4	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.13	765.2	46.0	7.8	79	SW			2		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.61	726.6	30.17	766.2	39.9	4.4	77	NW			1		9	N		0.063	1.6		Dr. von Rebber.
Wustrow, Naval School			29.99	761.7	41.7	5.4	96	SW			5		10			0.016	0.4	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 19°, 54′, W. 28°, 10′.			30.05	763.3	79.5	26.4	73	E			4		6	E					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.94	760.4	68.0	20.0		SW											

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.92	759.9	51.1	10.6	66	Calm	0	0			1			0	0		Prof. Giovanni Clodig.
Padua			29.92	759.9	48.4	9.1	85	NW	2.5	1.1			3			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.91	759.7	52.3	11.3	72	SE	4.9	2.2			1			0	0		Alm. Da Schio.
Verona			29.93	760.2	50.9	10.5	82	W			1		0			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof. Trionfini Carlo.
Domodossola			29.95	760.6	50.0	10.0	62	Calm			0		2			0	0		Prof. Giuseppe Calza.
Milan			29.97	761.1	40.3	4.6	95	NNE			1		10			0	0		Ab. Gio. Capelli.
Pavia			29.97	761.1	45.5	7.5	86	NE			1		1			0	0		Prof. Gio. Cantoni.
Moncalieri			29.97	761.3	47.3	8.5	78	NNE	0	0			1			0	0		Prof. P. F. Denza.
Mondovi	28.01	711.4	29.95	760.7	50.2	10.1	38	Calm			0		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.94	760.5	60.1	15.6	58	E			2		5	N		0	0		Prof. L. Vassallo
Genoa			29.91	759.6	60.8	16.0	33	N	3.1	1.4			2	NE		0	0		Prof. Garibaldi.
Piacenza			29.98	761.5	43.2	6.2	95	NW	1.3	0.6			10			0.020	0.5	Dense fog	Dott. G. Manzi.
Parma			29.97	761.2	43.9	6.6	96	SW			4		10			0	0	Dense fog	Prof. P. Pigorini.
Bologna			29.97	761.2	46.6	8.1	63	W			1		8	S		0	0		Prof. A. Palagi.
Florence			29.89	759.3	57.2	14.0	59	N			2		3	S		0	0		Cav. F. Meucci.
Leghorn			29.87	758.6	57.2	14.0	53	E	2.7	1.1			3			0	0		Prof. P. Monte.
Siena	28.03	727.2	29.84	757.9	53.2	11.8	51	ENE	12.7	5.6			9	E		0.047	1.2		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.91	759.8	48.7	9.3	89	NW	39.1	17.5			10			0	0		Prof. Luigi Guidi.
Ancona			29.90	759.4	52.2	11.2	90	NW			8		10			0.461	11.7		Prof. De—Bosis.
Grosseto			29.84	757.9	54.9	12.7	72	NE			4		10	N		0.020	0.5	Light rain	Avv. P. Ponticelli.
Rome			29.80	756.8	59.5	15.3	76	NE	4.3	1.9			4			0.047	1.2	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.80	756.8	63.9	17.7	77	ESE			2		6	SW		0.059	1.5	Raining	Prof. L. Palmieri.
Lecce			29.87	758.6	63.0	17.2	78	WSW	7.4	3.3			9			0.177	4.5	Raining	Prof. C. De—Giorgi.
Cosenza			29.81	757.2	64 2	17.9	63	Calm	0	0			10			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.77	756.1	63.1	17.3	67	NE	2.5	1.1			9			0.024	0.6	Light rain	Prof. G. Cacciatore.
Caltanissetta	27.85	707.4	29.80	756.9	57.7	14.3	67	W			2		3	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.82	757.5	59.5	15.3	79	ENE	0.7	0.3			7	NE		0.098	2.5		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.20	767.1	47.5	8.6		W.			2					0	0		
Groningen			30.02	762.4	47.1	8.4		W			2					0	0		
Helder			30.10	764.6	48.2	9.0		W			2					0	0		
Utrecht			30.09	764.3	48.6	9.2	88	W			2		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.84	758.0	37.9	3.3	93	Calm	0	0			3			0	0		
Brönö			29.69	754.2	30.9	— 0.6	79	E	4	2			2			0	0		
Christiania			29.78	756.4	25.9	— 3.4	98	Calm	0	0			10			0.051	1.3	Foggy	
Tromsö			29.79	756.7	30.2	— 1.0	76	SW	4	2			6			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.45	773.5	61.2	16.2	92	W	4.3	1.9			8			0	0		Dr. J. A. Sampaio.
Campo Major			30.26	768.6	55.0	12.8	64	WNW	8.1	3 6			4	WNW		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.40	772.2	66.0	18.9	60	S	4.3	1.9			8			0	0		Capt. D. A. de Cunha.
Lisbon			30.32	770.2	55.8	13.2	78	SW	7.4	3.3			2	NW		0	0		The Observatory.
Ponta Delgada, (Azores)			30.47	774.0	65.5	18.6	83	NNW					3			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.98	761.5	31.8	— 0.1	98	WNW	9	4			10					Rain & snow	Astronomical Obs.
Wilna			29.93	760.1	22.1	— 5.5	86	SSE	2	1			10						Astronomical Obs.
Dorpat			29.95	760.8	16.0	— 8.9	91	ESE	9	4			10					Light snow..	Physical Cabinet.
St. Petersburg			30.13	765.3	6.6	—14.1	69	SE	20	9			2						Central Physical Obs.
Kuopio			30.07	763.7	8 1	—13.3	100	ESE	13	6			10						Ch. Forsten.
Kieff			30.08	764.1	16.9	— 8.4	97	SSE	13	6			10						Physical Cabinet.
Nikolaiev			30.12	765.0	21.4	— 5.9	93	NE	13	6			10						Kurdakof.
Kertch			30.05	763.3	30.4	— 0.9	92	ENE	11	5			10						Lagorio.
Moscow			30.35	771.0	4.6	—15.2	59	SW	7	3			0						Meteorological Obs.
Lugan			30.13	765.4	15.8	— 9.0	72	E	13	6			10						Meteorological Obs.
Archangel			30.22	767.6	—17.0	—27.2	86	Calm	0	0			8						Ogorodnikof.
Tiflis	28.54	725.0	29.97	761.2	51.8	11.0	72	N	9	4			10						Physical Observatory.
Astrakhan			30.13	765.4	16.9	— 8.4	88	N	9	4			9			Blank	Blank		Sebastianof.
Kasan			30.25	768.3	1.6	—16.9	97	Calm	0	0			10						Physical Cabinet.
Orenburg			30.04	763.1	— 4.9	—20.5	59	W	18	8			2						Tschernischef.
Ekaterinburg	29.03	737.3	30.09	764.2	— 4.9	—20.5	78	Calm	0	0			0						Meteorogical Obs.
Nukuss			29.93	760.2	34.7	1.5	87	W ?	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.27	768.9	—15.7	—26.5	87	Calm	0	0			0						Meteorological Obs.
Yenisseisk			30.01	762.3	—11.7	—24.3	85	S	4	2			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.18	766.6	22.3	— 5.4	56	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 3.5	—19.7		NW	11	5			3						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306. 4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.21	767.4	48.2	9.0	62	SW	1.5	0.67		0	0			0	0	Clear	Royal Observatory.
San Fernando			30.30	769.6	57.0	13.9	58	NW	13.7	6.1		2	2	NW	NW	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.08	763.9	4.6	—15.2	91	SE			2		10			0.08	2.		
Umea			29.95	760.8	22.6	— 5.2	95	Calm			0		10			0.146	3.7		
Hernosand			29.80	757.0	30.2	— 1.0	98	SE			6		10			0.134	3.4	Snowing	
Stockholm			29.63	752.7	32.2	0.1	98	E			2		10			0.020	0.5		
Wisby			29.63	752.5	36.7	2.6	82	WNW			4		10			0.008	0.2		
SUB-SERIES.																			
Upsala			29.68	753.9	30.9	— 0.6	94	ENE	7.6	3.4			10			0.228	5.79	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.67	728.3	30.13	765.2	45.1	7.3	63	NE			6		3			0	0	Clouds	The Observatory.
Zurich	28.53	724.7	30.21	767.3	42.1	5.6	76	NE			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +1.0 mm; Thermometer, +4.3 cent.; Relative Humidity, —16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.93	760.2	61.5	16.4	73	SW	7	3.0			10		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.91	759.8	59.4	15.2		NW			1		10						
Valona			29.84	758.0	64.6	18.1		S			2		8			Blank	Blank		
Varna			29.80	757.0	50.0	10.0		W			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.13	765.3	70.2	21.2	73	SW			1		3c			0	0	*D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario			30.28	769.1	—12	—24.4		W	1	0.4		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B			29.26	743.2	14	—10.0	90	W	13	5.8		10c	0	NW		0.24	6.1	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.19	741.4	21	— 6.1	90	W	23	10.3			10n			0.40	10.2	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario			30.21	767.3	—15.0	—26.1	95	W			2	0	0			0	0	Bright	James Smith, M. A.
Dalhousie, N. B								NW			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.32	770.1	38.1	3.4	91	N					10s			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.51	749.5	12.1	—11.1	79	NW	19	8.5			10n			0.580	14.73	Overcast	Prof. Harrison.
*Fort Garry, Manitoba			29.93	760.2	—10	—23.3	95	Calm	0	0		0	0			0.064	1.63	Clear	James Stewart.
Goderich, Ontario			30.27	768.8	6.6	—14.1	82	SW			2		10n			0	0	Cloudy	H. J. Strang, M. A.
Granton, Ontario	29.02	737.1	30.24	768.1	— 5.2	—20.7		W			1	2cs	0	E		Inap.	Inap.	Clear	James Grant.
*Halifax, N. S			29.28	743.7	21	— 6.1	86	W	15	6.7			5ks		W	0.540	13.72	Light snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.29	769.4	—14	—25.6	81	NW	13	5.8		0	0			0.08	2.0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.12	739.6	24.0	— 4.4		NW	8	3.6		6k	0	NW				Snow-squall	C. H. Rigby.
*Montreal, Quebec			30.09	764.3	—11	—23.9	100	W	30	13.4		0	2s			0.07	1.8	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.23	767.8	—18	—27.8	81	W	16	7.2		0	0			0.10	2.5	Clear	J. B. Haney.
*Parry Sound, Ontario			30.36	771.1	—27	—32.8	34	E	8	3.6		2cs	0	E		0.02	0.5	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.32	770.1	— 2	—18.9	94	NW	7	3.1		5k	0	NW		0.02	0.5	Fair	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario			30.32	770.1	4	—15.6	96	W	4	1.8		2ck	0	W		0.04	1.0	Clear	M. Payne.
*Quebec, Quebec			29.83	757.7	— 2	—18.9	84	W	36	16.1		0	0			0.50	12.7	Clear	Capt. Ashe, R. N.
St. John, N. B			29.54	750.3	9	—12.8	78	NW	18	8.0		0	0			0.100	2.54	Light snow	G. Murdoch, C. E.
*Saugeen, Ontario			30.23	767.8	— 2	—18.9	41	SE	5	2.2			10n			0.25	6.3	Cloudy	K. Stewart.
Stayner, Ontario																			R. J. Cole.
Stratford, Ontario	28.86	733.0	30.31	769.9	— 4.6	—20.3	82	Calm	0	0		0	3s			0.300	7.62	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			28.90	734.0	25	— 3.9	81	SW	13	5.8			10n		SW	0.47	11.9	Cloudy	T. C. Hill.
*Toronto, Ontario			30.33	770.4	— 7	—21.7	92	N	10	4.5		2cs	5s			0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.29	769.4	— 7.3	—21.8	65	E	6	2.7			9s			0.160	4.06	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.12	739.6	28.0	— 2.2	78	SW	5	2.2			10n			0.30	7.6	Stormy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, N. Y.			30.14	765.5	3	—16.1	59	NW	2	0.9		1k	0	W		0.01	0.3	Clear	
Alpena, Mich.			30.17	766.3	0	—17.8	84	SW	4	1.8			10s			0.04	1.0	Cloudy	
Atlantic City, N. J.			30.36	771.1	6	—14.4	63	W	15	6.7		8c	0	W		0	0	Cloudy	
Augusta, Ga.			30.43	772.9	22	— 5.6	79	Calm	0	0		5cs	0	W		0	0	Fair	
Baltimore, Md.			30.43	772.9	7	—13.9	77	NW	7	3.1			10s			0	0	Cloudy	
Barnegat, N. J.			30.34	770.6	6	—14.4	64	W	20	8.9		5c	0	W		0	0	Fair	
Bismarck, Dakota	28.07	713.0	29.79	756.7	22	— 5.6	72	SW	17	7.6			10s			0.01	0.3	Cloudy	
Boston, Mass.			29.98	761.5	6	—14.4	52	W	22	9.8		0	0			0.13	3.3	Clear	
Breckenridge, Minn.			29.72	754.9	5	—15.0	87	E	3	1.3			10s			0	0	Cloudy	
Buffalo, N. Y.			30.28	769.1	3	—16.1	73	NW	6	2.7		2cs	0			0.02	0.5	Clear	
Burlington, Vt.			30.13	765.3	— 3	—19.4	66	W	11	4.9		0	5s		N	0.07	1.8	Fair	
Cairo, Ill.			30.19	766.8	17	— 8.3	67	S	9	4.0			10s			0	0	Cloudy	
Cape Hatteras, N. C.			30.40	772.1	20	— 6.7	56	NE	12	5.4		0	0			0	0	Clear	
Cape Henry, Va.			30.46	773.7	14	—10.0	64	NW				8k	0	NW		0	0	Fair	
Cape Lookout, N. C.			30.48	774.2	19	— 7.2	52	NE	18	8.0		1c	0			0	0	Clear	
Cape May, N. J.			30.38	771.6	10	—12.2	58	NW	32	14.3		5cs	0	W		0	0	Fair	
Charleston, S. C.			30.42	772.7	32	0.0	42	N	6	2.7		0	0			0	0	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	28	— 2.2	48	NW	20	8.9		0	0			0	0	Clear	
Chicago, Ill.			30.02	762.5	6	—14.4	76	SE	10	4.5			10n			0.03	0.8	Light snow	
Cincinnati, Ohio			30.25	768.3	8	—13.3	89	SE	5	2.2			10n			0.03	0.8	Light snow	
Cleveland, Ohio			30.35	770.9	— 5	—20.6	100	SE	12	5.4		2c	5s	W		0.04	1.0	Fair	
Corsicana, Tex.			30.14	765.5	28	— 2.2	44	NW	5	2.2		2cs	0			0	0	Fair	
Davenport, Iowa			29.85	758.2	11	—11.7	79	S	16	7.2			10s			0.05	1.3	Cloudy	
Denison, Tex.			30.16	766.1	22	— 5.6	72	NW	2	0.9		0	0			0	0	Clear	
Denver, Col.	24.79	629.6	30.01	762.2	41	5.0	33	W	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			30.28	769.1	— 1	—18.3	85	S	4	1.8			10s			0	0	Cloudy	
Dodge City, Kan.	27.32	693.9	29.71	754.6	26	— 4.4	76	NW	20	8.9		0	0			0	0	Clear	
Dubuque, Iowa			29.84	757.9	7	—13.9	77	SE	7	3.1			10s			Inap.	Inap.	Cloudy	
Duluth, Minn.			29.83	757.7	2	—16.7	72	Calm	0	0			10s		W	0.02	0.5	Cloudy	
Eastport, Me.			29.56	750.8	5	—15.0	75	NW	23	10.3		0	5s		NW	0.46	11.7	Fair	
Erie, Pa.			30.32	770.1	— 4	—20.0	45	S	20	8.9		4c	Haze			Inap.	Inap.	Hazy	
Escanaba, Mich.			29.97	761.2	2	—16.7	72	W	9	4.0			10s			Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.11	764.8	17	— 8.3	67	S	7	3.1		5c	0	NW		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.84	732.5	30.03	762.7	20	— 6.7	39	Calm	0	0		0	0			0	0	Clear	
Fort Sully, Dakota	28.29	718.6	30.02	762.5	30	— 1.1	68	NW	15	6.7		0	0			Inap.	Inap.	Clear	
Florence, Arizona	28.60	726.4	30.16	766.1	48	8.9		S				0	0			0	0	Clear	
Galveston, Tex.			30.10	764.5	58	14.4	93	S	4	1.8		0	5s		W	0	0	Fair	
Grand Haven, Mich.			30.09	764.3	4	—15.6	60	SE	16	7.2			10s			0.07	1.8	Cloudy	
Indianapolis, Ind.			30.19	766.8	7	—13.9	89	SE	8	3.6			10s			0.02	0.5	Cloudy	
Indianola, Tex.			30.10	764.5	55	12.8	80	Calm	0	0		0	5s			0	0	Fair	
Jacksonville, Fla.			30.35	770.9	34	1.1	61	Calm	0	0		0	0			0	0	Clear	
Keokuk, Iowa			29.71	754.6	16	— 8.9	66	S	6	2.7			10s		S	0	0	Cloudy	
Key West, Fla.			30.25	768.3	57	13.9	87	NE	16	7.2		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.48	774.2	14	—10.0	63	NW	12	5.4		8ck	0	W		0	0	Cloudy	
Knoxville, Tenn.			30.37	771.4	15	— 9.4	82	N	5	2.2		8cs	0	W		0	0	Cloudy	
La Crosse, Wis.			29.83	757.7	9	—12.8	100	SE	10	4.5			10n		SE	0.34	8.6	Heavy snow	
Leavenworth, Kan.			29.81	757.2	29	— 1.7	77	S	8	3.6			10s			0	0	Cloudy	
Louisville, Ky.			30.26	768.6	14	—10.0	46	SE	8	3.6			10s			0	0	Cloudy	
Lynchburg, Va.			30.46	773.7	10	—12.2	79	NW	1	0.4			10s			0	0	Cloudy	
Malone, N. Y.			30.26	768.6	—10	—23.3	78	W	9	4.0		0	0			0.20	5.1	Clear	
Marquette, Mich.			29.93	760.2	3	—16.1	73	S	6	2.7			10s			0	0	Cloudy	
Memphis, Tenn.			30.18	766.6	24	— 4.4	72	SE	4	1.8			10s		NW	Inap.	Inap.	Cloudy	
Milwaukee, Wis.			30.01	762.2	1	—17.2	72	SW	11	4.9			10n			Inap.	Inap.	Light snow	
Mobile, Ala.			30.25	768.3	39	3.9	63	NE	4	1.8		5k	0	SW		0	0	Fair	
Montgomery, Ala.			30.29	769.4	29.5	— 1.4	100	SE	7	3.1		2cs	Haze	W		0	0	Fair	
Morgantown, W. Va.	29.24	742.7	30.43	772.9	3.5	—15.8	74	SW	4	1.8		8c	0	SW		0	0	Fair	
Mt. Washington, N. H.	22.98	583.7	29.34	745.2	—35	—37.2	100	NW	100	44.7			Fog			1.11	28.2	Foggy	
Nashville, Tenn.			30.24	768.1	19	— 7.2	69	E	3	1.3			10s		W	0	0	Cloudy	
New Haven, Conn.			30.16	766.1	13	—10.6	61	NW	15	6.7		Haze	0			Inap.	Inap.	Clear	
New London, Conn.			30.16	766.1	12	—11.1	47	NW	7	3.1		1k	0	W		0.03	0.8	Clear	
New Orleans, La.			30.20	767.1	42.5	5.8	71	E	5	2.2		5k	0	SW		0	0	Fair	
Newport, R. I.			30.11	764.8	11	—11.7	61	W	24	10.7		0	0			Inap.	Inap.	Clear	
New York, N. Y.			30.27	768.8	3	—16.1	59	W	28	12.5		5cs	Sm'e	W	W	0	0	Fair	
Norfolk, Va.			30.47	773.9	11.5	—11.4	41	N	10	4.5		10ck	0	W		0	0	Cloudy	
North Platte, Neb.	26.94	684.3	29.57	751.1	30	— 1.1	89	W	20	8.9		0	5ks		W	0	0	Fair	
Omaha, Neb.	28.57	725.7	29.66	753.4	32	0.0	79	W	11	4.9		0	5s		NW	0.01	0.3	Fair	
Oswego, N. Y.			30.27	768.8	3.5	—15.8	87	NW	16	7.2		Haze	5ks		NW	Inap.	Inap.	Fair	
Pembina, Dakota			29.86	758.4	— 6	—21.1	63	NE	3	1.3		0	0			0.04	1.0	Clear	
Philadelphia, Pa.			30.40	772.1	5	—15.0	62	NW	11	4.9		5cs	Haze	NW		0	0	Cloudy	
Pike's Peak, Col.	17.70	449.6	29.91	759.7	13.5	—10.5	72	NE	9	4.0		0	0			0	0	Clear	
Pittsburgh, Pa.			30.45	773.4	— 6	—21.1	81	SW	4	1.8		5cs	0	SW		0	0	Fair	
Port Huron, Mich.			30.27	768.8	— 1	—18.3	84	S	4	1.8			10s		S	Inap.	Inap.	Smoky	
Portland, Me.			29.81	757.2	2	—16.7	72	W	6	2.7		Haze	1s			0.20	5.1	Clear	
Portland, Oregon			30.31	769.9	31	— 0.6	100	SE	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.28	769.1	50.0	10.0	67	N	6	2.7		8cs	0	SW		0	0	Fair	
Rochester, N. Y.			30.27	768.8	3	—16.1	87	W	11	4.9			10n			0.11	2.8	Light snow	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	18	— 7.8	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.22	767.6	8	—13.3	33	W	50	22.4		0	Haze		W	0	0	Hazy	
San Diego, Cal.			30.13	765.3	47	8.3	54	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.20	767.1	48	8.9	85	NE	2	0.9			10s			0	0	Cloudy	
Santa Fé, N. M.	23.26	590.8	29.80	756.9	29	— 1.7	59	N	2	0.9		0	0			0	0	Clear	
Savannah, Ga.			30.42	772.7	27	— 2.8	77	N	5	2.2		0	0			0	0	Clear	
Shreveport, La.			30.19	766.8	34	1.1	79	E	2	0.9		0	Sm'e			0	0	Clear	
Smithville, N. C.			30.46	773.7	19	— 7.2	52	N	10	4.5		0	0			0	0	Clear	
Springfield, Mass.			30.13	765.3	8.5	—13.1	43	W	12	5.4		1cs	2s,d		NW	0.03	0.8	Clear	
St. Louis, Mo.			30.02	762.5	16	— 8.9	65	SW	16	7.2			10s			0	0	Cloudy	
St. Marks, Fla.			30.36	771.1	29	— 1.7	67	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minn.			29.68	753.9	2	—16.7	72	SE	18	8.0			10n			0.04	1.0	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.91	759.7	8	—13.3	33	W	36	16.1		0	0			0.11	2.8	Clear	
Toledo, Ohio			30.28	769.1	5	—15.0	75	S	6	2.7			10n		S	0.01	0.3	Light snow	
Tucson, Arizona	27.70	703.6	30.25	768.3	33	0.6		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.18	766.6	44	6.7	75	SE	3	1.3		10k	Sm'e	W		0	0	Cloudy	
Virginia City, M. T.	24.37	619.0	29.85	758.2	24	— 4.4	74	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.46	773.7	5	—15.0	52	NW	12	5.4			10s		W	0	0	Cloudy	
Wilmington, N. C.			30.47	773.9	18	— 7.8	37	NE	5	2.2		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.05	763.3	12	—11.1	61	NW	34	15.2		0	5s		NW	0.08	2.0	Fair	
Yankton, Dakota	28.39	721.1	29.68	753.9	36	2.2	75	NW	14	6.3			10s		NW	0.03	0.8	Cloudy	
Yuma, Arizona			30.17	766.3	47	8.3		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.22	767.6	76	24.4	76	Calm	0	0		2c	2s			0	0		James Gall.
Navassa, W. I.					82	27.8		E			3							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.04	763.0	63	17.2	83	NE	3.0	1.3		0	0			0	0	Clear	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.03	762.7	81	27.2	87	E			2	3c	4k	E		0	0	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.08	763.9			78.8	26.0		SE								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.29	642.4			65.0	18.3	80	Calm			0		9n			0.32	8.1	Cloudy	Thomas Herran.
York Factory, B. A.			29.76	755.9	—21.0	—29.4		S	7	3.1		6cs	0	S		0	0	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74	23.3		S			2					0	0	Overcast	Daniel Smith.
Makawao, Maui, H. I.			29.77	756.1	65	18.3	83	S			1	1c	0	S		0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Quincy, Mass.			29.94	760.5	6	—14.4	88	WNW	20	8.9		0	0					Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 45°, 28′, W. 31°, 25′.	SW by W	5.5	29.81	757.2	57.9	14.4		SW			5–6		10a			High sea.		Rainy	Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 11, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.15	765.7	59.5	15.3	70	SW			3		10			0.059	1.5	Hidden	Charnot.
Algiers			30.08	763.9	59.0	15.0	78	WNW			1		4			0.524	13.3	Fair	Peter.
La Calle			29.97	761.3	57.6	14.2	70	NNW			4		8			0.945	24.0	Cloudy	Didier.
Tunis			29.95	760.8	59.0	15.0		NW			3		7			1.063	27.0	Cloudy	Jacques.
Sfax																			Chauvey.
Saida			30.16	766.0	48.7	9.3	71	WNW			3		6			0.197	5.0	Fair	Millot.
Tebessa			29.98	761.4	41.0	5.0		W			4		10			0.512	13.0	Hidden	Bourgeois.
Geriville			30.14	765.5	66.2	19.0	36	NNW			3		6			0.079	2.0	Fair	Lemaillot.
Laghouat			30.12	765.0	50.9	10.5	44	N			5		5			0	0	Fair	Guyot.
Biskra			30.09	764.2	60.1	15.6	48	NW			3		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.02	762.6	44.8	7.1	72	SW			1		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.92	760.0	39.2	4.0	97	W			1		10			0.130	3.3		Dr. Wierzbiski.
Eperies			29.91	759.7	39.4	4.1	88	S			1		9s			0	0		Julius Mikolik.
Gratz	28.75	730.2	30.04	763.1	38.1	3.4	93	S			1		0			0	0		Andreas Rospini.
Hermannstadt	28.45	722.5	29.88	759.0	45.3	7.4	83	SSW			1		10			0.193	4.90	Raining	Prof. Reissenberger.
Kremsmünster	28.71	729.1	30.09	764.2	39.6	4.2	87	WNW			2		10			0	0		Prof. C. Wagner.
Lemberg			29.82	757.4	35 8	2.1	94	NW			3		10			0.035	0.9		Dr. T. Stanecki.
Nyiregyhaza																			Habszuda Daniel.
Pola			29.92	759.9	49.8	9.9	56	ENE			5		0			0	0		I.R.Hydrographic Of'ce.
Szegedin			29.96	760.9	42.4	5.8	82	S			2		6			0	0		Karl Stancel.
Trieste			29.94	760.5	50.5	10.3	47	N			1		0			0	0	Clear	Prof. V. Farolfi.
Vienna			30.02	762.5	43.9	6.6	74	WNW			4		3			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.12	765.0	43.5	6.4	92	WSW			1		10		WSW	0	0	Foggy	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.81	757.2	44.0	6.7		SSW	6	2.7			6			0	0	Misty	William Boswell.
Ardrossan			29.85	758.2	50	10.0		SSW			4		8					Raining	William McNeil.
Armagh, Observatory			29.85	758.2	48.7	9.3		SSW	10	4.5			7					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.87	758.7	50.0	10.0		S			1		0					Blue sky	J. Dreyer.
Bradford			29.99	761.7	46.6	8.1		SW			2		6			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	84.2	29.0		NE			1		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.10	764.5	46.0	7.8		SSW			1		10					Overcast	H. Todd. [H.C.
Cardington			30.09	764.3	46	7.8		S			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.12	765.0	44.4	6.9		NW			1		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.56	725.4	30.09	764.3	45.6	7.6		SW			3		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.78	d29.4			27.0	— 2.8	89	NE			1		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.85	758.2	48	8.9		SSW			3		10					Overcast	J. Mac Gowan.
Dover			30.10	764.5	47	8.3		SSW			1		5					½ clouded	J. Costello.
Eccles, (near Manchester)			30.03	762.7	48.5	9.2		SW	2.8	1.3			7					*D. clouds	Thomas Mackereth.
Falmouth, Observatory			30.04	763.0	51.7	10.9		S			3		10					Overcast	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.80	759.2	74.2	23.4		SE			4		0					Blue sky	P'vt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)			29.91	759.7	83.0	28.3		N			0		3					*D. clouds	
Galway, Queen's College			29.76	755.9	46	7.8		S			2		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.16	766.1	59.0	15.0		NW			3		2					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.81	757.2	48.5	9.2		S			1		10					Drizzling	Lewis Stuart.
Great Yarmouth			30.10	764.5	44	6.7		WSW			2		7					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			30.11	764.8	44.3	6.8		SE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			30.08	764.0	48	8.9		SE			3		3					*D. clouds	Dr. S. E. Hoskins.
Helston			29.97	761.2	53	11.7		S			4		8k			0	0	Gloomy	M. P. Moyle.
Holyhead			29.91	759.7	50	10.0		S			4		10					Drizzling	John Tilston.
Kew, Observatory			30.11	764.8	45.0	7.2		NNE	3	1.3			10					Foggy	The Staff.
Kingstown			29.90	759.4	52	11.1		S			3		3					Blue sky	George Mitchell.
Leicester Museum			30.05	763.3	46.6	8.1		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.78	756.4	61.0	16.1		W			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.75	755.6	47	8.3		Calm			0		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.12	765.0	70.0	21.1		NE			1		8					Drizzling	Surg. Maj. Henry.
Nottingham, Observatory			30.06	763.5	47.0	8.3		S			3		10k		WSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.03	762.7	45.3	7.4		S			2		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.06	763.5	45	7.2		SSE			1		10					Gloomy	J. Lucas.
Plymouth			30.06	763.5	52.5	11.4		SE			2		10					Gloomy	John Merrifield.
Roche's Point			29.91	759.7	50	10.0		WSW			4		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.98	761.5	51	10.6		S			4		8					Overcast	John C. Walker.
Saint Helier, (Jersey)			30.12	765.0	40.0	4.4		SSW			3		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.75	755.6	45	7.2		SSE	11	4.9			10					Drizzling	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.89	759.2	58.0	14.4		Calm			0		10					Misty	Sergt. W. H. Lyne.
Sheffield			30.01	762.2	47.2	8.4		SW			2		5			0.008	0.20	*D. clouds	W. F. Cooper.
Silloth Rectory			29.88	758.9	48.5	9.2	87	SW			6		8			0.130	3.30	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.98	761.5	47.0	8.3		SW			2		6ck					Hazy	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.67	753.6	49	9.4		SSW			3		3					*D. clouds	John Smith.
Stratfield Turgiss			30.12	765.0	43.3	6.3		SE			1		10					*D. clouds	Rev. Charles H. Griffith.
Thurso			29.72	754.9	46	7.8		SSE			2		7					*D. clouds	John Trotter.
Truro, Royal Institution			30.04	763.0	54	12.2		S			6		10					*D. clouds	W. Newcombe.
Valencia, Observatory			29.86	758.4	52.3	11.3		S	29	13.0			10			Blank	Blank	Misty	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					48	8.9		SW			4		5			0.2	5.1		Henry Mercer.
Cape Good Hope, Obs'y			30.11	764.8	77.0	25.0	42	ESE	18	8.0		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.64	752.8	72.5	22.5	78	S			3		2k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.84	757.9	51.4	10.8		W			2		8k			0	0	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				ENE	14.7	6.6						0.27	6.9		C. Meldrum.
Melbourne, Observatory			29.93	760.2	57.2	14.0	75	SSE	5	2.2			5			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.63	752.6	50	10.0		SSW			4	0	3	SW		0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.80	756.9	45	7.2		S			4		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.98	761.5	30.9	— 0.6	86	NNE			4		10						
Fanöe			29.98	761.5	42.6	5.9	93	Calm			0		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.10	739.0	40.8	4.9	97	SE			6		8						
Thorshavn, (Faröe)			29.58	751.4	46.0	7.8	93	S			2		9						
Vestervig			30.11	764.9	31.6	— 0.2	89	ENE			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna system; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			30.20	767.0	49.1	9.5	87	SSW			2		8s		SSW	0	0	Very cloudy	Normal School.
Amiens			30.12	765.1	44.6	7.0	97	W			3		8		W	0	0	Very cloudy	Normal School.
Avignon			29.98	761.6	46.9	8.3	61	N			6		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.15	765.9	40.5	4.7	79	N			2		8n			0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			30.15	765.9	37.9	3.3	86	E	5.8	2.6					E	0	0		Beaumette Observ'tory.
Beauvais			30.17	766.4	43.5	6.4	89	SE			1		10			0	0	Covered	Normal School.
Besançon			30.13	765.2	42.4	5.8	78	NE			4		0			0	0	Clear	Normal School.
Bourg en Bresse			30.15	765.8	37.6	3.1	90	N			1		8kn		S	0	0	Very cloudy	Normal School.
Bourges			30.15	765.8	37.4	3	83	N			2		5		N	0	0	Cloudy	Normal School.
Brest			30.01	762.3	53.1	11.7	71	S			3		1			0	0	Clear	Naval Observatory.
Carcassonne			30.07	763.7	52.7	11.5	67	W			2		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			30.15	765.7	43.9	6.6	94	SSW			2		8		WSW	0	0		Normal School.
Châlons-sur-Marne			30.16	766.1	42.3	5.7	97	S			2		5k		SE	0	0	Cloudy	Normal School.
Clermont			30.15	765.9	36.0	2.2	89	NE			1		10			0	0	Covered	Puy de Dome Obs'y.
Commercy			30.11	764.7	41.2	5.1	87	NW			2		2		E	0	0	Slightly cl'dy	Normal School.
Commune de Gréasque*			29.96	761.0	52.3	11.3	50	NW			2		0			0	0		M. Kina.
Grenoble			30.08	764.0	44.8	7.1	83	NNW			1		10ks,n		NW	0	0	Covered	Normal School.
La Roche-sur-Yon			30.09	764.2	39.2	4.0	90	E			1		10			0	0	Covered	Normal School.
Le Mans			30.17	766.3	40.5	4.7	87	ESE			2		5		E	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			30.13	765.2	45.1	7.3	77	NW			2					0	0	Misty	Normal School.
Lorient			30.14	765.6	47.5	8.6	72	SE			2		10			0	0	Covered	Naval Observatory.
Mâcon			30.22	767.5	39.6	4.2	91	N			6		10			0	0	Covered	Normal School.
Metz			30.19	766.9	42.3	5.7	71	N			2		0			0	0	Clear	M. Schuster.
Mirecourt			30.13	765.2	39.2	4	87	NW			4		5		SW	0	0	Partly cov'd	Normal School.
Nismes			29.97	761.2	47.1	8.4	63	N			2		0			0	0	Clear	Normal School.
Orleans			30.15	765.8	38.3	3.5	76	ENE			1		10			0	0	Covered	Normal School.
Paris, Observatory			30.16	766.1	42.8	6.0	82	S			1		4k		SSE	0	0	Light fog	National Observatory.
Parthenay																			Normal School.
Privas			30.10	764.4	42.8	6		N			2		5		N	0	0	Cloudy	Normal School.
Rochefort, Observatory			30.14	765.6	38.8	3.8	87	E			3					0	0	Foggy	Naval Observatory.
Rouen			30.19	766.9	44.6	7.0	84	NNW			2		10		N	0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.17	766.2	39.0	3.9	92	NW			3		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.91	759.7	56.7	13.7	61	WNW			1		0			0	0	Clear	Marseilles Observatory.
Mont-Louis	24.74	628.4	30.11	764.9	41.0	5.0	28	NNE	13.0	5.83			0			0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			30.02	762.5	49.8	9.9	46	NE	11.2	5.00			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.07	535.1			20.3	— 6.5		N			1		0					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.41	569.2			32.0	0.0		N			1		0			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.15	765.8	44.1	6.7	85	S			1		1			0.012	0.3		E. Renou.
Toulouse			30.12	765.0	43.2	6.2	70	NW			2		1			0	0	Clear	Toulouse Observatory.
Tours			30.15	765.8	37.8	3.2	89	SE			1		10		E	0	0		C. Marquet.
Versailles, (near Paris)			30.15	765.7	45.3	7.4	83	N			1		5			0	0	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.24	768.2	43.9	6.6	95	NNW	0.9	0.42			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.06	763.4	43.3	6.3	82	W			2		10			0	0		Prof. T. Hoh.
Berlin			29.99	761.8	44.2	6.8	85	SW			1		10			0.18	4.9	Raining	Prof. Arndt.
Breslau			29.97	761.3	37.6	3.1	96	NNW			3		10			0.10	2.6		Royal University Obs'y.
Carlsruhe			30.12	765.1	43.2	6.2	90	E			1		10			0	0		A. Senz.
Cassel			30.13	765.2	43.7	6.5	78	NW			2		10	WSW		0.12	3.2		Dr. H. Möhl.
Crefeld			30.11	764.8	45.1	7.3	79	SW			1		9			0	0		Director Lose.
Emden			30.11	764.9	44.4	6.9	89	W			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.14	765.6	44.8	7.1	62	SW			1		10			0.028	0.7	Foggy	Physical Society.
Friedrichshafen			30.15	765.9	38.3	3.5	85	SSW			2		1			0	0		M. Wilhelm.
Hamburg			30.02	762.6	45.0	7.2	91	SW			3		8k			0.008	0.2	Fair	Captain F. Hegemann.
Kiel			29.97	761.3	44.1	6.7	89	NW			2		7			0.087	2.2		Prof. G. Karsten.
Königsberg, (Prussia.)			29.81	757.1	31.1	— 0.5	81	W			5		10			0.236	6.0		Prof. E. Luther.
Köslin			29.95	760.8	37.4	3.0		Calm			0		3			0	0		H. Müller.
Leipsic			30.06	763.5	44.1	6.7	83	W			2		9	NW		0.020	0.5		Prof. Bruhns.
Memel			29.80	756.8	26.8	— 2.9	72	NW			3		10ks			0.268	6.8	Snowy	Reinbrecht & Skalweit.
Münster			30.09	764.3	45.5	7.5	94	SW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			29.89	759.2	34.9	1.6	75	N			4		10			0.028	0.7	Snowing	A Lothe.
Posen			29.99	761.7	36.7	2.6	76	NNW			3		4			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.15	765.8	43.3	6.3	85	NE			2		10	N		0	0		Dr. Schur.
Stuttgart			30.04	763.1	42.4	5.8	88	N			1		10			0.008	0.2	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.08	763.9	43.7	6.5	82	SW			1		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.57	725.7	30.12	765.1	41.5	5.3	82	Calm			0		10	NW		0	0	Light fog	Dr. von Bebber.
Wustrow, Naval School			30.02	762.6	38.1	3.4	91	ENE			1		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 23°, 4′, W. 25°, 8′.			30.21	767.4	77.0	25.0	71	ENE			5		3	ENE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.86	758.5*	65.5	18.6		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			29.94	760.5	50.2	10.1	47	NE	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Padua			29.95	760.7	48.2	9.0	57	N	5.6	2.5			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.97	761.3	47.8	8.8	64	E	0.7	0.3			1			0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.61	726.7	29.96	761.0	45.7	7.6	58	S			1		0			0	0		Prof. Trionfini Carlo.
Domodossola			29.98	761.6	44.6	7.0	56	Calm			0		0			0	0		Prof. Giuseppe Calza.
Milan			30.01	762.2	37 4	3.0	93	WNW			1		10			0	0	Dense fog	Ab. Gio. Capelli.
Pavia			30.00	762.0	38.7	3.7	88	SW			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.00	762.1	43.5	6.4	79	NNW	0	0			1			0	0		Prof. P. F. Denza.
Mondovi	28.05	712.4	30.01	762.2	44.8	7.1	46	NW			4		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.95	760.6	57.0	13.9	44	E			2		0			0	0		Prof. L. Vassallo
Genoa																			Prof. Garibaldi.
Piacenza			30.01	762.3	38.3	3.5	97	S	1.3	0.6			10			0.016	0.4	Dense fog	Dott. G. Manzi.
Parma			29.98	761.8	39.6	4.2	93	W			2		10			0.028	0.7	Dense fog	Prof. P. Pigorini.
Bologna			29.94	760.4	44.8	7.1	42	W			1		4	N		0	0		Prof. A. Palagi.
Florence			29.93	769.2	52.7	11.5	60	NE			4		3			0	0		Cav. F. Meucci.
Leghorn			29.88	759.0	54.1	12.3	48	E	12.5	5.6			0			0	0		Prof. P. Monte.
Siena	28.63	727.2	29.85	758.3	51.4	10.8	51	NE	0	0			2	E		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.93	760.1	45.9	7.7	90	WNW	42.3	18.9			10	W		0	0		Prof. Luigi Guidi.
Ancona			29.90	759.4	50.0	10.0	83	W			6		3			0	0		Prof. F. De— Bosis.
Grosseto			29.84	758.0	55.9	13.3	51	NNE			6		2			0	0		Avv. P. Ponticelli.
Rome			29.76	755.8	59.7	15.4	50	N	13.7	6.1			1			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.71	754.7	58.6	14.8	55	NE			6		9	ENE		0	0		Prof. L. Palmieri.
Lecce			29.75	755.7	56.3	13.5	86	NNE	9.4	4.2			8			0.421	10.7	Raining	Prof. C. De—Giorgi.
Cosenza			29.74	755.3	58.6	14.8	72	SW	0	0			9			0.496	12.6	Showery	Prof. F. D. Conti.
Riposto, (Sicily)			29.64	752.9	60.1	15.6	75	NE			2		7			0.583	14.8	Showery	Prof. F. Cafiero.
Palermo			29.66	753.3	59.4	15.2	64	WNW	6.9	3.1			10			1.346	34.2	Showery	Prof. G. Cacciatore.
Caltanissetta	27.74	704.6	29.72	754.8	50.9	10.5	75	WNW			2		10	NE		1.016	25.8	Showery	Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			29.77	756.2	55.0	12.8	64	ENE	3.8	1.7			7	E		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet: Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico	Mariano Barcena.
	Vicente Reyes.
	Miguel Perez.
	(Engineers in charge.)

NOTE.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			30.15	765.8	45.7	7.6		W			2					0	0		
Groningen			30.00	762.1	45.3	7.4		SW			3					0	0		
Helder			30.07	763.8	47.1	8.4		SW			1					0.083	2.1		
Utrecht			30.07	763.6	45.5	7.5	85	W			2		10			0	0	Overcast	

NOTE.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			29.94	760.5	32.9	0.5	80	Calm	0	0			2			0	0		
Brönö			30.05	763.3	25.0	— 3.9	80	Calm	0	0			2			0	0		
Christiania			30.04	763.0	25.9	— 3.4	95	E	0	0			9			0	0	Light fog	
Tromsö			30.11	764.8	31.3	— 0.4	92	Calm	0	0			10			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.47	773.8	62.2	16.8	88	W	7.4	3.3			6			0	0		Dr. J. A. Sampaio.
Campo Major			30.18	766.6	54.9	12.7	53	N	17.4	7.8			3	N		0	0	Solar corona	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.44	773.1	67.8	19.9	68	W	2.5	1.1			4			0	0		Capt. D. A. de Cunha.
Lisbon			30.26	768.7	58.3	14.6	68	NNW	15.0	6.7			9	NNW		0.169	4.3		The Observatory.
Ponta Delgada, (Azores)			30.52	775.2	62.2	16.8	81	WSW	8.1	3.6			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.85	758.1	34.0	1.1	79	W	11	5			10						Astronomical Obs.
Wilna			29.61	752.2	33.1	0.6	92	SSW	2	1			10					Snowing	Astronomical Obs.
Dorpat			29.84	758.0	13.8	—10.1	90	ENE	9	4			10					Snowing	Physical Cabinet.
St. Petersburg			29.97	761.1	5.7	—14.6	75	ENE	16	7			10						Central Physical Obs.
Kuopio			30.17	766.2	— 0.6	—18.1	84	ENE	13	6			2						Ch. Forsten.
Kieff			29.87	758.7	24.1	— 4.4	95	S	7	3			10						Physical Cabinet.
Nikolaiev			30.05	763.3	28.6	— 1.9	92	NNE	7	3			10						Kurdakof.
Kertch			30.03	762.8	33.6	0.9	100	NE	2	1			10					Raining	Lagorio.
Moscow			30.20	767.0	— 0.4	—18.0	78	S	9	4			10					Light snow	Meteorological Obs.
Lugan			30.10	764.5	18.1	— 7.7	83	E	18	8			10						Meteorological Obs.
Archangel			30.24	768.0	—19.8	—28.8	85	Calm	0	0			0						Ogorodnikof.
Tiflis	28.76	730.6	30.23	767.9	41.0	5.0	90	Calm	0	0			10					Raining	Physical Observatory.
Astrakhan			30.27	768.9	11.1	—11.6	89	NE	2	1			8					Solar corona	Sebastianof.
Kasan			30.31	769.8	5.0	—15.0	97	Calm	0	0			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.16	740.7	30.26	768.5	—16.1	—26.7	78	Calm	0	0			0						Meteorogical Obs.
Nukuss			30.20	767.1	28.8	— 1.8	80	WNW	7	3			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.96	761.0	0.9	—17.3	89	Calm	0	0			10					Snowing	Meteorological Obs.
Yeniseisk			29.91	759.7	—13.0	—25.0	81	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.23	767.7	25.9	— 3.4	70	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 6.2	—21.2		Calm	0	0			0						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.14	765.5	45.3	7.4	80	NE	0	0		0	5			0	0	Cloudy	Royal Observatory.
San Fernando			30.21	767.2	57.6	14.2	76	NW	18.3	8.2		0	6		NW	0.051	1.3		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.32	770.1	— 5.4	—20.8	79	N			2		0			0	0		
Umea			30.23	767.7	11.1	—11.6	100	NE			2		0			0	0		
Hernosand			30.11	764.8	19.8	— 6.8	91	NE			6		10			0.295	7.5	Snowing	
Stockholm			29.89	759.1	24.3	— 4.3	95	NNE			2		10			0.114	2.9		
Wisby			29.89	759.1	29.8	— 1.2	92	NNE			6		10			0.138	3.5		
SUB-SERIES.																			
Upsala			29.93	760.3	24.1	— 4.4	92	N	7.8	3.5			10			0.039	1.00		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.62	727.0	30.09	764.2	41.0	5.0	64	NE			3		1			0	0	Clear	The Observatory.
Zurich	28.45	722.6	30.14	765.6	37.9	3.3	83	NE			1		5			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —0.3 mm; Thermometer, +2.2 cent.; Relative Humidity, —16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.94	760.4	56.3	13.5	87	NW	0	0			10		NW	0	0	Foggy	
Fao, (Persian Gulf)																			
Salonica			29.85	758.2	63.0	17.2		SE			1		5			Blank	Blank		
Valona			29.69	754.1	54.9	12.7		NE			1		2						
Varna			29.84	758.0	48.2	9.0		SW			2		10					Foggy	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.09	764.2	70.0	21.1	69	NE			2		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B.			30.19	766.8	— 1.2	—18.4	84	NW	6	2.7			0					Clear	Hon. J. Ferguson.
Brockville, Ontario			30.17	766.3	— 2	—18.9		NE	6	2.7		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B.			30.16	766.1	—10	—23.3	100	SW	1	0.4		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island			30.13	765.3	5	—15.0	90	W	13	5.8			10s			0.10	2.5	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.19	766.8	—10.0	—23.3	100	W			1	5k	0			0	0	Fair	James Smith, M. A.
Dalhousie, N. B.			30.14	765.5	1.3	—17.1	85	W			2					0	0	Clear	H. A. Johnson.
Esquimault, B. C.			30.26	768.6	41.1	5.1	96	Calm					10s			0.11	2.8	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.29	769.4	— 5.9	—21.1	92	NW	7	3.1		6?s8	0			0	0	Clear?	Prof. Harrison.
*Fort Garry, Manitoba			29.27	743.4	28	— 2.2	88	W	20	8.9		0	5ks		W	0.064	1.63	Fair	James Stewart.
Goderich, Ontario			30.00	762.0	6.6	—14.1	87	SE			2		10n			0.15	3.8	Cloudy	H. J. Strang, M. A.
Granton, Ontario	28.78	731.0	30.02	762.5	1.7	—16.8		S			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S.			30.17	766.3	9	—12.8	88	W	12	5.4			5ks			Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.19	766.8	— 4	—20.0	67	NE	5	2.2		0	0			Inap.	Inap.	Clear	S. Woods, M. A.
Little Glace Bay, N. S.			30.01	762.2	15.0	— 9.4		NW	8	3.6		9k	0	NW		0.25	6.3	Cloudy	C. H. Rigby.
*Montreal, Quebec			30.27	768.8	—11	—23.9	100	NE	7	3.1		0	2ks			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.17	766.3	—15	—26.1	83	N	3	1.3		0	0			0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.04	763.0	— 2	—18.9	74	E	2	0.9		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			29.91	759.7	10	—12.2	92	NE	6	2.7			10n		NE	0.77	19.6	Threatening	H. Morgan.
Port Hastings, N. S.			30.06	763.5	11.7	—11.3		W	8	3.6						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.04	763.0	0	—17.8	100	N	4	1.8			10n		S	0.49	12.4	Cloudy	M. Payne.
*Quebec, Quebec			30.25	768.3	—10	—23.3	54	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.30	769.6	3	—16.1	66	NW	5	2.2			10?8			0	0	Clear?	G. Murdoch, C. E.
*Saugeen, Ontario			29.98	761.5	0	—17.8	34	SE	5	2.2		2ks	2s			0.03	0.8	Fair	K. Stewart.
Stayner, Ontario			30.05	763.3	— 7	—21.7	96	SW	1	0.4		0	0			0.53	13.5	Clear	R. J. Cole.
Stratford, Ontario	28.60	726.4	30.01	762.2	4.2	—15.4	93	SE	3	1.3			10s			0.106	2.54	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.06	763.5	16	— 8.9	90	SW	13	5.8			10n		W	0.08	2.0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.98	761.5	9	—12.8	91	NE	6	2.7			10n		NE	0.35	8.9	Light snow	Magnetic Observatory.
Woodstock, Ontario			30.03	762.7	8.7	—12.9	98	E	3	1.3			10s			0.110	2.79	Snowing	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.97	761.2	27.0	— 2.8	88	SW	2	0.9		10k	10s			0.05	1.3	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.16	766.1	5	—15.0	87	Calm	0	0			10n			0.06	1.5	Light snow	
Alpena, Mich.			29.92	760.0	0	—17.8	69	SW	4	1.8		5c	0	W		Inap.	Inap.	Fair	
Atlantic City, N. J.			30.11	764.8	22	— 5.6	85	NE	15	6.7			10s		SW	0.03	0.8	Cloudy	
Augusta, Ga.			30.15	765.8	34	1.1	89	Calm	0	0			10n		NW	Inap.	Inap.	Light rain	
Baltimore, Md.			30.11	764.8	24	— 4.4	74	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Barnegat, N. J.			30.13	765.3	23	— 5.0	86	N	10	4.5			10s			0.02	0.5	Cloudy	
Bismarck, Dakota	27.96	710.2	29.63	752.6	32	0.0	79	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			30.20	767.1	5	—15.0	100	N	2	0.9			10n			0.04	1.0	Light snow	
Breckenridge, Minn.			29.44	747.8	32	0.0	69	W	8	3.6		0	0			0	0	Clear	
Buffalo, N. Y.			30.02	762.5	3	—16.1	73	SE	2	0.9			Sm'e			0.11	2.8	Cloudy	
Burlington, Vt.			30.24	768.1	— 4	—20.0	64	E	9	4.0		0	2s			0	0	Fair	
Cairo, Ill.			30.02	762.5	23	— 5.0	73	S	6	2.7		2cs	Sm'e		S	0	0	Fair	
Cape Hatteras, N. C.			30.11	764.8	37	2.8	80	Calm	0	0		5ck	2s	W		0	0	Cloudy	
Cape Henry, Va.			30.15	765.8	28	— 2.2	88	SW					10s			0.02	0.5	Cloudy	
Cape Lookout, N. C.			30.18	766.6	34	1.1	69	NE	5	2.2		5ck	2ks	W	W	0	0	Threatening	
Cape May, N. J.			30.11	764.8	29	— 1.7	78	NW	16	7.2			10s			Inap.	Inap.	Cloudy	
Charleston, S. C.			30.14	765.5	44	6.7	75	E	4	1.8		5cs	0	S		0	0	Fair	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	37	2.8	52	NW	28	12.5		0	0			0	0	Clear	
Chicago, Ill.			29.81	757.2	18	— 7.8	52	S	2	0.9			10s			0.04	1.0	Cloudy	
Cincinnati, Ohio			29.92	760.0	28	— 2.2	67	SW	2	0.9			10s			0.01	0.3	Cloudy	
Cleveland, Ohio			30.01	762.2	13.5	—10.3	80	SE	4	1.8			10n			0.19	4.8	Light snow	
Corsicana, Tex.			30.14	765.5	34	1.1	69	Calm	0	0		0	0			0	0	Clear	
Davenport, Iowa			29.78	756.4	19	— 7.2	68	S	7	3.1			10s			0	0	Cloudy	
Denison, Tex.			30.12	765.0	36	2.2	61	NW	1	0.4		1c	0			0	0	Clear	
Denver, Col.	24.79	629.6	30.01	762.2	50	10.0	19	W	12	5.4		0	0			0	0	Clear	
Detroit, Mich.			29.97	761.2	1	—17.2	85	Calm	0	0			10s			0.30	7.6	Cloudy	
Dodge City, Kan.	27.42	696.5	29.81	757.2	30	— 1.1	78	NW	12	5.4		2c	0	NW		0	0	Clear	
Dubuque, Iowa			29.70	754.4	16	— 8.9	83	S	5	2.2			10s			0	0	Cloudy	
Duluth, Minn.			29.43	747.5	15	— 9.4	82	SW	3	1.3			10s			0.04	1.0	Cloudy	
Eastport, Me.			30.27	768.8	— 3.5	—19.7	82	Calm	0	0			10s			0	0	Cloudy	
Erie, Pa.			29.98	761.5	16	— 8.9	83	S	12	5.4		4k	Haze	SW		0.04	1.0	Hazy	
Escanaba, Mich.			29.74	755.4	7.5	—13.6	89	SW	13	5.8			10s			0.05	1.3	Cloudy	
Fort Gibson, Indian Ter.			30.04	763.0	23	— 5.0	60	SE	2	0.9		2c	Sm'e	NW		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.12	714.2	29.26	743.2	26	— 4.4	28	SW	8	3.6		0	0			0	0	Clear	
Fort Sully, Dakota	28.07	713.0	29.72	754.9	43	6.1	58	W	20	8.9			10s		W	0	0	Cloudy	
Florence, Arizona	28.54	724.9	30.08	764.0	50	10.0		NE				0	0			0	0	Clear	
Galveston, Tex.			30.14	765.5	53	11.7	86	N	12	5.4		0	0			0.01	0.3	Clear	
Grand Haven, Mich.			29.80	756.9	17	— 8.3	83	SE	6	2.7			10s			0.07	1.8	Cloudy	
Indianapolis, Ind.			29.90	759.4	28	— 2.2	77	S	5	2.2			10s,sm			Inap.	Inap.	Cloudy	
Indianola, Tex.			30.13	765.3	55	12.8	80	N	4	1.8			10s			0	0	Cloudy	
Jacksonville, Fla.			29.16	766.1	41	5.0	83	Calm	0	0		5k	0			0	0	Fair	
Keokuk, Iowa			29.78	756.4	25	— 3.9	75	SW	6	2.7			10s		SW	0	0	Cloudy	
Key West, Fla.			30.11	764.8	63	17.2	100	NE	12	5.4			10ks			0.12	3.0	Threatening	
Kittyhawk, N. C.			30.15	765.8	35	1.7	90	SW	10	4.5			10s		W	0.01	0.3	Cloudy	
Knoxville, Tenn.			30.07	763.8	27	— 2.8	88	E	2	0.9			10n			0.26	6.6	Light snow	
La Crosse, Wis.			29.61	752.1	15	— 9.4	100	S	20	8.9			10n		S	0.25	6.3	Heavy snow	
Leavenworth, Kan.			29.82	757.4	34	1.1	61	S	8	3.6		0	1s			0	0	Clear	
Louisville, Ky.			29.99	761.7	20	— 4.4	88	S	4	1.8			smo,fg			0	0	Foggy	
Lynchburg, Va.			30.06	763.5	27	— 2.8	77	S	1	0.4			10s			0	0	Cloudy	
Malone, N. Y.			30.18	766.6	— 2	—18.9	86	Calm	0	0		0	0			0	0	Clear	
Marquette, Mich.			29.58	751.3	11	—11.7	79	S	4	1.8			10s			0	0	Threatening	
Memphis, Tenn.			30.10	764.5	28	— 2.2	77	W	1	0.4			Fog			0	0	Foggy	
Milwaukee, Wis.			29.81	757.2	7	—13.9	78	SW	11	4.9		10s	Fog			0.44	11.2	Cloudy	
Mobile, Ala.			30.10	764.5	53	11.7	100	W	2	0.9			Fog			0.18	4.6	Dense fog	
Montgomery, Ala.			30.10	764.5	49.5	9.7	89	S	2	0.9		5ck	Fog	W		0.51	13.0	Fair	
Morgantown, W. Va.	28.88	733.5	29.99	761.7	24	— 4.4	87	S	3	1.3			10s			0.22	5.6	Cloudy	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	—10	—23.3	54	NW	5	2.2		0	0			0	0	Clear	
Nashville, Tenn.			30.03	762.7	32	0.0	100	Calm	0	0			Fog			0	0	Foggy	
New Haven, Conn.			30.18	766.6	15	— 9.4	65	NW	15	6.7			10s		NW	0	0	Cloudy	
New London, Conn.			30.21	767.3	12	—11.1	100	N	7	3.1			10n			0.06	1.5	Light snow	
New Orleans, La.			30.08	764.0	67	13.9	93	SW	5	2.2		7k	4s	W	W	0.37	9.4	Cloudy	
Newport, R. I.			30.20	767.1	10	—12.2	100	NE	6	2.7			10n			0.08	2.0	Light snow	
New York, N. Y.			30.18	766.6	20	— 6.7	85	Calm	0	0			10s,fg			0.08	2.0	Threatening	
Norfolk, Va.			30.15	765.8	28	— 2.2	88	SW	4	1.8			10s		SW	0.01	0.3	Cloudy	
North Platte, Neb.	27.02	686.3	29.68	753.9	27	— 2.8	88	W	12	5.4		5ck	0	W		0	0	Fair	
Omaha, Neb.	28.58	725.9	29.66	753.4	39	3.9	55	NW	11	4.9			10s		NW	0	0	Cloudy	
Oswego, N. Y.			30.10	764.5	11.8	—11.2	79	SE	8	3.6		Haze	1ks			Inap.	Inap.	Fair	
Pembina, Dakota			29.33	745.0	31	— 0.6	89	W	16	7.2			10s		W	0.04	1.0	Cloudy	
Philadelphia, Pa.			30.14	765.5	17	— 8.3	84	E	10	4.5			10s			0.02	0.5	Cloudy	
Pike's Peak, Col.	17.82	452.6	30.03	762.7	21	— 6.1	15	NE	18	8.0		0	0			0	0	Clear	
Pittsburgh, Pa.			30.00	762.0	21	— 6.1	85	W	1	0.4			10s			0.16	4.1	Cloudy	
Port Huron, Mich.			29.96	761.0	2	—16.7	100	S	2	0.9			Fog			0.15	3.8	Foggy	
Portland, Me.			30.23	767.8	5	—15.0	87	N	9	4.0			10n			Inap.	Inap.	Light snow	
Portland, Oregon			30.24	768.1	29	— 1.7	100	NE	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.16	766.1	59.0	15.0	90	NE	8	3.6			10s		SW	0.02	0.5	Cloudy	
Rochester, N. Y.			30.04	763.0	5	—15.0	76	S	8	3.6		Haze	Sm'e			0.04	1.0	Smoky	
Salt Lake City, Utah	25.96	659.4	30.29	769.4	17	— 8.3	100	NW	2	0.9			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.13	765.3	24	— 4.4	74	Calm	0	0			10ks			0.09	2.3	Cloudy	
San Diego, Cal.			30.13	765.3	51	10.6	32	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.18	766.6	45	7.2	92	Calm	0	0			Fog			0	0	Dense fog	
Santa Fé, N. M.	23.32	592.3	29.86	758.4	28	— 2.2	57	N	24	10.7		0	0			0	0	Clear	
Savannah, Ga.			30.15	765.8	41	5.0	83	SW	2	0.9		0	2s			Inap.	Inap.	Fair	
Shreveport, La.			30.19	766.8	37	2.8	81	W	2	0.9		0	0			0	0	Clear	
Smithville, N. C.			30.16	766.1	34	1.1	79	N	6	2.7		10k	0	SW		0	0	Cloudy	
Springfield, Mass.			30.20	767.1	10	—12.2	89	N	4	1.8			10n			0.11	2.8	Light snow	
St. Louis, Mo.			29.93	760.2	30	— 1.1	78	W	4	1.8			Fog			0	0	Foggy	
St. Marks, Fla.			30.16	766.1	46	7.8	92	S	4	1.8		0	0			0	0	Clear	
St. Paul, Minn.			29.44	747.8	17	— 8.3	67	SE	2	0.9		0	0			0.01	0.3	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.20	767.1	14	—10.0	63	N	12	5.4			10n		N	0.01	0.3	Light snow	
Toledo, Ohio			29.95	760.7	9	—12.8	78	SE	1	0.4			10s		SE	0.28	7.1	Cloudy	
Tucson, Arizona	27.72	704.1	30.27	768.8	30	— 1.1		SE				0	0			0	0	Clear	
Tybee Island, Ga.																			
Vicksburg, Miss.			30.16	766.1	45.5	7.5	76	N	4	1.8		Haze	Sm'e			0.19	4.8	Smoky	
Virginia City, M. T.	24.42	620.3	29.90	759.4	29	— 1.7	59	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			30.10	764.5	23	— 5.0	60	E	6	2.7			10s,sm		SW	0	0	Smoky	
Wilmington, N. C.			30.15	765.8	33	0.6	79	Calm	0	0		8ck	Sm'e	W		0	0	Cloudy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.19	766.8	17	— 8.3	67	NE	4	1.8			10n		NW	0.09	2.3	Heavy snow	
Yankton, Dakota	28.41	721.6	29.69	754.1	39	3.9	72	W	14	6.3		5cs	0	NW		0	0	Fair	
Yuma, Arizona			30.20	767.1	49	9.4		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	76	24.4	72	N	6	2.7		2c	0	SE		0	0		James Gall.
Navassa, W. I.					79	26.1		NE			2							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.22	691.4	30.02	762.5	66	18.9	79	Calm	0	0		0	0			0	0	Clear	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.02	762.5	82	27.8	78	E			3	6ks?	6ks	E		0	0	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			77.0	25.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.28	640.8			63.0	17.2	85	Calm			0	5cs,k	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.17	740.9	4.5	—15.3	100	S	4	1.8			10n			0.02	0.5	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.94	760.5	74	23.3		N			3					0.33	8.4	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.88	758.9	63	17.2	79	S			1	1c	0	S		0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Quincy, Mass.			30.11	764.8	10	—12.2	100	N	3	1.3			10n					Snowing	Capt. James Jorgensen.
Steamer Leipzig, N. 44°, 18′, W. 33°, 57′.	SW by W	5.5	30.04	763.0	53.4	11.9		SW			7		..k		W	High sea.	W	Clearing	Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 12, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.09	764.3	58.1	14.5	78	WSW			1		10			0.240	6.1	Hidden	Charnot.
Algiers			30.09	764.3	60.8	16.0	81	E			1		7			0.118	3.0	Cloudy	Peter.
La Calle			30.11	764.7	59.0	15.0	61	NW			3		4			0	0	Fair	Didier.
Tunis			30.15	765.7	55.4	13.0		NW			4		6			0.039	1.0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.16	766.0	48.6	9.2	69	SW			1		5			0.236	6.0	Fair	Millot.
Tebessa			30.09	764.2	53.6	12.0		S			2		6			0	0	Fair	Bourgeois.
Geriville			30.16	766.0	66.2	19.0	39	N			4		3			0.236	6.0	Fair	Lemaillot.
Laghouat			30.16	766.1	55.4	13.0	66	W			1		6			0	0	Fair	Guyot.
Biskra			30.19	766.7	62.4	16.9	59	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.80	756.8	45.7	7.6	69	SW			1		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.01	762.2	34.5	1.4	89	W			1		10			0	0		Dr. Wierzbiski.
Eperies			29.98	761.4	37.4	3.0	76	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.73	729.7	30.03	762.7	36.1	2.3	87	SE			2		4			0	0		Andreas Rospini.
Hermannstadt	28.48	723.4	29.95	760.6	39.6	4.2	80	NW			1		10			0.047	1.20		Prof. Reissenberger.
Kremsmünster	28.60	726.4	29.98	761.4	39.6	4.2	84	NNE			2		3			0	0		Prof. C. Wagner.
Lemberg			29.96	761.0	33.1	0.6	75	NW			2		4			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habesuda Daniel.
Pola			29.97	761.2	51.3	10.7	55	N			1		10ks			0	0		I.R. Hydrographic Of'ce.
Szegedin			30.00	762.0	38.8	3.8	83	Calm			0		10			0	0		Karl Stancel.
Trieste			29.99	761.8	49.8	9.9	55	E			1		8			0	0	Partly cl'dy.	Prof. V. Farolfi.
Vienna			30.00	761.9	41.7	5.4	85	Calm			0		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.86	758.4	36.9	2 7	89	S			3		10		SSW?	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.38	746.2	46.0	7.8		S	7	3.1			10			0.110	2.79	Raining	William Boswell.
Ardrossan			29.44	747.8	47	8.3		WNW			4		8					Raining	William McNeil.
Armagh, Observatory			29.52	749.8	45.0	7.2		SW	12	5.4			5					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.60	751.8	44.7	7.1		SSW			1		9					Showery	J. Dreyer.
Bradford			29.51	749.5	50.1	10.1		W			4		8			0.10	2.5	Gloomy	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	85.0	29.4		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.63	752.6	43.0	6.1		S			2		10					Raining	H. Todd. [H. C.
Cardington			29.63	752.6	45.6	7.6		S			3		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.68	753.9	43.7	6.5		SW			1		10			Blank	Blank	Overcast	Capt. Fellowes, R. E.
Dartmoor	28.72	729.5	30.25	768.3	46.6	8.1		NW			5		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.81	630.2			31.0	— 0.6	85	S			1		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.48	748.8	46	7.8		WSW			3		3					*D. clouds	J. Mac Gowan.
Dover			29.73	755.1	45	7.2		SSW			4		9					Gloomy	J. Costello.
Eccles, (near Manchester)			29.50	749.3	49.4	9.7		SSW	0.2	0.1			10					Misty	Thomas Mackereth.
Falmouth, Observatory			29.70	754.4	52.6	11.4		WNW			4		6					Overcast	The Staff.
Fort Napier, (Natal)	27.73	704.3	29.96	761.0	76.8	24.9		NE			2		0					Blue sky	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.91	759.7	82.0	27.8		N			0		3					*D. clouds	
Galway, Queen's College			29.51	749.5	46	7.8		SE			3		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.15	765.8	61.0	16.1		N			4		5					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.40	746.7	46.0	7.8		W			1		6					*D. clouds	Lewis Stuart.
Great Yarmouth			29.71	754.6	44	6.7		SSW			4		7					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.67	753.6	44.7	7.1		S			1		10					Drizzling	The Staff, for G. B. Airy.
Guernsey			29.67	753.6	51.5	10.8		SSW			6		10					Raining	Dr. S. E. Hoskins.
Helston			29.65	753.1	53	11.7		S			4		6ck			0.22	5.6	Fair	M. P. Moyle.
Holyhead			29.54	750.3	48	8.9		W			4		3					Blue sky	John Tilston.
Kew, Observatory			29.66	753.4	46.3	7.9		S	16	7.2			10					Raining	The Staff.
Kingstown			29.55	750.6	48	8.9		W			3		5					*D. clouds	George Mitchell.
Leicester Museum			29.57	751.1	46.8	8.2		SW			3		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.05	763.3	62.6	17.0		W			2		6k					*D. clouds	Corp'l. P. Bravis, A. H. C.
Nairn			29.37	746.0	47	8.3		WSW			1		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	71.5	21.9		N			0		8					Raining	Surg. Maj. Henry.
Nottingham, Observatory			29.57	751.1	46.9	8.3		SSW			4		10n		SSW	0.245	6.23	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.55	750.6	47.3	8.5		S			4		10			Blank	Blank	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.59	751.6	47	8.3		SSE			2		10					Drizzling	J. Lucas.
Plymouth			29.65	753.1	52.5	11.4		NW			3		10					Gloomy	John Merrifield.
Roche's Point			29.62	752.3	48	8.9		W			4		5					½ clouded	W. Kennedy.
Saint Ann's Head			29.60	751.8	51	10.6		WNW			4		5					*D. clouds	John C. Walker.
Saint Helier's (Jersey)			29.70	754.4	47.6	8.7		SSW			6		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.36	745.7	45	7.2		WSW	15	6.7			10					Hailing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.86	758.4	56.6	13.7		SW			2		9			Blank	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.52	749.8	48.8	9.3		SW			3		10			0.112	2.84	Drizzling	W. F. Cooper.
Silloth Rectory			29.45	748.0	47.8	8.8	93	SW			3		7			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.50	749.3	48.0	8.9		W			2		10s					Misty	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.35	745.5	42	5.6		SW			1		0					Blue sky	John Smith.
Stratfield Turgiss			29.66	753.4	46.3	7.9		S			2		10					Raining	Rev. Charles H. Griffith.
Thurso			29.33	745.0	44	6.7		Calm			0		10					Overcast	John Trotter.
Truro, Royal Institution			29.69	754.1	54	12.2		W			6		4					*D. clouds	W. Newcombe.
Valencia, Observatory			29.67	753.6	50.0	10.0		WNW	25	11.2			6					*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					49	9.4		NW			4		5			0.15	3.8		Henry Mercer.
Cape Good Hope, Obs'y			30.03	762.7	84.5	29.2	45	NW	15	6.7		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	69.0	20.6	83	Calm			0		10kn			0	0	Cloudy	Francis Abbott, F. R. A. S.
Leith, Restalrig Park			29.32	744.7	48.8	9.3		W			2		6k			0.01	0.3	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				E	13.7	6.1						0	0		C. Meldrum.
Melbourne, Observatory			29.97	761.2	55.0	12.8	81	SSE	5	2.2			3			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.35	745.5	49	9.4		SW			6		10			0.4	10.2		J. Youngclause.
North Unst, (Shetland Is.)			29.29	744.0	46	7.8		S			7		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José

DANISH SERIES.

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

Copenhagen			29.99	761.7	29.8	— 1.2	73	E			2		2						
Fanöe			29.90	759.5	35.4	1.9	100	ESE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			28.83	732.2	40.5	4.7	87	SE			0		8						
Thorshavn, (Faröe)			29.13	739.9	41.7	5.4	83	NW			4		5						
Vestervig			29.89	759.3	30.2	— 1.0	96	ESE			6		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			29.97	761.2	45.5	7.5	96	SW			2		10			0	0	Covered	Normal School.
Amiens			29.80	757.0	38.1	3.4	93	SW			3		10			0	0	Covered	Normal School.
Avignon			30.02	762.4	45.9	7.7	69	NNE			1		0			0	0	Very clear	Normal School.
Bar-sur-Seine			29.95	760.8	37.9	3.3	80	SW			1		10			0	0	Covered	C. Saillard.
Beaumette, (near Angers)			29.87	758.8	40.5	4.7	100	S	8.5	3.8			10		S	0.008	0.2	Raining	Beaumette Observ'tory.
Beauvais			29.90	759.4	38.8	3.8	85	S			1		10			0	0	Covered	Normal School.
Besançon			30.06	763.4	38.1	3.4	87	SSW			2		10			0	0	Covered	Normal School.
Bourg en Bresse			30.07	763.8	40.6	4.8	87	SSW			2		2ck		NE	0	0	Slightly cl'dy	Normal School.
Bourges			30.04	762.9	39.2	4	100	S			2		5		S	0	0	Cloudy	Normal School.
Brest			29.71	754.5	53.1	11.7	86	WNW			4		10		WNW	0.217	5.50	Squally	Naval Observatory.
Carcassonne			29.97	761.2	53.2	11.8	65	W			1		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.84	757.8	36.0	2.2	96	SSW			2		10		SSW	0.150	3.8	Covered	Normal School.
Châlons-sur-Marne			29.96	760.9	35.2	1.8	96	S			2		10k			0	0	Covered	Normal School.
Clermont			29.97	761.1	41.0	5.0	81	E			1		5			0	0	Cloudy	Puy de Dome Obs'y.
Commercy			29.96	761.0	35.4	1.9	89	SSW			2		10			0	0	Covered	Normal School.
Commune de Gréasque*			30.01	762.2	49.1	9.5	61	NW			2		2		SE	0	0		M. Kina.
Grenoble			30.02	762.5	43.0	6.1	76	NE			1		0			0	0	Clear	Normal School.
La Roche-sur-Yon			29.95	760.8	37.8	3.2	80	E			1		10			0	0	Covered	Normal School.
Le Mans			30.02	762.6	37.6	3.1	90	SSW			2		8		SW	0	0	Very cloudy	Normal School.
Lons-Le-Saulnier			30.02	762.4	40.5	4.7	77	W			2		5			0	0	Cloudy	Normal School.
Lorient			29.77	756.2	54.7	12.6	90	SW			4		10			0.260	6.6	Raining	Naval Observatory.
Mâcon			30.08	764.0	41.4	5.2	91	N			2		5		S	0	0	Cloudy	Normal School.
Metz			30.01	762.3	34.7	1.5	92	SSW			2		10			0	0	Foggy	M. Schuster.
Mirecourt			29.95	760.7	36.3	2.4	96	SW			2		10			0	0	Covered	Normal School.
Nismes			30.00	762.0	46.8	8.2	75	N			2		0			0	0	Clear	Normal School.
Orleans			29.96	760.9	39.9	4.4	74	NE			1		10			0	0	Covered	Normal School.
Paris, Observatory			29.91	759.8	37.9	3.3	83	S			3		10			0	0	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.02	762.6	44.2	6.8		S			2		2		S	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.97	761.2	40.5	4.7	88	SSE			3		8		N	0.039	1.0	¾ covered	Naval Observatory.
Rouen			29.86	758.5	41.0	5.0	66	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			N rmal School.
Tarbes																			Normal School.
Villefranche			30.04	763.0	44.2	6.8	90	SE			1		2			0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.97	761.2	49.6	9.8	65	WSW			1		1			0	0	Slightly cl'dy	Marseilles Observatory.
Mont-Louis	24.77	629.2	30.15	765.9	41.2	5.1	43	SW	7.4	3.33			5		SW	0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			30.00	762.1	50.5	10.3	52	NE	1.9	0.83			3		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.10	535.9			27.1	— 2.7		SW			2		8					Cloudy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.41	569.2			34.0	1.1		SW			2		8			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.91	759.6	38.1	3.4	81	SSW			2		10			0	0	Covered	E. Renou.
Toulouse			30.05	763.3	42.1	5.6	85	SSE			1		7			0	0		Toulouse Observatory.
Tours								SW			2		10			0	0	Covered	C. Marquet.
Versailles, (near Paris)			29.89	759.2	37.8	3.2	86	SW			2		10			0.004	0.10	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.26	768.6	44.4	6.9	95	NE	2.6	1.17			0			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			29.98	761.4	42.1	5.6	75	W			2		10			0	0	Smoke-haze	Prof. T. Hoh.
Berlin			29.96	761.0	43.7	6.5	85	W			1		10			0.106	2.7	Rainy	Prof. Arndt.
Breslau			29.99	761.8	38.5	3.6	96	WNW			1		10			0	0		Royal University Obs'y
Carlsruhe			29.98	761.4	36.0	2.2	92	SW			1		10			0	0		A. Senz.
Cassel			30.02	762.6	41.2	5.1	87	SSW			1		9	SW		0	0		Dr. H. Möhl.
Crefeld			29.89	759.1	45.1	7.3	72	SE			2		7			0	0		Director Lose.
Emden			29.94	760.4	41.7	5.4	92	N			1		10			0	0		Prof. Prestel.
Frankfort on the Main			29.98	761.4	42.8	6.0	63	SSW			1		9			0	0	Foggy	Physical Society.
Friedrichshafen			30.05	763.2	34.2	1.2	80	NE			5		10			0	0		M. Wilhelm.
Hamburg			29.96	760.9	41.7	5.4	97	SW			1		9ks			0.031	0.8	Fair	Captain F. Hegemann.
Kiel			29.90	759.5	41.2	5.1	94	SE			3		10			0.055	1.4		Prof. G. Karsten.
Königsberg, (Prussia.)			29.96	761.0	29.7	— 1.3	90	SW			2		9			0.217	5.5	Snowing	Prof. E. Luther.
Köslin			29.99	761.7	32.2	0.1		SW			2		4			0	0		H. Müller.
Leipsic			30.00	762.0	40.6	4.8	90	SW			1		10			0	0		Prof. Bruhns.
Memel			29.97	761.1	25.3	— 3.7	82	Calm			0		10ks			0.016	0.4		Reinbrecht & Skalweit.
Münster			29.89	759.2	46.0	7.8	77	SW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			29.96	761.0	31.6	— 0.2	83	Calm			0		10			0.020	0.5		A Lothe.
Posen			30.01	762.3	36.3	2.4	80	W			6		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.00	762.0	37.8	3.2	88	SW			1		9	SW		0	0		Dr. Schur.
Stuttgart			29.97	761.3	37.8	3.2	83	N			1		4			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.86	758.5	43.7	6.5	75	WSW			5		5			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.43	722.2	29.99	761.8	39.9	4.4	77	SW			1		6	SW		0	0	Foggy	Dr. von Bebber.
Wustrow, Naval School			30.02	762.6	33.6	0.9	90	SE			2		10			Inap.	Inap.	Snowing	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 20°, 1′, W. 24°, 46′.			30.30	769.5	76.5	24.7	77	ESE			5		3	ESE					Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.92	759.9	66 4	19.1		SW										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			29.96	761.0	48.0	8.9	51	E	3.1	1.4			6			0	0		Prof. Giovanni Clodig.
Padua			29.97	761.3	45.5	7.5	57	N	3.1	1.4			0			0	0		Prof. Dott. Lorenzoni.
Vicenza			29.98	761.5	45.5	7.5	66	S	0.7	0.3			1			0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.62	727.0	29.97	761.3	43.5	6.4	70	SW			1		0			0	0		Prof. Trionfini Carlo.
Domodossola			29.99	761.8	42.4	5.8	65	Calm			0		0			0	0		Prof. Giuseppe Calza.
Milan			30.04	762.9	33.6	0.9	94	WNW			1		10			0	0	Dense fog.	Ab. Gio. Capelli.
Pavia			30.01	762.3	37.9	3.3	88	W			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.01	762.2	41.9	5.5	86	ENE	1.3	0.6			0			0	0		Prof. P. F. Denza.
Mondovi	28.04	712.1	30.00	761.9	42 8	6.0	64	NNW			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			30.02	762.5	53.4	11.9	66	SW			2		3	SW		0	0		Prof. L. Vassallo
Genoa																0	0		Prof. Garibaldi.
Piacenza			30.03	762.7	36.3	2.4	98	NNW	4.9	2.2			10			0	0	Dense fog.	Dott. G. Manzi.
Parma			30.03	762.7	36.5	2.5	95	N			2		10			0	0	Dense fog.	Prof. P. Pigorini.
Bologna			30.01	762.3	44.1	6.7	40	W			1		4	S		0	0		Prof. A. Palagi.
Florence			29.99	761.8	52.5	11.4	51	SW			2		2			0	0		Cav. F. Meucci.
Leghorn			29.98	761.6	50.9	10.5	54	E	4.3	1.9			7	N		0	0		Prof. P. Monte.
Siena	28.74	729.9	29.96	761.0	48.6	9.2	59	N	0	0			3	NE		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.00	762.1	47.5	8.6	74	NW	29.3	13.1			2			0	0		Prof. Luigi Guidi.
Ancona			29.99	761.7	49.5	9.7	74	W			6		4			0	0		Prof. F. De— Bosis.
Grosseto			29.97	761.2	54.9	12.7	56	NW			2		3	SE		0	0		Avv. P. Ponticelli.
Rome			29.95	760.7	57.2	14.0	63	N	2.4	1.1			3	SE		0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.96	760.9	61.3	16.3	63	SW			4		7	NW		0.012	0.3	Light rain	Prof. L. Palmieri.
Lecce			29.97	761.3	57.2	14.0	63	NW	15.0	6.7			6	NW		0.230	6.0		Prof. C. De—Giorgi.
Cosenza			30.01	762.2	56.5	13.6	71	NW	3.1	1.4			9			0.255	6.4	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.6	60.8	16.0	69	NE			2		6			0.024	0.6	Light rain	Prof. F. Cafiero.
Palermo			29.95	760.6	62.1	16.7	58	W	3.1	1.4			10			0.272	6.9	Raining	Prof. G. Cacciatore.
Caltanissetta	28.02	711.6	29.99	761.8	51.1	10.6	77	WSW			4		7	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.98	761.5	55.8	13.2	66	ESE	2.5	1.1			8	SE		0.106	2.7		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Flushing			29.85	758.3	38.8	3.8		SSW			5					0.039	1.0		
Groningen			29.82	757.4	42.8	6.0		S			3					0	0		
Helder			29.81	757.2	42.8	6.0		SSE			4					0.094	2.4		
Utrecht			29.81	757.2	43.7	6.5	72	S			3		5			0.016	0.4	Cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.72	754.8	38.5	3.6	70	SE	25	11			10			0	0		
Bróno			29.98	761.4	28.0	— 2.2	57	E	18	8			2			0	0		
Christiania			30.11	764.9	20.5	— 6.4	79	ENE	0.4	0.2			9			0	0		
Tromsö			30.09	764.3	26.6	— 3.0	96	Calm	0	0			10			0	0	Foggy	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.41	772.4	61.5	16.4	96	W	5.6	2.5			10			0.110	2.8	Raining	Dr. J. A. Sampaio.
Campo Major			30.17	766.4	46.0	7.8	97	SSE	3.8	1.7			10			0.075	1.9	Smoke-haze	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.37	771.4	69.4	20.8	67	W	3.1	1.4			6			0	0		Capt. D. A. de Cunha.
Lisbon			30.15	765.9	55.8	13.2	100	S	4.9	2.2			10			0.173	4.4	Foggy	The Observatory.
Ponta Delgada, (Azores)			30.45	773.3	62.6	17.0	90	W	3.1	1.4			10			0.004	0.1	Rain & fog	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.99	761.7	31.3	— 0.4	92	WSW	4	2			10						Astronomical Obs.
Wilna			29.93	760.2	19.6	— 6.9	89	NW	2	1			10						Astronomical Obs.
Dorpat			29.98	761.6	9.9	—12.3	89	NNE	7	3			10						Physical Cabinet.
St. Petersburg			30.00	762.1	0.5	—17.5	90	E	9	4			0						Central Physical Obs.
Kutopio			30.15	765.8	0.9	—17.3	89	NE	13	6			0						Ch. Forsten.
Kloff			29.91	759.8	25.0	— 3.9	80	W	7	3			4						Physical Cabinet.
Nikolaiev			30.02	762.5	31.8	— 0.1	92	Calm	0	0			10						Kurdakof.
Kertch			29.93	760.3	36.9	2.7	98	N	2	1			10					Raining	Lagorio.
Moscow			29.91	759.7	6 8	—14.0	88	SE	7	3			9					Light snow	Meteorological Obs.
Lugan			29.90	759.4	18.9	— 7.3	84	Calm	0	0			9			Blank	Blank		Meteorological Obs.
Archangel			30.04	763.0	0.3	—17.6	92	SSW	9	4			10						Ogorodnikof.
Tiflis	28.74	730.1	30.19	766.0*	48.2	9.0	80	N	4	2			4						Physical Observatory.
Astrakhan			29.89	759.3	32.5	0.3	92	SE	16	7			10			Blank	Blank		Sebastianof.
Kasan			30.24	768.2	— 5.3	—20.7	100	Calm	0	0			10						Physical Cabinet.
Orenburg			29.85	758.3	33.4	0.8	90	SE	16	7			0						Tschernischef.
Ekaterinburg	29. 21	741.8	30.29	769.3	—10.5	—23.6	77	WSW	2	1			4						Meteorogical Obs.
Nukuss			30.00	761.9	26.6	— 3.0	87	ENE	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.41	772.5	—21.6	—29.8	85	SW	4	2			0						Meteorological Obs.
Yeniseisk			29.99	761.8	—13.9	—25.5	84	Calm	0	0			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.30	769.6	26.4	— 3.1	70	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					—12.5	—24.7		Calm	0	0			0						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.21	767.2	40.3	4.6	90	E	0.7	0.33		0	9			0	0	Covered	Royal Observatory.
San Fernando			30.21	767.3	55.9	13.3	74	ESE	0	0		5	3	ESE	ESE	0.004	0.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.25	768.3	16.0	—12.2	93	Calm			0		10			0	0		
Umea			30.24	768.2	13.3	—10.4	100	NE			2		10			0	0		
Hernosand			30.17	766.3	12.9	—10.6	93	ENE			2		5			0.024	0.6	Snowing	
Stockholm			29.89	759.2	18.5	— 7.5	92	NNE			2		10			0.024	0.6		
Wisby			29.99	761.8	29.1	— 1.6	100	E			4		10			0.130	3.3		
SUB-SERIES.																			
Upsala			30.05	763.3	20.8	— 6.2	83	NNE	7.2	3.2			10		NNE	0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.56	725.4	30.02	762.4	43.9	6.6	66	WNW			1		1			0	0	Clear	The Observatory.
Zurich	28.35	720.1	30.05	763.3	35.8	2.1	80	W			1		8			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —2.0 mm; Thermometer, +3.9 cent.; Relative Humidity, —14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.88	759.0	56.5	13.6	64	WNW	13	6.0			9		SW	0.480	12.2	Thunder-storm	
Fao, (Persian Gulf)																			
Salonica			29.93	760.2	60.6	15.9		N			1		10						
Valona			29.97	761.2	55.0	12.8		S			2		8						
Varna			29.82	757.5	46.4	8.0		SW			2		10			Blank	Blank		
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.14	765.5	72.3	22.4	64	N			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B.			30.19	766.8	— 1.5	—18.6	84	SW	2	0.9			10					Threatening	Hon. J. Ferguson.
Brockville, Ontario			29.73	755.1	13	—10.6		Calm	0	0			10s			0.10	2.5	Light snow	W. R. Bigg.
*Chatham, N. B.			30.14	765.5	— 5	—20.6	100	Calm	0	0			Haze			0	0	Hazy	G. A. Blair.
Charlottetown, P. E. Island			30.18	766.6	18	— 7.8	92	E	10	4.5			10s			0.70	17.8	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.73	755.1	10.4	—12.0	96	E			1		10s			0.07	1.8	Dull	James Smith, M. A.
Dalhousie, N. B			30.22	767.6	5.8	—14.6	98	N			1							Snowing	H. A. Johnson.
Esquimault, B. C.			30.19	766.8	44.8	7.1	100	Calm					10s			0	0	Hazy	W. H. Bevis.
Fredericton, N. B.			30.12	765.0	7.3	—13.7	93	NE	8	3.6			10n			0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba			29.46	748.3	22	— 5.6	97	SW	10	4.5			10n			0.120	3.05	Cloudy	James Stewart.
Goderich, Ontario			29.70	754.4	28.1	— 2.2	86	W			2		10n			0	0	Cloudy	H. J. Strang, M. A.
Granton, Ontario	28.53	724.6	29.68	753.9	24.2	— 4.3		W			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			30.06	763.5	20	— 6.7	93	W	5	2.2			10n			0.020	0.51	Light snow	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.74	755.4	13	—10.6	95	NE	2	0.9			10n		NE	0.34	8.6	Light snow	S. Woods, M. A.
Little Glace Bay, N. S.			30.18	766.6	25.0	— 3.9		S	5	2.2		9k	0	S		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			29.79	756.7	10	—12.2	90	E	8	3.6			10n			0.05	1.3	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.75	755.6	9	—12.8	89	E	4	1.8			10n		E	0.13	3.3	Light snow	J. B. Haney.
*Parry Sound, Ontario			29.65	753.1	18	— 7.8	92	S	8	3.6			10n		S	0.04	1.0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.78	756.4	28	— 2.2	88	W	12	5.4			10n		S	0.22	5.6	Threatening	H. Morgan.
Port Hastings, N. S.			30.12	765.0	18.7	— 7.4		NE	12	5.4						0.20	5.1	Fine	Peter Grant.
Port Stanley, Ontario			29.72	754.9	27	— 2.8	88	W	12	5.4			10n		NW	0.25	6.3	Cloudy	M. Payne.
*Quebec, Quebec			29.95	760.7	9	—12.8	89	NE	22	9.8			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			30.09	764.3	20	— 6.7	85	E	6	2.7			10n			0.480	12.19	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.60	751.8	29	— 1.7	77	W	7	3.1			10n		W	0.05	1.3	Cloudy	K. Stewart.
Stayner, Ontario			29.68	753.9	19	— 7.2	99	Calm	0	0			10n			Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.32	719.3	29.65	753.1	23.6	— 4.7	97	SW	16	7.2			10s			0.100	2.54	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.26	768.6	11	—11.7	96	Calm	0	0			10s			0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.64	752.8	24	— 4.4	100	Calm	0	0			10n			0.28	7.1	Threatening	Magnetic Observatory.
Woodstock, Ontario			29.71	754.6	25.1	— 3.8	97	W	12	5.4			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.35	770.9	13.0	—10.6		NW	10	4.5		10k	10s			0.05	1.3	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.73	755.1	15	— 9.4	100	Calm	0	0			10n			0.14	3.6	Light snow.	
Alpena, Mich.			29.61	752.1	24	— 4.4	87	W	10	4.5			10s			0.05	1.3	Cloudy.	
Atlantic City, N. J.			29.74	755.4	25	— 3.9	100	W	4	1.8			10s			0.03	0.8	Cloudy.	
Augusta, Ga.			30.02	762.5	36	2.2	95	Calm	0	0			Fog			0.24	6.1	Foggy	
Baltimore, Md.			29.78	756.4	28	— 2.2	88	NW	4	1.8			10s		W	0.01	0.3	Threatening	
Barnegat, N. J.			29.72	754.9	26	— 3.3	94	NW	9	4.0			10s			0.09	2.3	Cloudy.	
Bismarck, Dakota	27.58	700.5	29.19	741.4	35	1.7	90	NW	2	0.9			10s			0	0	Threatening	
Boston, Mass.			29.69	754.1	18	— 7.8	100	NW	16	7.2			10n			0.12	3.0	Light snow.	
Breckenridge, Minn.			29.42	747.3	31	— 0.6	89	SE	16	7.2			10s		SE	0	0	Cloudy.	
Buffalo, N. Y.			29.61	752.1	30	— 1.1	89	W	12	5.4			10s			0.11	2.8	Cloudy.	
Burlington, Vt.			29.76	755.9	20	— 6.7	100	SE	1	0.4			10n			0.03	0.8	Light snow.	
Cairo, Ill.			30.07	763.8	35	1.7	61	SW	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.77	756.1	46	7.8	92	W	9	4.0		2ck	2s	W		0.34	8.6	Fair	
Cape Henry, Va.			29.81	757.2	36	2.2	90	W					10s		W	0.25	6.3	Cloudy.	
Cape Lookout, N. C.			29.89	759.2	46	7.8	67	NW	26	11.6		0	Haze			0.02	0.5	Clear	
Cape May, N. J.			29.76	755.9	28	— 2.2	77	NW	18	8.0			10s			0.04	1.0	Cloudy.	
Charleston, S. C.			30.00	762.0	50	10.0	71	W	8	3.6		Haze	Haze			0	0	Hazy.	
Cheyenne, Wyoming	23.80	604.5	29.74	755.4	41	5.0	42	W	36	16.1		0	0			0	0	Clear	
Chicago, Ill.			29.82	757.4	27	— 2.8	77	SW	3	1.3		0	0			0.05	1.3	Clear	
Cincinnati, Ohio			29.87	758.7	35	1.7	80	W	7	3.1		10k	0	NW		Inap.	Inap.	Cloudy.	
Cleveland, Ohio			29.77	756.1	31.5	— 0.3	89	SW	14	6.3			10n		SW	0.06	1.5	Light snow.	
Corsicana, Tex.			30.11	764.8	38	3.3	71	Calm	0	0		0	0			0	0	Clear	
Davenport, Iowa			29.88	758.9	29	— 1.7	88	W	10	4.5		0	0			0	0	Clear	
Denison, Tex.			30.08	764.0	41	5.0	56	SW	1	0.4		0	0			0	0	Clear	
Denver, Col.	24.63	625.6	29.85	758.2	39	3.9	54	S	12	5.4		0	0			0	0	Clear	
Detroit, Mich.			29.70	754.4	29	— 1.7	78	W	4	1.8		Haze	2s		W	0.09	2.3	Fair	
Dodge City, Kan.	27.28	692.9	29.60	751.8	37	2.8	80	SW	20	8.9		0	0			0	0	Clear	
Dubuque, Iowa			29.82	757.4	26	— 3.3	88	Calm	0	0			10s			0	0	Cloudy.	
Duluth, Minn.			29.62	752.3	26	— 3.3	76	SW	2	0.9			10s			0.15	3.8	Cloudy.	
Eastport, Me.			29.95	760.7	28	— 2.2	100	E	4	1.8			10n		E	0.06	1.5	Light snow.	
Erie, Pa.			29.69	754.1	31	— 0.6	79	W	20	8.9			10s			0.02	0.5	Cloudy.	
Escanaba, Mich.			29.70	754.4	26	— 3.3	88	SW	6	2.7			10s			0.06	1.5	Cloudy.	
Fort Gibson, Indian Ter.			30.04	763.0	29	— 1.7	67	E	2	0.9		0	Sm'e			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.78	731.0	29.92	760.0	36	2.2	45	Calm	0	0		0	0			0	0	Clear	
Fort Sully, Dakota	27.80	706.1	29.44	747.8	39	3.9	64	Calm	0	0		0	0			0	0	Clear	
Florence, Arizona	28.49	723.6	30.02	762.5	51	10.6		E				2c	5s	E	E	0	0	Fair	
Galveston, Tex.			30.18	766.6	51	10.6	100	NW	6	2.7			Fog			0	0	Foggy	
Grand Haven, Mich.			29.74	755.4	36	2.2	75	NW	22	9.8			10s		NW	0.12	3.0	Cloudy.	
Indianapolis, Ind.			29.92	760.0	32	0.0	79	W	2	0.9		0	Fog			0.10	2.5	Clear	
Indianola, Tex.			30.18	766.6	50	10.0	100	NW	3	1.3			Fog			0	0	Foggy	
Jacksonville, Fla.			30.08	764.0	54	12.2	86	SW	4	1.8		5k	0	W		0	0	Fair	
Keokuk, Iowa			29.87	758.7	32	0.0	79	NW	6	2.7		0	0			0	0	Clear	
Key West, Fla.			30.23	767.8	65	18.3	94	NE	8	3.6		0	0			0.25	6.3	Clear	
Kittyhawk, N. C.			29.84	757.9	41	5.0	91	NW	10	4.5		0	8ks		W	0	0	Cloudy.	
Knoxville, Tenn.			30.05	763.3	34	1.1	61	S	12	5.4		0	Fog			Inap.	Inap.	Fair	
La Crosse, Wis.			29.76	755.9	29	— 1.7	78	S	6	2.7		Haze	Haze			Inap.	Inap.	Hazy.	
Leavenworth, Kan.			29.78	756.4	33	0.6	69	S	4	1.8		0	0			0	0	Clear	
Louisville, Ky.			29.96	761.0	35	1.7	70	W	6	2.7		0	Haze			0	0	Clear	
Lynchburg, Va.			29.82	757.4	32	0.0	89	SW	2	0.9		2ck	0	W		0	0	Clear	
Malone, N. Y.			29.68	753.9	20	— 6.7	85	SE	1	0.4			10n		SE	0.10	2.5	Light snow.	
Marquette, Mich.			29.63	752.6	28	— 2.2	77	W	8	3.6			10s			0	0	Cloudy.	
Memphis, Tenn.			30.12	765.0	38	3.3	63	W	2	0.9		0	Fog			0	0	Clear	
Milwaukee, Wis.			29.80	756.9	23	— 5.0	86	W	4	1.8		2s	Fog			0.22	5.6	Fair	
Mobile, Ala.			30.16	766.1	46	7.8	88	Calm	0	0		0	Fog			0	0	Clear	
Montgomery, Ala.			30.13	765.3	43	6.1	87	W	4	1.8			Fog		W	0	0	Foggy	
Morgantown, W. Va.	28.74	730.0	29.81	757.2	34	1.1	90	SW	12	5.4			10s		SW	0.03	0.8	Cloudy.	
Mt. Washington, N. H.	23.32	592.3	29.68	753.9	10	—12.2	100	SE	44	19.7			10n		SE	0.23	5.8	Light snow.	
Nashville, Tenn.			30.06	763.5	34	1.1	79	Calm	0	0		0	Fog			0	0	Foggy	
New Haven, Conn.			29.69	754.1	20	— 6.7	70	N	10	4.5			10n			Inap.	Inap.	Light snow.	
New London, Conn.			29.64	752.8	25	— 3.9	75	N	7	3.1			10s			0.05	1.3	Cloudy.	
New Orleans, La.			30.15	765.8	50	10.0	93	NW	4	1.8			Fog			0	0	Foggy	
Newport, R. I.			29.63	752.6	23	— 5.0	86	N	12	5.4			10ks		N	0.14	3.6	Threatening	
New York, N. Y.			29.73	755.1	27	— 2.8	82	N	5	2.2			10s			0.04	1.0	Cloudy.	
Norfolk, Va.			29.81	757.2	37	2.8	80	W	6	2.7			10s		W	0.24	6.1	Cloudy.	
North Platte, Neb.	26.76	679.7	29.39	746.5	24	— 4.4	86	W	8	3.6		0	0			0	0	Clear	
Omaha, Neb.	28.61	726.7	29.70	754.4	36	2.2	62	S	5	2.2		2cs	0	SW		0	0	Clear	
Oswego, N. Y.			29.68	753.9	21.5	— 5.8	92	SE	7	3.1			10n			Inap.	Inap.	Light snow.	
Pembina, Dakota			29.43	747.5	26	— 3.3	100	SE	6	2.7			10n			0.01	0.3	Light snow.	
Philadelphia, Pa.			29.76	755.9	24	— 4.4	93	N	8	3.6			10n		N	0.03	0.8	Light snow.	
Pike's Peak, Col.	17.69	449.3	29.90	759.4	17	— 8.3	3	W	48	21.5		0	0			0	0	Clear	
Pittsburgh, Pa.			29.74	755.4	35	1.7	80	W	10	4.5			10s		W	0.06	1.5	Cloudy.	
Port Huron, Mich.			29.68	753.9	26	— 3.3	88	SW	5	2.2			10s		W	0.05	1.3	Cloudy.	
Portland, Me.			29.77	756.1	13	—10.6	79	N	20	8.9			10n			0.06	1.5	Light snow.	
Portland, Oregon			30.20	767.1	34	1.1	79	S	4	1.8			10s			0	0	Cloudy.	
Punta Rassa, Fla.			30.14	765.5	54.0	12.2	100	NW	1	0.4		0	Fog			Inap.	Inap.	Fair	
Rochester, N. Y.			29.62	752.3	25	— 3.9	87	SW	8	3.6			10n		SW	0.05	1.3	Light snow.	
Salt Lake City, Utah	25.74	653.8	30.07	763.8	17	— 8.3	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.69	754.1	26	— 3.3	88	N	12	5.4			10n		N	0.03	0.8	Light snow.	
San Diego, Cal.			30.02	762.5	53	11.7	43	W	4	1.8		0	8s		W	0	0	Cloudy.	
San Francisco, Cal.			30.02	762.5	49	9.4	85	NW	8	3.6			10s			0	0	Cloudy.	
Santa Fé, N. M.	23.28	591.3	29.82	757.4	27	— 2.8	46	E	4	1.8		0	0			0	0	Clear	
Savannah, Ga.			30.04	763.0	49	9.4	84	W	8	3.6			10s			0	0	Cloudy.	
Shreveport, La.			30.18	766.6	39	3.9	82	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.94	760.5	45	7.2	85	W	6	2.7		0	Haze			0	0	Fair	
Springfield, Mass.			29.72	754.9	18	— 7.8	83	NE	4	1.8			10n			0.09	2.3	Light snow.	
St. Louis, Mo.			30.01	762.2	37	2.8	62	SW	4	1.8			Fog			0	0	Foggy	
St. Marks, Fla.			30.12	765.0	47	8.3	100	Calm	0	0			Fog			0.45	11.4	Foggy	
St. Paul, Minn.			29.64	752.8	27	— 2.8	77	SE	1	0.4			10s			0	0	Cloudy.	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.64	752.8	35	1.7	100	N	28	12.5			10n		N	0.34	8.6	Light rain.	
Toledo, Ohio			29.74	755.4	35	1.7	90	SW	8	3.6			10s		SW	0.05	1.3	Cloudy.	
Tucson, Arizona	27.59	700.8	30.14	765.5	32	0.0		S				5c	0	SW		0	0	Fair	
Tybee Island, Ga.			30.01	762.2	45	7.2	92	W	4	1.8		0	Fog			0	0	Clear	
Vicksburg, Miss.			30.18	766.6	43	6.1	66	Calm	0	0		0	Sm'e		N	0	0	Smoky.	
Virginia City, M. T.	24.10	612.1	29.58	751.3	41	5.0	57	SW	32	14.3		2k	0	W		0	0	Fair	
Washington, D. C.			29.80	756.9	26	— 3.3	82	NW	4	1.8			10s,sm'		NW	0.02	0.5	Threatening	
Wilmington, N. C.			29.92	760.0	44	6.7	83	W	8	3.6		0	Haze			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.57	751.1	37	2.8	90	N	6	2.7			10n			0.11	2.8	Light rain	
Yankton, Dakota	28.28	718.3	29.57	751.1	35	1.7	70	SW	4	1.8		0	1s		W	0	0	Clear	
Yuma, Arizona			30.06	763.5	51	10.6		N				0	5s		NW	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.17	766.3	76	24.4	76	NE	6	2.7		2c	2s		SE	0	0		James Gall.
Navassa, W. I.					81	27.2		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.02	762.5	66	18.9	83	N	3.0	1.3		0	0			0	0	Clear	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.01	762.2	82	27.8	83	E			2	5k	6k	E		0	0	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	29.99	761.8			78.8	26.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.20	640.1			64.2	17.9	69	S			2	1k	0			Inap.	Inap.	Fair	Thomas Herran.
York Factory, B. A.			29.53	750.0	—11.0	—23.9	76	SW	5	2.2			9s			0	0	Gloomy	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.97	761.2	74	23.3		N			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.97	761.2	62	16.7	79	N			1	0	8n, fog			0.10	2.5		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Quincy, Mass.			29.63	752.6	23	— 5.0	100	NW	7	3.1			10n					Light snow	Capt. James Jorgensen.
Steamer Leipzig, N. 42°, 43′, W. 37°, 11′.	SW by W	7.5	30.17	766.3	56.8	13.8		WSW			6		..nk		WSW	High swells	W	Squally	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 13, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.95	760.6	60.6	15.9	64	Calm			0		10			0.059	1.5	Hidden	Charnot.
Algiers			30.02	762.5	64.4	18.0	41	Calm			0		5			0	0	Fair	Peter.
La Calle			30.08	764.1	61.3	16.3	54	N			3		3			0	0	Fair	Didier.
Tunis			30.19	766.8	59.0	15.0		W			3		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.07	763.8	51.3	10.7	71	SW			3		3			0	0	Fair	Millot.
Tebessa			30.13	765.2	47.3	8.5		SW			1		0			0	0	Clear	Bourgeois.
Geriville			30.12	765.1	68.0	20.0	77	WNW			2		1			0.118	3.0	Clear	Lemaillot.
Laghouat			30.14	765.6	55.4	13.0	38	SW			1		2			0	0	Clear	Guyot.
Biskra			30.21	767.2	57.2	14.0	57	NW			2		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.97	761.2	45.9	7.7	69	SW			2		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.03	762.7	33.1	0.6	96	NE			1		10			0	0		Dr. Wierzbiski.
Eperies			30.01	762.3	35.2	1.8	96	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.70	728.9	30.00	762.0	34.3	1.3	76	WSW			2		9			0	0		Andreas Rospini.
Hermannstadt	28.56	725.4	30.02	762.5	41.2	5.1	78	NE			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.59	726.1	29.99	761.8	30.6	— 0.8	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.02	762.6	33.3	0.7	87	SE			1		10			0	0		Dr. T. Stanecki.
Nylregyhaza																			Habesuda Daniel.
Pola			30.08	763.9	50.9	10.5	75	ESE			1		10s			0	0		I.R.Hydrographic Of'ce.
Szegedin			30.02	762.6	40.6	4.8	79	Calm			0		10			0	0		Karl Stancel.
Trieste			30.08	764.1	49.3	9.6	74	Calm			0		9			0	0	Cloudy	Prof. V. Farolfi.
Vienna			30.02	762.4	31.5	— 0.3	98	Calm			0		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.84	758.0	43.5	6.4	93	SW			1	2c	9k	SW	WSW	0.071	1.80		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.65	753.1	35.7	2.1		WSW	4	1.8			2			0.16	4.06	Hazy	William Boswell.
Ardrossan			29.60	751.8	45	7.2		ESE			4		8					Raining	William McNeil.
Armagh, Observatory			29.52	749.8	45.7	7.6		SSE	19	8.5			7					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.44	747.8	48.5	9.2		SSE			2		10					Overcast	J. Dreyer.
Bradford			29.72	754.9	43.3	6.3		SW			2		0			0.08	2.0	Blue sky	J. McLandsborough.
Bridgetown, (Barbados)			30.04	763.0	83.5	28.6		NE			3		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.81	757.2	48.0	8.9		S			1		0					Blue sky	H. Todd. [H.C.
Cardington			29.80	756.9	41.0	5.0		S			1		0					Blue sky	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.81	757.2	43.4	6.3		Calm			0		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.29	718.6	29.80	756.9	45.6	7.6		SW			4		5					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.72	627.9			35.4	1.9	73	Calm			0		1			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.53	750.0	47	8.3		SSW			3		5					*D. clouds	J. Mac Gowan.
Dover			29.82	757.4	45	7.2		SW			1		2					¼ clouded	J. Costello.
Eccles, (near Manchester)			29.71	754.6	43.7	6.5		S	0.5	0.1								Misty	Thomas Mackereth.
Falmouth, Observatory			29.69	754.1	50.9	10.5		S			4		6					Overcast	The Staff.
Fort Napier, (Natal)	27.49	698.2	29.72	754.9	91.1	32.8		E			4		4					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.91	759.7	85.0	29.4		Calm			0		3					*D. clouds	
Galway, Queen's College			29.30	744.2	48	8.9		SE			1		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.03	762.7	59.5	15.3		SW			4		5					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.90	751.8	44.0	6.7		S			4		4					Blue sky	Lewis Stuart.
Great Yarmouth			29.80	756.9	41	5.0		W			2		3					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			29.82	757.4	46.5	8.1		SW			1		0			Blank	Blank	Blue sky	The Staff, for G. B. Airy.
Guernsey			29.79	756.7	50.5	10.3		SSW			2		0					Blue sky	Dr. S. E. Hoskins.
Helston			29.79	756.7	50	10.0		N			4		10n					Raining	M. P. Moyle.
Holyhead			29.61	752.1	48	8.9		S			4		3					Showery	John Tilston.
Kew, Observatory			29.83	757.7	41.5	5.3		WSW	2	0.9			0					Hazy	The Staff.
Kingstown			29.56	750.8	49	9.4		S			4		6					*D. clouds	George Mitchell.
Leicester Museum			29.75	755.6	45.0	7.2		S			1		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.17	766.3	63.0	17.2		N			1		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.59	751.6	42	5.6		Calm			0		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.14	765.5	72.5	22.5		NE			4		2c						Surg. Maj. Henry.
Nottingham, Observatory			29.76	755.9	44.2	6.8		SE			1		2c			0.021	0.54	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.75	755.6	44.0	6.7		S			3		9			Blank	Blank	*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.78	756.4	42	5.6		SE			1		0					Blue sky	J. Lucas.
Plymouth			29.72	754.9	51	10.6		S			2		5					*D. clouds	John Merrifield.
Roche's Point			29.44	747.5	50	10.0		S			6		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.64	752.8	51	10.6		S			5		6					Showery	John C. Walker.
Saint Helier, (Jersey)			29.80	756.9	49.0	9.4		S			3		0					Clear	A. P. Amy.
Sandwick Manse, (Orkneys)			29.62	752.3	40	4.4		SE	8	3.6			0					Blue sky	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.09	764.3	48.6	9.2		NE			1		10					Gloomy	Sergt. W. H. Lyne.
Sheffield			29.72	754.9	41.9	5.5		SW			1		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory			29.69	754.1	46.8	8.2	80	SW			1		1			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.71	754.6	42.1	5.6		SW			1		6					Gloomy	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.47	748.5	44	6.7		SSE			6		5					Threatening	John Smith.
Stratfield Turgiss			29.82	757.4	43.4	6.3		SE			1		0					Blue sky	Rev. Charles H. Griffith
Thurso			29.57	751.1	38	3.3		SSW			1		4					*D. clouds	John Trotter.
Truro, Royal Institution			29.69	754.1	54	12.2		S			5		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.23	742.4	51.4	10.8		SSE	45	20.1			10					Threatening	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					47	8.3		S			6		5			0.5	12.7		Henry Mercer.
Cape Good Hope, Obs'y			29.98	761.5	81.3	27.4	31	W	14	6.3		6	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.84	757.9	70.0	21.1	83	S			1		10n			0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.67	753.6	42.1	5.6		SW			2		6k			0	0	Fine	Andrew Gibb.
Mauritius, Observatory			30.04	763.0				E	20.0	8.9						0.02	0.5		C. Meldrum.
Melbourne, Observatory			29.96	761.0	64.3	17.9	83	SSE	4	1.8			2			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.43	747.5	47	8.3		S			7		10			0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.65	753.1	45	7.2		S			4		4						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

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

San José

DANISH SERIES.

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

Copenhagen			29.95	760.6	35.1	1.7	70	ESE			2		10						
Fanöe			29.82	757.3	35.4	1.9	95	SE			6		10					Raining	
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.34	742.8	36.1	2.3	93	SE			5		5						
Thorshavn, (Faröe)			29.55	750.5	36.3	2.4	91	Calm			0		3						
Vestervig			29.85	758.1	32.0	0.0	96	ESE			6		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.89	759.2	45.5	7.5	97	SW			2		10			0.220	5.6	Covered	Normal School.
Amiens			29.86	758.4	46.0	7.8	97	WSW			3		5		W	0.228	5.8	Cloudy	Normal School.
Avignon			30.00	762.0	44.4	6.9	79	N			1		10			0	0	Misty	Normal School.
Bar-sur-Seine			29.95	760.8	42.4	5.8	93	SW			1		10			0.079	2.0	Light rain	C. Saillard.
Beaumette, (near Angers)			29.84	757.9	42.6	5.9	100	SE	2.0	0.9						0.012	0.3	Foggy	Beaumette Observ'tory.
Beauvais			29.90	759.5	46.6	8.1	84	SSW			1		8		SSW	0.217	5.50	Very cloudy	Normal School.
Besançon			30.01	762.2	41.7	5.4	94	S			2		8		SW	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.03	762.7	44.8	7.1	71	S			2		8ck		N	0	0	Very cloudy	Normal School.
Bourges			29.95	760.6	45.7	7.6	91	S			2		5		S	0.098	2.5	Cloudy	Normal School.
Brest			29.69	754.1	53.4	11.9	69	SW			4		3k		SW	0.118	3.00		Naval Observatory.
Carcassonne			29.98	761.5	53.2	11.8	76	NE			1		5		SW	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.90	759.5	42.8	6	97	SSW			2		10		SSW	0.150	3.8	Covered	Normal School.
Châlons-sur-Marne			29.95	760.6	43.7	6.5	94	S			2		10n			0.118	3.0	Covered	Normal School.
Clermont			29.91	759.6	49.8	9.9	69	SE			1		5			0	0	Cloudy	Puy de Dome Obs'y.
Commercy			29.91	759.8	41.4	5.2	97	W			2		10			0.024	0.6	Covered	Normal School.
Commune de Gréasque*			30.04	762.9	50.5	10.3	72	E			2		5		SW	0	0		M. Kina.
Grenoble			30.00	762.0	40.6	4.8	74	SW			1		5ks		NE	0	0	Cloudy	Normal School.
La Roche-sur-Yon			29.90	759.5	45.7	7.6	94	SE			1		10			0.177	4.5	Covered	Normal School.
Le Mans			29.84	758.0	42.1	5.6	97	SSW			2		10			0.28	7.	Covered	Normal School.
Lons-Le-Saulnier			29.98	761.4	44.1	6.7	85	SW			2		10					Rain & fog	Normal School.
Lorient			29.83	757.6	52.9	11.6	69	SSW			4		8		SW	0.067	1.7	Raining	Naval Observatory.
Mâcon			30.07	763.6	42.1	5.6	97	Calm			0		10			0	0	Covered	Normal School.
Metz			30.00	761.9	40.6	4.8	91	SW			2		10			0.051	1.3	Covered	M. Schuster.
Mirecourt			29.94	760.4	40.6	4.8	93	WSW			2		10			0	0	Covered	Normal School.
Nismes			29.95	760.6	47.8	8.8	67	NE			2		5		SW	0	0	Cloudy	Normal School.
Orleans			29.91	759.8	43.2	6.2	92	SW			1		10			0.134	3.4	Covered	Normal School.
Paris, Observatory			29.87	758.8	43.2	6.2	94	SW			1		10			0.095	2.41	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.02	762.5	47.1	8.4		NW			1		5		NW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.90	759.4	47.1	8.4	89	SSE			2		10		N	0	0	Covered	Naval Observatory.
Rouen			29.87	758.8	46.9	8.3	78	SSE			2		0			0.316	8.0	Clear	Normal School.
Saint Lo																			N rmal School.
Tarbes																			Normal School.
Villefranche			30.01	762.2	41.9	5.5	91	NNW			1		10			0.12	3.	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.99	761.8	55.8	13.2	77	SSE			1		7					Rainy	Marseilles Observatory.
Mont-Louis	24.73	628.1	30.11	764.9	39.9	4.4	65	SSW	18.6	8.33			6		SW	0	0		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.96	761.0	48.6	9.2	77	E	7.4	3.33			7		SW	0.008	0.1		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.99	533.1			24.3	— 4.3		SW			1		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.30	566.3			34.5	1.4		SW			1		9			0.458	11.5	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.91	759.7	42.8	6.0	97	SSW			1		10			Blank	Blank	Covered	E. Renou.
Toulouse			29.96	760.9	48.9	9.4	86	SE			1		9			0.079	2.0		Toulouse Observatory.
Tours			29.71	754.5	43.2	6.2	91	S			1		10			0.126	3.2	Covered	C. Marquet.
Versailles, (near Paris)			29.91	759.7	43.5	6.4	94	W			1		10			0.131	3.34	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.33	770.4	41.2	5.1	88	NNE	3.7	1.67			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.89	759.3	38.1	3.4	88	SW			2		10			0.020	0.5	Rain & snow	Prof. T. Hoh.
Berlin			29.91	759.7	41.9	5.5	82	S			1		10			0	0		Prof. Arndt.
Breslau			29.97	761.2	39.0	3.9	88	SSE			2		7			0	0		Royal University Obs'y.
Carl-ruhe			29.94	760.4	42.8	6.0	84	SW			1		10			0	0		A. Senz.
Cassel			29.91	759.6	39.0	3.9	90	SSW			2		10	SW		0	0		Dr. H. Möhl.
Crefeld			29.85	758.1	44.2	6.8	89	SW			3		10			0.08	2.	Smoke-haze	Director Lose.
Emden			29.83	757.7	44.2	6.8	96	W			1		0			0.118	3.0		Prof. Prestel.
Frankfort on the Main			29.94	760.4	40.3	4.6	66	SW			2		10			0.020	0.5	Foggy	Physical Society.
Friedrichshafen			30.01	762.2	40.3	4.6	81	S			2		4			0	0		M. Wilhelm.
Hamburg			29.83	757.7	38.1	3.4	93	SE			2		10					Drizzling	Captain F. Hegemann.
Kiel			29.82	757.3	38.8	3.8	87	ESE			4		10			0.012	0.3		Prof. G. Karsten.
Königsberg, (Prussia.)			30.11	764.8	22.3	— 5.4	85	NE			2		10			0	0		Prof. E. Luther.
Köslin			30.01	762.3	30.2	— 1.0		Calm			0		4			0	0		H. Müller.
Leipsic			29.91	759.8	38.5	3.6	82	SSW			2		10	SSW		0	0	Foggy	Prof. Bruhns.
Memel			30.12	765.1	20.1	— 6.6	92	E			1		10ks			0.010	0.4		Reinbrecht & Skalweit.
Münster			29.84	757.8	43.3	6.3	98	SW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.08	764.0	30.2	— 1.0	73	ESE			4		10			0.056	1.4	Smoke-haze	A Lothe.
Posen			29.99	761.8	37.6	3.1	96	SE			2		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.97	761.3	42.6	5.9	88	SW			1		10	SW		0.010	0.4		Dr. Schur.
Stuttgart			29.93	760.3	39.2	4.0	84	NE			1		10			0.030	0.9		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.86	758.5	42.6	5.9	89	SW			3		10			0.028	0.7		Prof. Flesch.
Weissenburg, (Bavaria,)	28.40	721.4	29.95	760.8	38.7	3.7	77	Calm			0		10	W		0.010	0.4	Light fog	Dr. von Bebber.
Wustrow, Naval School			29.98	761.4	33.1	0.6	83	SE			2		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 28°, 41′, W. 24°, 37′.			30.36	771.2	75.6	24.2	80	ESE			3		5	ESE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper nd lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.12	765.0	62.2	16.8		W										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			30.05	763.2	45.7	7.6	60	Calm	0	0			3			0	0		Prof. Giovanni Clodig.
Padua			30.05	763.3	39.2	4.0	82	NW	1.8	0.8			10	W		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.07	763.7	41.7	5.4	73	E	0	0			4	W		0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.68	728.4	30.03	762.7	41.0	5.0	68	WSW			1		10			0	0		Prof. Trionfini Carlo.
Domodossola			30.04	763.1	42.8	6.0	66	SW			2		1			0	0		Prof. Giuseppe Calza.
Milan			30.07	763.7	36 7	2.6	82	WSW			1		10	NE		0	0		Ab. Gio. Capelli.
Pavia			30.07	763.6	40.1	4.5	75	NW			1		9	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.07	763.6	38.3	3.5	88	NE	0.7	0.3			3	NW		0	0		Prof. P. F. Denza.
Mondovi	28.09	713.4	30.05	763.2	40.5	4.7	71	NW			2		4	WSW		0	0		Prof. C. Bruno.
Porto Maurizio			30.06	763.5	54.3	12.4	67	SW			4		3			0.02	0.6	Light rain	Prof. L. Vassallo.
Genoa																			Prof. Garibaldi.
Piacenza			30.08	763.9	40.6	4.8	84	NNW	1.8	0.8			9	W		0.031	0.8	Light rain	Dott. G. Manzi.
Parma			30.08	764.1	40.1	4.5	92	SSW			2		10			0.02	0.5	Light rain	Prof. P. Pigorini.
Bologna			30.11	764.9	42.3	5.7	44	W			1		4	E		0	0		Prof. A. Palagi.
Florence			30.12	765.0	43.7	6.5	91	NW			2		10			0.05	1.4	Raining	Cav. F. Meucci.
Leghorn			30.06	763.5	49.6	9.8	92	ENE	2.5	1.1			8	WSW		0.49	12.5	Raining	Prof. P. Monte.
Siena	28.84	732.6	30.07	763.7	48.6	9.2	84	NNE	0	0			7	W		0.01	0.3	Light rain	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.08	764.1	45.5	7.5	90	N	19.[illegible]	8.6			10	W		0	0		Prof. Luigi Guidi.
Ancona			30.09	764.3	53.1	11.7	75	SE			4		10			0	0		Prof. F. De— Bosis.
Grosseto			30.10	764.4	57.2	14.0	67	SE			2		4	S		0.047	1.2		Avv. P. Ponticelli.
Rome			30.12	765.1	56.5	13.6	65	S	0.7	0.3			2			0	0		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.15	765.8	61.5	16.4	60	SSW			4		7	NE		0	0		Prof. L. Palmieri.
Lecce			30.10	764.6	58.6	14.8	61	W	7.4	3.3			3	W		0	0		Prof. C. De—Giorgi.
Cosenza			30.17	766.4	55.8	13.2	75	SE	1.8	0.8			9			0.157	4.0	Raining	Prof. F. D. Conti.
Riposto, (Sicily)			30.09	764.2	59.5	15.3	66	Calm	0	0			3			0	0		Prof. F. Cafiero.
Palermo			30.10	764.6	62.8	17.1	55	WSW	3.1	1.4			5			0	0		Prof. G. Cacciatore.
Caltanissetta	28.18	715.7	30.15	765.9	51.8	11.0	73	WNW			2		3	NE		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.15	765.9	55.9	13.3	69	WNW	1.8	0.8			8	SE		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Tokei																			

By authority of the
Secretary of Public Works,

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena.
																			Vicente Reyes.
																			Miguel Perez.
																			(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Flushing			29.87	758.6	46.4	8.0		W			2					0.008	0.2		
Groningen			29.71	754.5	44.6	7.0		SW			3					0.075	1.9		
Helder			29.77	756.2	46.8	8.2		WSW			4					0	0		
Utrecht			29.78	756.4	47.7	8.7	85	WSW			3		2			0.126	3.2	Light cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Bergen			29.85	758.1	37.4	3.0	76	SE	4	2		0				0	0		
Brönö			29.94	760.4	24.1	— 4.4	54	Calm	0	0		1				0	0		
Christiania			30.15	765.8	17.4	— 8.1	85	NNE	5.1	2.3		9				0	0		
Tromsö			30.05	763.3	26.1	— 3.3	98	Calm	0	0		10				0	0	Foggy	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.37	771.4	59.0	15.0	76	N	5.6	2.5			5			0.047	1.2		Dr. J. A. Sampaio.
Campo Major			30.00	762.1	53.6	12.0	83	W	8.1	3.6			8	WNW		0.126	3.2		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.22	767.6	68.2	20.1	68	WSW	2.5	1.1			8			0	0		Capt. D. A. de Cunha.
Lisbon			30.02	762.4	57.6	14.2	85	SSW	4.9	2.2			6	WNW		0.020	0.5	Light rain	The Observatory.
Ponta Delgada, (Azores)			30.36	771.2	62.6	17.0	73	NNW	8.1	3.6			4	SSE		0.138	3.5		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.05	763.3	31.8	— 0.1	92	ESE	7	3			10						Astronomical Obs.
Wilna			30.13	765.4	14.4	— 9.8	92	NW	2	1			10						Astronomical Obs.
Dorpat			30.17	766.4	— 4.2	—20.1	86	W	4	2			2						Physical Cabinet.
St. Petersburg			30.04	763.0	9.1	—12.7	94	NNW	11	5			2						Central Physical Obs.
Kuopio			30.03	762.7	5.9	—14.5	100	NW	7	3			10						Ch. Forsten.
Kieff			30.02	762.5	23.2	— 4.9	86	NW	11	5			10						Physical Cabinet.
Nikolaiev			30.13	765.3	30.4	— 0.9	82	Calm	0	0			10						Kurdakof.
Kertch			30.08	764.0	33.7	0.7	82	N	7	3			10						Lagorio.
Moscow			30.02	762.5	— 4.0	—20.0	73	NW	9	4			0						Meteorological Obs.
Lugan			29.87	758.6	21.9	— 5.6	82	WSW	18	8			10			Blank	Blank		Meteorological Obs.
Archangel			29.65	753.1	16.9	— 8.4	94	WNW	18	8			10						Ogorodnikof.
Tiflis	28.60	726.5	30.04	763.1	48.9	9.4	75	NNE	13	6			9						Physical Observatory.
Astrakhan			29.86	758.4	25.2	— 3.8	95	N	11	5			6			Blank	Blank		Sebastianof.
Kasan			29.76	755.9	— 3.5	—19.7	99	N	2	1			10						Physical Cabinet.
Orenburg			30.17	766.4	—11.0	—23.9	56	SW	13	6			3						Tschernischef.
Ekaterinburg	28.68	728.5	29.74	755.5	— 9.6	—23.1	78	ESE	7	3			10					Snowing	Meteorological Obs.
Nukuss			30.01	762.3	33.8	1.0	83	SE	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.70	779.7	—24.3	—31.3	85	Calm	0	0			0						Meteorological Obs.
Yeniseisk			30.57	776.4	—32.1	—35.6	77	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.32	770.0	25.5	— 3.6	76	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 4.4	—20.2		W	2	1			8						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.00	761.9	43.5	6.4	86	W	3.0	1.33		0	10			0.028	0.7	Covered	Royal Observatory.
San Fernando			30.04	763.1	58.3	14.6	78	S	15.2	6.8		0	10		S	0.480	12.2		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.10	764.4	10.4	—12.0	93	NW			2		10			0	0		
Umea			30.17	766.4	— 7.6	—22.0	100	N			2		1			0	0		
Hernosand			30.18	766.6	16.7	— 8.5	91	NE			2		10			0	0		
Stockholm			30.10	764.6	19.0	— 7.2	90	Calm			0		10			0	0		
Wisby			30.11	764.7	28.8	— 1.8	100	E			4		10			0.122	3.1		
Sub-Series.																			
Upsala			30.13	765.4	20.8	— 6.2	88	ESE	2.9	1.3			10			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.51	724.1	29.95	760.8	47.5	8.6	44	SSW			3		7			0	0	Cloudy	The Observatory.
Zurich	28.33	719.6	30.02	762.5	39.7	4.3	86	SE			1		10			0	0	Foggy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —3.3 mm; Thermometer, +6.0 cent.; Relative Humidity, —36 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.11	764.9	48.2	9.0	86	NNE	2	1.0			10		NNE	0	0		
Fao, (Persian Gulf)																			
Salonica			30.09	764.3	65.7	18.7		SE			1		0						
Valona			30.13	765.2	56.5	13.6		S			1		5						
Varna			30.00	762.0	46.4	8.0		N			2		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.13	765.2	77.5	25.3	58	SW			2		3c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.08	764.0	17.2	— 8.2	79	NW	4	1.8			9						Hon. J. Fergusor.
Brockville, Ontario			29.59	751.6	32	0.0		SW	3	1.3		0	5s		SW	0.18	4.6	Fair	W. R. Bigg.
*Chatham, N. B			29.73	755.1	11	—11.7	94	S	1	0.4		0	0			0.53	13.5	Clear	G. A. Blair.
Charlottetown, P. E. Island			29.65	753.1	25	— 3.9	91	W	10	4.5			10n			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.61	752.1	27.8	— 2.3	93	NE			1		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B			29.72	754.9	18.5	— 7.5	92	W			1					0.20	5.1	Overcast	H. A. Johnson.
Esquimault, B. C			30.38	771.6	38.1	3.4	91	N					10s			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.87	758.7	10.1	—12.2	92	NW	9	4.0		0	0			0.400	10.16	Clear	Prof. Harrison.
*Fort Garry, Manitoba			29.81	757.2	6	—14.4	95	S	6	2.7		Haze	Haze			0	0	Hazy	James Stewart.
Goderich, Ontario			29.54	750.3	37.5	3.1	81	SW			3		10n			0	0	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.44	722.4	29.56	750.8	32.0	0.0		S			2	1cs	0	N		0	0	Clear	James Grant.
*Halifax, N. S			29.74	755.4	25	— 3.9	90	W	22	9.8		0	2ks		W	0.38e	9.88	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.59	751.6	36	2.2	76	S	28	12.5		5c	0	W		0.04	1.0	Fair	S. Woods, M. A.
Little Glace Bay, N. S			29.34	745.2	25.0	— 3.9		NW	12	5.4		8k	0	NW		0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec			29.67	753.6	23	— 5.0	100	S	10	4.5			10n			0.19	4.8	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.60	751.8	20	— 6.7	77	NW	2	0.9			10n		E	0.20	5.1	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.42	747.3	32	0.0	94	S	9	4.0			10n		S	0	0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.59	751.6	38	3.3	72	SW	14	6.3		10k	0	SW		0	0	Cloudy	H. Morgan.
Port Hastings, N. S			29.47	748.5	29.4	— 1.4		NW	50	22.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.62	752.3	37	2.8	70	W	12	5.4			10s		W	0	0	Fair	M. Payne.
*Quebec, Quebec			29.71	754.6	15	— 9.4	82	Calm	0	0			10n			0.35	8.9	Cloudy	Capt. Ashe, R. N.
St. John, N. B			29.89	759.2	15	— 9.4	82	NW	5	2.2		0	0			0.040	1.02	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.42	747.3	38	3.3	72	SW	17	7.6			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.42	747.3	35	1.7	71	SE	1	0.4		8k	0	NW		0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.23	717.0	29.53	750.0	33.0	0.6	81	SW	15	6.7		0	5ks			0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B			29.35	745.5	28	— 2.2	77	NW	20	8.9			10ks		NW	0.77	19.6	Cloudy	T. C. Hill.
*Toronto, Ontario			29.53	750.0	37	2.8	80	SW	15	6.7		2cs	0	SW		0.02	0.5	Clear	Magnetic Observatory.
Woodstock, Ontario			29.56	750.8	39.1	3.9	54	SW	27	12.1		..c	0	W		0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			28.75	730.2	38.0	3.3		S	13	5.8		10k	10n			0.50	12.7	Stormy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.79	756.7	34	1.1	79	S	2	0.9		5k	5ks	SW	SW	0.02	0.5	Cloudy	
Alpena, Mich.			29.44	747.8	34	1.1	79	NW	16	7.2			10s		NW	0	0	Cloudy	
Atlantic City, N. J.			30.05	763.3	38	3.3	90	S	8	3.6		0	Haze			0	0	Clear	
Augusta, Ga.			30.23	767.8	32	0.0	90	Calm	0	0		0	Fog			0	0	Clear	
Baltimore, Md.			30.02	762.5	33	0.6	79	Calm	0	0		Haze	Fog			Inap.	Inap.	Foggy	
Barnegat, N. J.			30.03	762.7	36	2.2	90	SW	14	6.3		2c	Haze	W		Inap.	Inap.	Fair	
Bismarck, Dakota	28.04	712.2	29.74	755.4	25	— 3.9	75	NW	6	2.7		0	8s		NW	Inap	Inap.	Fair	
Boston, Mass.			29.96	761.0	34	1.1	79	SW	12	5.4		10cs	Haze	SW		0.21	5.3	Cloudy	
Breckenridge, Minn.			29.94	760.5	17	— 8.3	83	Calm	0	0			10s			0	0	Cloudy	
Buffalo, N. Y.			29.55	750.6	39	3.9	55	SW	18	8.0		8cs	0			0.01	0.3	Fair	
Burlington, Vt.			29.72	754.9	33	0.6	70	S	10	4.5		0	8s			0.07	1.8	Cloudy	
Cairo, Ill.			29.92	760.0	46	7.8	38	S	7	3.1		2c	Fog			0	0	Fair	
Cape Hatteras, N. C.			30.14	765.5	44	6.7	92	W	5	2.2		Haze	Sm'e			0	0	Smoky	
Cape Henry, Va.			30.13	765.3	40	4.4	64	S				0	Haze			0	0	Clear	
Cape Lookout, N. C.			30.23	767.8	49	9.4	85	S	8	3.6		0	0			0	0	Clear	
Cape May, N. J.			30.05	763.3	43	6.1	75	S	12	5.4		0	Haze			0	0	Clear	
Charleston, S. C.			30.24	768.1	45	7.2	76	W	3	1.3		0	Sm'e			0	0	Smoky	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	18	— 7.8	83	W	4	1.8		0	0			0	0	Clear	
Chicago, Ill.			29.75	755.6	41	5.0	65	SW	3	1.3		2k	5s	W		0	0	Fair	
Cincinnati, Ohio			29.80	756.9	43	6.1	58	SW	8	3.6		0	Fog			0	0	Clear	
Cleveland, Ohio			29.66	753.4	44	6.7	46	SSW	28	12.5		5c	0	W		Inap.	Inap.	Fair	
Corsicana, Tex.			29.91	759.7	58	14.4	87	S	8	3.6			10s		S	0	0	Cloudy	
Davenport, Iowa			29.86	758.4	37	2.8	71	NW	8	3.6			10ks		NW	0	0	Cloudy	
Denison, Tex.			29.85	758.2	55	12.8	86	SW	15	6.7			10s		S	Inap.	Inap.	Cloudy	
Denver, Col.	24.84	630.9	30.06	763.5	29	— 1.7	59	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			29.57	751.1	42	5.6	34	W	13	5.8			10s			0	0	Cloudy	
Dodge City, Kan.	27.43	696.7	29.80	756.9	33	0.6	79	N	26	11.6		2ck	2s	W	W	0	0	Fair	
Dubuque, Iowa			29.83	757.7	35	1.7	80	NW	8	3.6			10s		NW	0	0	Cloudy	
Duluth, Minn.			29.75	755.6	32	0.0	68	NW	3	1.3			10s		NW	0.26	6.6	Cloudy	
Eastport, Me.			29.88	758.9	16	— 8.9	66	NW	8	3.6		0	Haze			0.77	19.6	Clear	
Erie, Pa.			29.61	751.8	41	5.0	56	S	28	12.5		10cs	Haze			0	0	Cloudy	
Escanaba, Mich.			29.63	752.6	28	— 2.2	88	W	11	4.9		0	2s		W	0.04	1.0	Fair	
Fort Gibson, Indian Ter.			29.83	757.7	46	7.8	85	E	7	3.1		5c	Sm'e		W	0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.63	727.3	29.77	756.1	35	1.7	61	W	11	4.9		5ck	0	NW		0	0	Fair	
Fort Sully, Dakota	28.30	718.8	30.03	762.7	28	— 2.2	67	NW	4	1.8		0	0			0	0	Clear	
Florence, Arizona	28.46	722.9	29.99	761.7	50	10.0		NE				0	8s		NE	0	0	Fair	
Galveston, Tex.			30.06	763.5	61	16.1	94	S	6	2.7		0	8s		SW	0	0	Cloudy	
Grand Haven, Mich.			29.67	753.6	37	2.8	75	NW	23	10.3			10s		NW	0	0	Cloudy	
Indianapolis, Ind.			29.80	756.9	44	6.7	52	SW	6	2.7		2cs	Sm'e	W		0	0	Clear	
Indianola, Tex.			30.02	762.5	68	14.4	87	S	1	0.4		0	5s			0	0	Fair	
Jacksonville, Fla.			30.22	767.6	40	4.4	91	Calm	0	0		0	Fog			0	0	Fair	
Keokuk, Iowa			29.85	758.2	37	2.8	80	NW	6	2.7			10s		NW	0	0	Cloudy	
Key West, Fla.			30.15	765.8	64	17.8	94	NE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.19	766.8	38	3.3	81	SW	10	4.5		0	Haz			0	0	Hazy	
Knoxville, Tenn.			30.15	765.8	28	— 2.2	77	N	3	1.3		0	Fog			0	0	Fair	
La Crosse, Wis.			29.83	757.7	32	0.0	69	NW	11	4.9		Haze	Haz			0	0	Hazy	
Leavenworth, Kan.			29.98	761.5	38	3.3	71	N	10	4.5			10s		N	0	0	Cloudy	
Louisville, Ky.			29.89	759.2	43	6.1	51	S	8	3.6		2c	Haz			0	0	Fair	
Lynchburg, Va.			30.08	764.0	29	— 1.7	89	Calm	0	0		0	Sm'e			0	0	Smoky	
Malone, N. Y.			29.55	750.6	34	1.1	90	S	6	2.7			10s		SW	0.05	1.3	Cloudy	
Marquette, Mich.			29.59	751.6	32	0.0	79	NW	4	1.8			10s			0.03	0.8	Cloudy	
Memphis, Tenn.			29.99	761.7	50	10.0	53	SW	7	3.1			10s		SW	0	0	Cloudy	
Milwaukee, Wis.			29.75	755.6	34	1.1	69	NW	15	6.7			10s		NW	0	0	Cloudy	
Mobile, Ala.			30.16	766.1	42	5.6	83	W	4	1.8		0	Fog			0	0	Clear	
Montgomery, Ala.			30.21	767.3	37	2.8	85	Calm	0	0		0	Fog			0	0	Foggy	
Morgantown, W. Va.	28.82	732.0	29.88	758.9	43	6.1	43	S	9	4.0		0	0			0	0	Clear	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	13	—10.6	80	NW	24	10.7		8s	2s	NW	NW	1.23	31.2	Fair	
Nashville, Tenn.			30.01	762.2	40	4.4	64	Calm	0	0		2c	Fog	W		0	0	Fair	
New Haven, Conn.			29.97	761.2	38	3.3	71	SW	5	2.2		5k	Haz	W		0.25	6.3	Fair	
New London, Conn.			30.00	762.0	36	2.2	80	SW	8	3.6		2k	0	SW		0.01	0.3	Fair	
New Orleans, La.			30.14	765.5	47	8.3	85	SE	1	0.4		1cs	Sm',fg		SE	0	0	Clear	
Newport, R. I.			30.00	762.0	35	1.7	69	SW	8	3.6		1k	0			0	0	Clear	
New York, N. Y.			30.02	762.5	32	0.0	68	SW	20	8.9		5ck	Sm'e	W		Inap.	Inap.	Fair	
Norfolk, Va.			30.13	765.3	36	2.2	70	SW	12	5.4		0	0			0	0	Clear	
North Platte, Neb.	27.14	689.3	29.84	757.9	24	— 4.4	100	W	16	7.2		0	2s			0	0	Clear	
Omaha, Neb.	28.87	733.3	29.98	761.5	37	2.8	80	NW	8	3.6			10s		NW	0	0	Cloudy	
Oswego, N. Y.			29.62	752.3	37.5	3.1	62	S	10	4.5		2ck	8s	W		Inap.	Inap	Cloudy	
Pembina, Dakota			29.82	757.4	13	—10.6	81	S	5	2.2			10s			0.14	3.6	Cloudy	
Philadelphia, Pa.			30.02	762.5	32	0.0	84	SW	10	4.5		1cs	Sm'e	W		0.01	0.3	Clear	
Pike's Peak, Col.	17.61	447.3	29.82	757.4	6	—14.4	52	W	32	14.3		1s	0			0	0	Clear	
Pittsburgh, Pa.			29.80	756.9	42	5.6	49	SW	16	7.2		5cs	0	W		0	0	Fair	
Port Huron, Mich.			29.51	749.5	36	2.2	62	S	12	5.4		8cs	0	W		0	0	Fair	
Portland, Me.			29.89	759.2	26	— 3.3	77	S	8	3.6			10s			0.37	9.4	Cloudy	
Portland, Oregon			30.20	767.1	37	2.8	90	N	4	1.8		0	5s			0	0	Fair	
Punta Rassa, Fla.			30.20	767.1	56.5	13.6	87	NE	3	1.3		0	Haze			0	0	Clear	
Rochester, N. Y.			29.56	750.8	39	3.9	47	SW	16	7.2		Haze	2s			Inap.	Inap.	Fair	
Salt Lake City, Utah	25.83	656.1	30.16	766.1	28	— 5.0	86	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.99	761.7	33	0.6	79	SW	12	5.4		0	0			Inap.	Inap.	Clear	
San Diego, Cal.			29.98	761.5	56	13.3	87	NE	4	1.8		0	8s		NE	0	0	Cloudy	
San Francisco, Cal.			29.95	760.7	49	9.4	77	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.23	590.0	29.77	756.1	29	— 1.7	46	E	4	1.8		0	2s			0	0	Clear	
Savannah, Ga.			30.22	767.6	39	3.9	81	W	1	0.4		0	Fog			0	0	Foggy	
Shreveport, La.			30.05	763.3	51	10.6	93	SE	2	0.9			10s			0	0	Cloudy	
Smithville, N. C.			30.23	767.8	43	6.1	91	W	4	1.8		0	Fog			0	0	Fair	
Springfield, Mass.			29.92	760.0	33	0.6	74	S	4	1.8			10s,ks		W	0.01	0.3	Cloudy	
St. Louis, Mo.			29.86	758.4	47	8.3	26	SW	12	5.4		0	5s			0	0	Fair	
St. Marks, Fla.			30.22	767.6	35	1.7	90	N	4	1.8		5c	0			0	0	Fair	
St. Paul, Minn.			29.79	756.7	30	— 1.1	89	NW	6	2.7		0	2s		NW	0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.95	760.7	35	1.7	70	SW	16	7.2		2c	8s	W	W	0.17	4.3	Cloudy	
Toledo, Ohio			29.61	752.1	45	7.2	53	SW	20	8.9		8cs	Haz	SW	SW	0	0	Fair	
Tucson, Arizona	27.56	700.0	30.12	765.0	48	8.9		S				8ck	0	SW		0	0	Cloudy	
Tybee Island, Ga.			30.22	767.6	41	5.0	83	NW	2	0.9		1c	Sm'e	W		0	0	Smoky	
Vicksburg, Miss.			30.12	765.0	46	7.8	85	S	11	4.9		0	8ks		SW	0	0	Cloudy	
Virginia City, M. T.	24.36	618.7	29.84	757.9	16	— 8.9	83	SE	2	0.9		1k	0	W		0.03	0.8	Clear	
Washington, D. C.			30.02	762.5	31.5	— 0.3	79	SW	2	0.9		0	Sm'e		SW	0	0	Dense smoke	
Wilmington, N. C.			30.23	767.8	37	2.8	80	SW	2	0.9		0	Sm'e			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.03	762.7	38	3.3	71	NW	6	2.7			8s		NW	0.03	0.8	Threatening	
Yankton, Dakota	28.71	729.2	30.04	763.0	34	1.1	79	W	7	3.1			10s			0	0	Cloudy	
Yuma, Arizona			30.01	762.2	52	11.1		NE				2c	5ks	N	N	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.17	766.3	77	25.0	72	Calm	0	0		2c	2s	SE	SE	0	0		James Gall.
Navassa, W. I.					79	26.1		NE			3							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	30.00	762.0	67	19.4	79	NE	1.0	0.4		2c	0	NE		0	0	Fine, Clear.	C. Partridge.
Paramaribo, D. Guiana, S. A.			29.96	761.0	83	28.3	75	E			2	3c	4ck	E		0.030	0.76	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.02	762.5			80.2	26.8		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			64.2	17.9	74	Calm			0	0	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.83	757.7	—24.0	—31.1		N	0	0			10n			0.02	0.5	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74	23.3		NNW			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.93	760.2	68	20.0	80	Calm			0	0	2k			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Boston, Mass.			29.79	756.7	31.5	— 0.3	90	SW	7	3.1		10ck	0	W				Cloudy	Capt. James Jorgensen.
Steamer Leipzig, N. 40°, 49′, W. 41°, 10′.	WSW	9.5	30.00	762.0	61.2	16.2	100	SSW			7		..n		SSW		SW	Stormy	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 14, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.88	758.9	61.7	16.5	62	Calm			0		8			0.299	7.6	Cloudy	Charnot.
Algiers			29.91	759.8	64.0	17.8	63	SW			3		7			0	0	Cloudy	Peter.
La Calle			29.96	761.0	61.7	16.5	38	S			3		5			0	0	Fair	Didier.
Tunis			30.08	764.0	59.0	15.0		W			3		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			29.98	761.5	51.8	11.0	52	S			5		3			0	0	Fair	Millot.
Tebessa			30.00	762.0	48.2	9.0		E			1		0			0	0	Clear	Bourgeois.
Gerlville			29.97	761.1	63.5	17.5	39	SSE			1		4			0	0	Fair	Lemaillot.
Laghouat			29.90	759.5	51.8	11.0	41	NE			1		6			0	0	Fair	Guyot.
Biskra			30.19	766.7	64.4	18.0	40	NW			1		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.07	763.8	50.9	10.5	70	SW			2		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.09	764.2	39.2	4.0	87	W			1		9			0.012	0.3		Dr. Wierzbiski.
Eperies			30.08	764.0	38.5	3.6	88	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.78	731.1	30.09	764.2	34.3	1.3	90	SSW			2		0			0	0		Andreas Rospini.
Hermannstadt	28.67	728.2	30.13	765.2	45.3	7.4	65	NE			1		5		WNW	0	0		Prof. Reissenberger.
Kremsmünster	28.66	727.9	30.07	763.7	30.2	— 1.0	92	NE			1		10			0	0		Prof. C. Wagner.
Lemberg			30.03	762.7	32.9	0.5	94	SW			1		10			0.031	0.8		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			30.16	766.0	53.2	11.8	88	Calm			0		8cs			0	0		I.R.Hydrographic Of'ce.
Szegedin			30.07	763.6	41.4	5.2	86	S			2		10			0	0		Karl Stancel.
Trieste			30.16	766.1	52.5	11.4	91	Calm			0		10			0.146	3.7	Rain and fog	Prof. V. Farolfi.
Vienna			30.09	764.3	35.8	2.1	96	Calm			0		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29 97	761.2	39.2	4.0	94	S			1		10k		SE	0.002	0.05		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er Low'r 0—10.	Clouds. Amount. Up'er Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.94	757.9	43.5	6.4		SSE	25	11.2			9			0.010	0.25	Overcast	William Boswell.
Ardrossan			29.75	755.6	45	7.2		SSE			2		10					Raining	William McNeil.
Armagh, Observatory			29.77	756.1	44.0	6.7		SSW	5	2.2									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.78	756.4	43.7	6.5		Calm			0		0					Blue sky	J. Dreyer.
Bradford			29.88	758.9	40.9	4.9		E			1		10			0	0	Gloomy	J. McLandsborough.
Bridgetown, (Barbados)			30.03	762.7	83.8	28.8		NE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.95	760.7	41.0	5.0		SE			1		10					Overcast	H. Todd. [H.C.
Cardington			29.93	760.2	40.6	4.8		E			0		10					Foggy	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.91	759.7	41.9	5.5		NE			1		8					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	28.34	719.8	29.86	758.4	43.4	6.3		SE			4		10					Drizzling	R. E. Power.
Davos Platz, (Switzerland)	24.80	629.9			37.0	2.8	77	SW			1		10			0	0	Overcast	Francis Redford, M. A.
Donaghadee			29.74	755.4	45	7.2		SW			3		10					Overcast	J. Mac Gowan.
Dover			29.94	760.5	44	6.7		ESE			2		7					Gloomy	J. Costello.
Eccles, (near Manchester)			29.84	757.9	44.7	7.1		SE	6.2	2.8			8					Misty	Thomas Mackereth.
Falmouth, Observatory			29.79	756.7	47.3	8.5		NW			1		10					Rain & fog	The Staff.
Fort Napier, (Natal)	27.43	696.7	29.66	753.4	93.1	33.9		NW			2		0					Blue sky	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.98	761.5	83.0	28.3		Calm			0		4					*D. clouds	
Galway, Queen's College			29.69	754.1	43	6.1		S			2		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.80	756.9	55.0	12.8		NW			5		4					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.74	755.4	44.4	6.9		SSE			2		10					Gloomy	Lewis Stuart.
Great Yarmouth			29.96	761.0	44	6.7		SSE			4		7					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.94	760.5	43.4	6.3		ESE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			29.83	757.7	47.5	8.6		SSE			3		6					*D. clouds	Dr. S. E. Hoskins.
Helston			29.73	755.1	49	9.4		N			4		10n			0.79	20.1	Showery	M. P. Moyle.
Holyhead			29.76	755.9	45	7.2		SW			2		10					Raining	John Tilston.
Kew, Observatory			29.93	760.2	44.7	7.1		ESE	10	4.5			10					Hazy	The Staff.
Kingstown			29.77	756.1	44	6.7		W			1		5					*D. clouds	George Mitchell.
Leicester Museum			29.91	759.7	41.7	5.4		SE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.19	766.8	65.6	18.7		SE			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.74	755.4	45	7.2		Calm			0		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.15	765.8	74.6	23.7		NE			4		5					Overcast	Surg. Maj. Henry.
Nottingham, Observatory			29.92	760.0	42.0	5.6		ESE			2		10k		E	0.033	0.84	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.88	758.9	43.0	6.1		ESE			3		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.88	758.9	45	7.2		ESE			1		10					Gloomy	J. Lucas.
Plymouth			29.78	756.4	50	10.0		SE			3		10					Gloomy	John Merrifield.
Roche's Point			29.76	755.9	46	7.8		N			3		2					Fine	W. Kennedy.
Saint Ann's Head			29.77	756.1	46	7.8		NW			1		10					Overcast	John C. Walker.
Saint Helier, (Jersey)			29.83	757.7	48.4	9.1		SE			3		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.73	755.1	43.4	6.3		SE	32	14.3			10					Misty	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.22	767.6	53.2	11.8		S			1		1					Blue sky	Sergt. W. H. Lyne.
Sheffield			29.89	759.2	42.1	5.6		SSE			2		7			0	0	Overcast	W. F. Cooper.
Silloth Rectory			29.76	755.9	45.2	7.3	79	SW			6		7			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.85	758.2	44.0	6.7		S			3		6c, ks					Hazy	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.65	753.1	47	8.3		SSW			2		10					Overcast	John Smith.
Stratfield Turgiss			29.90	759.4	45.2	7.3		E			1		8					*D. clouds	Rev. Charles H. Griffith
Thurso			29.73	755.1	43	6.1		SSE			4		9					Gloomy	John Trotter.
Truro, Royal Institution			29.77	756.1	48	8.9		N			2		10					Raining	W. Newcombe.
Valencia, Observatory			29.75	755.6	46.6	8.1		SSE	16	7.2			2			Blank	Blank	*D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					47	8.3		S			4		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.86	758.4	69.1	20.6	72	S	19	8.5		10	10						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	70.0	21.1	83	S			1		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.91	759.7	44.5	6.9		SW			2		10k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.06	763.5				E	22.0	9.8						0.02	0.5		C. Meldrum.
Melbourne, Observatory			29.83	757.7	85.0	29.4	42	WNW	8	3.6			4			0	0	Sultry	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.65	753.1	46	7.8		S			4	5	5	S		0.6	15.2		J. Youngclause.
North Unst, (Shetland Is.)			29.88	758.9	44	6.7		SE			7	4	7	S					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.08	763.9	32.5	0.3	92	ESE			2		10					Snowing	
Fanöe			30.09	764.2	34.5	1.4	93	ENE			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.14	740.2	40.5	4.7	90	NE			7		8						
Thorshavn, (Faröe)			29.65	753.2	46.0	7.8	88	SE			3		10					Raining	
Vestervig			30.12	765.0	31.0	— 0.2	96	ENE			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Alençon			29.90	759.4	47.3	8.5	91	E			2	10c		E		0.024	0.6	Covered	Normal School.
Amiens			29.92	760.0	44.6	7.0	91	WSW			3		5		W	0.059	1.5	Cloudy	Normal School.
Avignon			29.96	760.9	54.3	12.4	80	SE			2		10		SE	0.71	18.	Raining	Normal School.
Bar-sur-Seine			29.89	759.2	45.5	7.5	84	S			1		10		SSW	0.071	1.8	Light rain	C. Saillard.
Beaumette, (near Angers)			29.84	757.9	45.1	7.3	94	E	2.2	1.0					E	0	0		Beaumette Observ'tory.
Beauvais			29.93	760.2	43.2	6.2	85	ESE			2		10			0.006	0.15	Covered	Normal School.
Besançon			29.95	760.7	43.7	6.5	91	E			2		8		W	0.173	4.4	Very cloudy	Normal School.
Bourg en Bresse			29.99	761.8	45.9	7.7	73	SE			2		10n		N	0.134	3.4	Covered	Normal School.
Bourges			29.89	759.1	47.1	8.4	94	S			2		5		S	0.098	2.5	Cloudy	Normal School.
Brest			29.74	755.3	48.7	9.3	89	SE			3		9		SE	0.049	1.25		Naval Observatory.
Carcassonne			29.82	757.5	51.1	10.6	78	W			1		2		E	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.91	759.6	43.9	6.6	100	NNE			2		10		NE	0	0	Covered	Normal School.
Châlons-sur-Marne			29.91	759.6	44.1	6.7	97	SSE			2		10			0.079	2.0	Light rain	Normal School.
Clermont			29.84	757.9	50.0	10.0	82	S			1		8		S	0.244	6.2	Very cloudy	Puy de Dome Obs'y.
Commercy			29.93	760.2	41.7	5.4	97	SE			2		10			0.012	0.3	Covered	Normal School.
Commune de Gréasque*			30.02	762.6	49.5	9.7	74	E			1		10		SE	0.24	6.		M. Kina.
Grenoble			29.90	759.4	43.5	6.4	81	ESE			1		10n			Inap.	Inap.	Raining	Normal School.
La Roche-sur-Yon			29.84	757.8	49.3	9.6	89	SE			8		8		NW	0	0	Very cloudy	Normal School.
Le Mans			29.83	757.7	43.0	6.1	97	E			2		10			0	0	Covered	Normal School.
Lons-Le-Saulnier			29.89	759.3	46.6	8.1	91	S			2		10			0.173	4.40	Foggy	Normal School.
Lorient			29.84	757.9	47.1	8.4	81	SE			2					0.244	6.2	Misty	Naval Observatory.
Mâcon			29.95	760.8	41.4	5.2	73	Calm			0		10			0.150	3.8	Covered	Normal School.
Metz			30.03	762.7	41.0	5.0	97	NE			2		10			0.016	0.4	Covered	M. Schuster.
Mirecourt			29.93	760.2	40.6	4.8	97	SW			1		10		NE	0.059	1.5	Covered	Normal School.
Nismes			29.94	760.5	53.6	12	80	S			2		10		S	1.949	49.5	Raining	Normal School.
Orleans			29.89	759.1	43.5	6.4	92	S			1		10			0.024	0.6	Covered	Normal School.
Paris, Observatory			29.89	759.3	45.5	7.5	74	ESE			1		10			0	0	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			29.97	761.2	50.5	10.3		S			6		10		S	1.30	33.	Covered	Normal School.
Rochefort, Observatory			29.88	758.9	45.0	7.2	94	ESE			2					0	0	Foggy	Naval Observatory.
Rouen			29.90	759.5	47.3	8.5	77	SSE			2		0			0	0	Clear	Normal School.
Saint Lo																			N rmal School.
Tarbes																			Normal School.
Villefranche			29.95	760.7	51.8	11	96	S			4		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.97	761.1	50.2	10.1	72	SE			2		10			0.102	2.6	Raining	Marseilles Observatory.
Mont-Louis	24.69	627.0	30.04	763.1	37.4	3.0	96	SW	9.3	4.17			4		SW	0.051	1.3		—. Falguère.
Montsouris, Paris																			Montsouris Observatory
Perpignan			29.84	757.9	63.1	17.3	47	SW	7.4	3.33			1			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	21.00	533.3			23.9	— 4.5		NE			1		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.28	566.0			33.8	1.0		NE			1		4			0.012	0.3	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.89	759.1	46.0	7.8	89	NE			1		10			0	0	Covered	E. Renou.
Toulouse			29.93	760.1	44.1	6.7	100	SSW			1		10			0	0	Dense fog	Toulouse Observatory.
Tours			29.88	758.9	46.4	8.0	89	S			1		10		W	0.079	2.0		C. Marquet.
Versailles, (near Paris)			29.90	759.4	44.2	6.8	94	SE			1		10			0	0	Dense fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.27	768.9	46.6	8.1	76	E	4.6	2.08			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bamberg			29.98	761.6	42.8	6.0	82	W			1		10			0	0	Foggy	Prof. T. Hoh.
Berlin			30.05	763.3	42.6	5.9	91	S			1		7			0	0		Prof. Arndt.
Breslau			30.08	764.1	41.5	5.3	84	WSW			3		10			0	0	Foggy	Royal University Obs'y.
Carlsruhe			29.98	761.4	41.7	5.4	93	S			1		10					Raining	A. Senz.
Cassel			30.09	764.2	40.6	4.8	77	SE			1		8	SSE		0	0		Dr. H. Möhl.
Crefeld			30.01	762.3	40.6	4.8	77	SE			1		3			0	0		Director Lose.
Emden			30.15	765.7	34.5	1.4	98	SW			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.03	762.7	42.6	5.9	63	E			2		10			0	0		Physical Society.
Friedrichshafen			29.99	761.8	41.0	5.0	78	NE			4		10			0.209	5.3	Raining	M. Wilhelm.
Hamburg			30.04	763.1	37.9	3.3	88	W			2		9k			0.098	2.5	Cloudy	Captain F. Hegemann.
Kiel			30.01	762.2	39.0	3.9	90	SW			2		10			0.079	2.0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.13	765.4	21.2	— 6.0	88	NE			2		10			0	0		Prof. E. Luther.
Köslin			30.06	763.5	30.6	— 0.8		Calm			0		6			0	0		H. Müller.
Leipsic			30.09	764.2	41.2	5.1	85	SW			1		8	WSW		0	0		Prof. Bruhns.
Memel			30.19	766.7	17.8	— 7.9	83	ENE			4		9ks			0	0		Reinbrecht & Skalweit.
Münster			30.06	763.5	42.4	5.8	90	NW			2		0			0	0		Prof. E. Heis.
Neufahrwasser			30.10	764.5	28.6	— 1.9	86	E			2		10			0.043	1.1	Snowing	A Lothe.
Posen			30.07	763.7	40.8	4.9	94	W			2		10			0.004	0.1		Dr. Magener.
Strassburg, (in Alsace)			29.99	761.8	40.1	4.5	100	NE			2		10			0.047	1.2	Raining	Dr. Schur.
Stuttgart			29.99	761.8	41.0	5.0	90	N			1		10			0.067	1.7	Raining	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.92	759.9	42.6	5.9	86	E			2		10			0.307	7.8		Prof. Flesch.
Weissenburg, (Bavaria,)	28.47	723.2	30.02	762.4	41.2	5.1	78	NE			1		6	SE		0	0	Foggy	Dr. von Bebber.
Wustrow, Naval School			30.02	762.4	37.9	3.3	98	S			2		10			0.217	5.5		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 30°, 55′, W. 24°, 56′.			30.38	771.7	72.1	22.3	85	SE			4		6	SE				Smoke-haze	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.24	768.0	62.2	16.8		S										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.13	765.2	46.0	7.8	80	Calm	0	0			10			0.008	0.2	Light rain	Prof. Giovanni Clodig.
Padua			30.13	765.2	46.0	7.8	62	NNE	1.8	0.8			9			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.13	765.3	46.8	8.2	66	E	0	0			7	W		0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.78	730.9	30.13	765.2	40.6	4.8	87	SW			2		10			0.228	5.8	Raining	Prof. Trionfini Carlo.
Domodossola			30.16	766.0	39.2	4.0	90	Calm			0		10			0.057	1.4	Raining	Prof. Giuseppe Calza.
Milan			30.16	766.1	39.9	4.4	97	S			1		10	NE		0.47	12.0	Raining	Ab. Gio. Capelli.
Pavia			30.15	765.7	41.7	5.4	89	NE			1		10			0.154	3.9	Raining	Prof. Gio. Cantoni.
Moncalieri			30.18	766.5	40.1	4.5	92	NNW	0	0			10			0	0		Prof. P. F. Denza.
Mondovi	28.19	716.0	30.15	765.8	39.7	4.3	85	NW			2		10			0	0		Prof. C. Bruno.
Porto Maurizio			30.12	765.0	55.6	13.1	61	NE			2		10			0.316	8.0	Raining	Prof. L. Vassallo
Genoa																			Prof. Garibaldi.
Piacenza			30.17	766.4	41.7	5.4	92	SE	0	0			10			0.031	0.8	Rain & fog	Dott. G. Manzi.
Parma			30.17	766.3	42.4	5.8	89	W			2		10			0.016	0.4	Light rain	Prof. P. Pigorini.
Bologna			30.18	766.6	42.3	5.7	42	NW			1		10			0	0		Prof. A. Palagi.
Florence			30.14	765.6	53.6	12.0	86	NW			2		10	SW		0.05	1.4	Raining	Cav. F. Meucci.
Leghorn			30.10	764.6	52.0	11.1	86	ENE	8.[illegible]	3.6			10	S		0.197	5.0	Raining	Prof. P. Monte.
Siena	28.89	723.8	30.11	764.9	50.0	10.0	85	ESE	1.[illegible]	0.6			9	SW		0.03	1.0	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.17	766.2	44.8	7.1	96	NNW	19.[illegible]	8.6			8	SW		0	0		Prof. Luigi Guidi.
Ancona			30.17	766.3	53.2	11.8	76	SE			4		8			0	0		Prof. F. De—Bosis.
Grosseto			30.14	765.6	55.2	12.9	86	SE			2		9	S		0.157	4.0	Raining	Avv. P. Ponticelli.
Rome			30.15	765.9	59.0	15.0	68	SE	13.[illegible]	5.8			5	SE		0.11[illegible]	2.9		Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.18	766.6	60.8	16.0	66	S			6		9	S		0.110	2.8	Raining	Prof. L. Palmieri.
Lecce			30.28	769.2	57.9	14.4	76	SSE	2.[illegible]	1.1			3			0	0		Prof. C. De—Giorgi.
Cosenza			30.25	768.4	57.7	14.3	64	SE	0.7	0.3			0			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			30.16	766.1	60.1	15.6	65	SE			2		2	NE		0	0		Prof. F. Cafiero.
Palermo			30.11	764.9	61.7	16.5	54	NE	3.1	1.4			3			0	0		Prof. G. Cacciatore.
Caltanissetta	28.21	716.6	30.19	766.8	53.1	11.7	69	SSE			4		4	SW		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.23	767.8	56.7	13.7	64	NE	3.1	1.4			10	E		0.138	3.5		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

By authority of the
Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Observer.
Mexico	Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Force. 0—10.	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Flushing	30.02	762.4	40.3	4.6		E	2	0	0	
Groningen	30.00	762.0	36.3	2.4		S	2	0.004	0.1	
Helder	30.02	762.6	37.4	3.0		SSE	1	0	0	
Utrecht	29.98	761.5	35.8	2.1	98	SE	2	0	0	Hazy

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Bergen	30.11	764.9	34.5	1.4	82	Calm	0	0	10	0	0	
Brönö	30.12	765.1	23.0	— 5.0	57	Calm	0	0	0	0	0	
Christiania	30.26	768.5	19.0	— 7.2	93	ENE	0	0	0	0	0	
Tromsö	30.13	765.3	22.6	— 5.2	71	Calm	0	0	0	0	0	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.07	763.7	60.4	15.8	89	W	11.2	5.0			7			0.039	1.0		Dr. J. A. Sampaio.
Campo Major			29.82	757.3	44.6	7.0	91	NW	9.4	4.2			10	NW		0.760	19.3	Raining	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.18	766.5	65.1	18.4	43	SW	4.9	2.2			7			0	0		Capt. D. A. de Cunha.
Lisbon			29.90	759.5	50.4	10.2	71	NNW	23.7	10.6			8			0.567	14.4	Rainy	The Observatory.
Ponta Delgada, (Azores)			30.17	766.3	62.6	17.0	80	WSW	15.0	6.7			8			0	0		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Warsaw			30.06	763.4	29.8	— 1.2	96	ESE	2	1			10						Astronomical Obs.
Wilna			30.17	766.4	20.7	— 6.3	85	Calm	0	0			10						Astronomical Obs.
Dorpat			30.22	767.5	17.6	— 8.0	94	WNW	4	2			10					Snowing	Physical Cabinet.
St. Petersburg			30.22	767.6	10.2	—12.1	76	NE	9	4			1						Central Physical Obs.
Kuopio			30.27	768.9	12.2	—11.0	100	ENE	13	6			10					Snowing	Ch. Forsten.
Kieff			30.19	766.8	17.2	— 8.2	91	SE	4	2			10					Snowing	Physical Cabinet.
Nikolaiev			30.30	769.5	25.2	— 3.8	91	Calm	0	0			7						Kurdakof.
Kertch			30.25	768.3	33.1	0.6	87	NE	2	1			9						Lagorio.
Moscow			30.03	762.7	8.2	—13.2	84	NNW	7	3			10					Light snow	Meteorological Obs.
Lugan			30.15	765.7	7.0	—13.9	75	WSW	13	6			4						Meteorological Obs.
Archangel			30.06	763.4	— 8.0	—22.2	88	N	9	4			10						Ogorodnikof.
Tiflis	28.65	727.8	30.11	764.8	42.4	5.8	56	NW	45	20			5						Physical Observatory.
Astrakhan			30.08	764.1	19.8	— 6.8	86	WNW	22	10			4						Sebastianof.
Kasan			29.65	753.2	— 7.2	—21.8	96	W	11	5			10					Light snow	Physical Cabinet.
Orenburg			30.51	774.9	—17.9	—27.7		SE	13	6			0						Tschernischef.
Ekaterinburg	28.56	725.4	29.62	752.3	— 9.6	—23.1	78	WSW	4	2			0						Meteorogical Obs.
Nikuss			29.87	758.7	39.6	4.2	69	NNW	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.21	767.3	7.2	—13.8	87	Calm	0	0			10						Meteorological Obs.
Yeniseisk			30.37	771.4	—25.8	—32.1	81	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.37	771.5	27.3	— 2.6	87	Calm	0	0			9			Blank	Blank		Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					0.5	—17.5		W	11	5			7						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Madrid			29.83	757.7	47.7	8.7	71	E	13.4	6.00		1	3	S		0	0	Cloudy	Royal Observatory.
San Fernando			29.84	758.0	53.2	11.8	67	NW	16.6	7.4		2	7	W	NW	0.925	23.5		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda			30.34	770.5	15.4	— 9.2	100	S			4		10			0	0		
Umea			30.32	770.1	14.0	—10.0	100	NNW			2		10			0	0		
Hernosand			30.28	769.2	16.9	— 8.4	94	NNE			2		10			Inap.	Inap.	Snowing	
Stockholm			30.23	767.7	25.5	— 3.6	82	Calm			0		10			0	0		
Wisby			30.22	767.5	29.8	— 1.2	96	ESE			4		7			0.020	0.5		
Sub-Series.																			
Upsala			30.24	768.0	23.7	— 4.6	88	NNE	0	0			7		SSW	0.001	0.03		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.53	724.7	29.99	761.8	43.2	6.2	79	SSW			1		10			0	0	Misty	The Observatory.
Zurich	28.30	718.9	30.00	761.9	38.5	3.6	86	SE			1		10			0	0	Foggy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —2.7 mm; Thermometer, +3.7 cent.; Relative Humidity, —1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.27	768.8	54.0	12.2	76	S	3	1.5			4		NW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.26	768.6	67.5	19.7		SE			1		0						
Valona			30.23	767.8	57.2	14.0		NE			1		5						
Varna			30.24	768.0	46.4	8.0		NE			2		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.10	764.6	67.1	19.5	62	W			3		8ks		SW	0	0	*D. Clouds	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.97	761.2	20.3	— 6.5	78	Calm	0	0			10						Hon. J. Ferguson.
Brockville, Ontario			29.84	757.9	31	— 0.6		Calm	0	0			10s		W	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			29.86	758.4	18	— 7.8	95	Calm	0	0			10ks			0.14	3.6	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.87	758.7	28	— 2.2	94	Calm	0	0		0	s			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.80	756.9	31.0	— 0.6	91	NW			1		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B.			29.93	760.2	15.0	— 9.4	96	W			1					0.15	3.8	Clear	H. A. Johnson.
Esquimault, B. C.																			W. H. Bevis.
Fredericton, N. B.			29.90	759.4	21.0	— 6.1	100	SW	2	0.9		..c	10ks		W	0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.45	773.4	—25	—31.7	100	NW	6	2.7		0	0			0.100	2.79	Clear	James Stewart.
Goderich, Ontario			29.81	757.2	33.9	1.1	82	SW			3		9n			0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.69	728.7	29.83	757.7	30.0	— 1.1		SW			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S.			29.89	759.2	34	1.1	95	W	4	1.8			10n			Inap.	Inap.	Hazy	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			29.83	757.7	34	1.1	85	S	2	0.9			10ks		SW	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.83	757.7	34.0	1.1		W	2	0.9		6k	0	N		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			29.84	757.9	26	— 3.3	86	SW	1	0.4			10n			Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			29.81	757.2	27	— 2.8	76	SE	2	0.9			10ks		W	Inap.	Inap.	Cloudy	J. B. Haney.
*Parry Sound, Ontario			29.71	754.6	35	1.7	80	S	12	5.4		2k	5ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.88	758.9	33	0.6	80	W	8	3.6		10k	0	W		0	0	Cloudy	H. Morgan.
Port Hastings, N. S.			29.88	758.9	32.2	0.1		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.89	759.2	32	0.0	79	W	15	6.7			10n		SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.88	758.9	18	— 7.8	68	Calm	0	0			10n			0.60	15.2	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.92	760.0	36	2.2	75	Calm	0	0		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.72	754.9	34	1.1	76	SW	8	3.6		10k	0	W		0	0	Cloudy	K. Stewart.
Stayner, Ontario			29.75	755.6	33	0.6	78	SE	1	0.4			8n		NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.51	724.1	29.84	757.9	29.0	— 1.7	86	S	12	5.4			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.86	758.4	31	— 0.6	100	SW	4	1.8		2k	5ks	W	W	0.01	0.3	Fair	T. C. Hill.
*Toronto, Ontario			29.85	758.2	33	0.6	74	SW	7	3.1			10n		SW	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.87	758.7	31.0	— 0.6	98	W	6	2.7			10s			0	0	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.89	759.2	28.0	— 2.2		Calm	0	0		10	10			0.04	1.0	Overcast	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, N. Y.			29.87	758.7	31	— 0.6	89	Calm	0	0			Fog			0	0	Foggy	
Alpena, Mich.			29.61	752.1	31	— 0.6	79	SW	13	5.8			10s		SW	0	0	Cloudy	
Atlantic City, N. J.			29.92	760.0	39	3.9	81	SW	8	3.6		5c	Haze	SW		0	0	Fair	
Augusta, Ga.			30.12	765.0	33	3.3	90	Calm	0	0		5cs	Fog	W		0	0	Fair	
Baltimore, Md.			29.92	760.0	38	3.3	81	Calm	0	0		5ck	2s	SW	SW	0	0	Cloudy	
Barnegat, N. J.			29.91	759.7	38	3.3	90	S	8	3.6		5ck	Haze	W		0	0	Fair	
Bismarck, Dakota	28.54	724.9	30.46	773.7	— 9	—22.8	77	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			29.88	758.9	37	2.8	90	W	2	0.9		10cs	Fog	W		0	0	Cloudy	
Breckenridge, Minn.			30.51	774.9	—14	—25.6	73	NW	18	8.0		0	0			0	0	Clear	
Buffalo, N. Y.			29.85	758.2	34	1.1	69	W	12	5.4			10s		SW	0	0	Cloudy	
Burlington, Vt.			29.85	758.2	35	1.7	70	Calm	0	0			10s			0	0	Cloudy	
Cairo, Ill.			30.15	765.8	32	0.0	79	Calm	0	0		Haze	Sm'e			0	0	Hazy	
Cape Hatteras, N. C.			30.04	763.0	51	10.6	78	W	10	4.5		2cs	Sm'e			0	0	Fair	
Cape Henry, Va.			30.02	762.5	47	8.3	62	SW				0	Haze			0	0	Clear	
Cape Lookout, N. C.			30.12	765.0	53	11.7	86	SW	9	4.0			10s			0	0	Cloudy	
Cape May, N. J.			29.92	760.0	46	7.8	76	SW	6	2.7		2cs	Haze	NW		0	0	Fair	
Charleston, S. C.			30.15	765.8	53	11.7	73	SW	4	1.8			10s		W	0	0	Cloudy	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	11	—11.7	79	NW	8	3.6		0	0			0	0	Clear	
Chicago, Ill.			29.86	758.4	32	0.0	69	SW	5	2.2		0	0			0	0	Clear	
Cincinnati, Ohio			29.95	760.7	37	2.8	71	NW	5	2.2		8k	Sm'e	NW		0	0	Cloudy	
Cleveland, Ohio			29.92	760.0	34	1.1	79	SW	8	3.6			10s		SW	0	0	Cloudy	
Corsicana, Tex.			30.04	763.0	47	8.3	69	N	8	3.6			10s			0	0	Cloudy	
Davenport, Iowa			30.00	762.0	31	— 0.6	68	NW	16	7.2		5k	7ks	NW	NW	0	0	Cloudy	
Denison, Tex.			30.17	766.3	41	5.0	73	NW	10	4.5		10cs	0	N		0	0	Cloudy	
Denver, Col.	24.9	634.7	30.21	767.3	24	— 4.4	74	Calm	0	0		0	0			0	0	Clear	
Detroit, Mich.			29.82	757.4	34	1.1	69	SW	10	4.5			10s		W	0	0	Cloudy	
Dodge City, Kan.	27.58	700.5	30.03	762.7	23	— 5.0	73	N	16	7.2		0	2s			0	0	Clear	
Dubuque, Iowa			29.98	761.5	22	— 5.6	72	NW	18	8.0			10s			0	0	Cloudy	
Duluth, Minn.			30.05	763.3	0	—17.8	69	NW	16	7.2		0	2s		NW	0	0	Clear	
Eastport, Me.			29.85	758.2	35	1.7	90	Calm	0	0		Haze	Haze			0	0	Hazy	
Erie, Pa.			29.88	758.9	35	1.7	80	SW	12	5.4			10s			0	0	Cloudy	
Escanaba, Mich.			29.53	750.0	30	— 1.1	78	SW	13	5.8			10s		SW	0	0	Cloudy	
Fort Gibson, Indian Ter.			30.17	766.3	33	0.6	89	Calm	0	0			10s			0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.99	736.3	30.15	765.8	38	3.3	45	NE	6	2.7		5c	0			0	0	Fair	
Fort Sully, Dakota	28.71	729.2	30.62	777.7	0	—17.8	69	W	1	0.4		0	0			0	0	Clear	
Florence, Arizona	28.55	725.2	30.10	764.5	50	10.0		NW				0	0			0	0	Clear	
Galveston, Tex.			30.05	763.3	63	17.2	100	S	6	2.7			Fog			0	0	Foggy	
Grand Haven, Mich.			29.77	756.1	36	2.2	85	SW	19	8.5		0	4s		W	0	0	Fair	
Indianapolis, Ind.			29.98	761.5	37	2.8	71	SW	3	1.3		5cs	Sm'e			0	0	Fair	
Indianola, Tex.			30.05	763.3	60	15.6	100	S	2	0.9			Fog			0	0	Foggy	
Jacksonville, Fla.			30.19	766.8	55	12.8	87	E	1	0.4			10s			0.08	2.0	Cloudy	
Keokuk, Iowa			30.00	762.0	30	— 1.1	78	W	8	3.6			10s		W	0	0	Cloudy	
Key West, Fla.			30.13	765.3	68	20.0	100	NE	8	3.6			Fog			0	0	Foggy	
Kittyhawk, N. C.			30.08	764.0	44	6.7	67	SW	12	5.4		0	2s			0	0	Fair	
Knoxville, Tenn.			30.05	763.3	45	7.2	92	SW	4	1.8			10n		SW	0.02	0.5	Misting	
La Crosse, Wis.			30.01	762.2	9	—12.8	57	NW	24	10.7		Haze	0			0	0	Hazy	
Leavenworth, Kan.			30.18	766.6	33	0.6	69	NW	6	2.7			10s		NW	0	0	Cloudy	
Louisville, Ky.			30.04	763.0	35	1.7	80	NW	2	0.9			10s		NW	0	0	Cloudy	
Lynchburg, Va.			29.97	761.2	44	6.7	55	SW	2	0.9		5c	Sm'e	SW		0	0	Fair	
Malone, N. Y.			29.74	755.4	36	2.2	80	SW	1	0.4			10s			0	0	Cloudy	
Marquette, Mich.			29.46	748.3	30	— 1.1	78	Calm	0	0			10s			0	0	Cloudy	
Memphis, Tenn.			30.10	764.5	45	7.2	60	N	5	2.2		Haze	5ks,sm		SW	0	0	Fair	
Milwaukee, Wis.			29.80	756.9	27	— 2.8	88	W	13	5.8		0	2s			0	0	Clear	
Mobile, Ala.			30.10	764.5	53	11.7	93	S	1	0.4		5k	Fog	NW		0	0	Fair	
Montgomery, Ala.			30.11	764.8	48	8.9	92	S	1	0.4		2cs	Fog			0	0	Foggy	
Morgantown, W. Va.	28.85	732.8	29.92	760.0	40	4.4	77	Calm	0	0		5c	Fog	W		0	0	Fair	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	18	— 7.7	84	NW	18	8.0		5s	5s	NW	NW	0	0	Fair	
Nashville, Tenn.			30.04	763.0	46	7.8	69	NW	2	0.9		8k	Fog	W		0.01	0.3	Cloudy	
New Haven, Conn.			29.92	760.0	39	3.9	81	SW	5	2.2			10s,fg			0	0	Cloudy	
New London, Conn.			29.92	760.0	37	2.8	90	Calm	0	0			Fog			0	0	Dense fog	
New Orleans, La.			30.08	764.0	56	13.3	93	S	2	0.9		9k	Fog	SW		0	0	Cloudy	
Newport, R. I.			29.91	759.7	39	3.9	91	Calm	0	0		5k	Fog	SW		0	0	Cloudy	
New York, N. Y.			29.90	759.4	39	3.9	63	SE	3	1.3		5ck	Fog	W		0	0	Foggy	
Norfolk, Va.			30.02	762.5	42	5.6	75	SW	8	3.6		Haze	Haze			0	0	Hazy	
North Platte, Neb.	27.32	693.9	30.06	763.5	25	— 3.9	88	N	14	6.3			10s		N	0	0	Cloudy	
Omaha, Neb.	29.14	740.1	30.32	770.1	16	— 8.9	66	N	24	10.7		0	0			0	0	Clear	
Oswego, N. Y.			29.84	757.9	38.5	3.6	80	S	1	0.4			10s		SW	0	0	Cloudy	
Pembina, Dakota			30.47	773.9	—26	—32.2	50	W	12	5.4		0	0			0.05	1.3	Clear	
Philadelphia, Pa.			29.92	760.0	39	3.9	81	W	4	1.8		2c	2s,sm	W		0	0	Cloudy	
Pike's Peak, Col.	17.65	448.3	29.86	758.4	2	—16.7	72	NW	23	10.3		1cs	0			0	0	Clear	
Pittsburgh, Pa.			29.93	760.2	32	0.0	89	W	2	0.9		5cs	5s		W	0	0	Cloudy	
Port Huron, Mich.			29.79	756.7	33	0.6	79	SW	12	5.4		2cs	5s		SW	0	0	Cloudy	
Portland, Me.			29.87	758.7	38	3.3	71	Calm	0	0			10s			0	0	Cloudy	
Portland, Oregon			30.21	767.3	33	0.6	89	N	4	1.8		0	0			0	0	Clear	
Punta Rassa, Fla.			30.14	765.5	63.5	17.5	91	NE	9	4.0		2k	5s	SW		0	0	Fair	
Rochester, N. Y.			29.82	757.4	37	2.8	76	W	9	4.0			10s		W	0	0	Cloudy	
Salt Lake City, Utah	25.86	656.8	30.19	766.8	16	— 8.9	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.87	758.7	38	3.3	80	SW	2	0.9		Haze	Haze			0	0	Dense haze	
San Diego, Cal.			30.08	764.0	53	11.7	93	Calm	0	0		0	8s			0	0	Cloudy	
San Francisco, Cal.			30.09	764.3	48	8.9	77	NW	2	0.9		0	0			0	0	Clear	
Santa Fé, N. M.	23.26	590.8	29.80	756.9	23	— 5.0	46	N	10	4.5		0	0			0	0	Clear	
Savannah, Ga.			30.16	766.1	50	10.0	78	NW	4	1.8			10s			0	0	Cloudy	
Shreveport, La.			30.08	764.0	53	11.7	93	Calm	0	0			Fog			0	0	Foggy	
Smithville, N. C.			30.14	765.5	52	11.1	79	SW	5	2.2			10ks			0	0	Cloudy	
Springfield, Mass.			29.90	759.4	32	0.0	84	Calm	0	0			10s,fg			0	0	Foggy	
St. Louis, Mo.			30.07	763.8	34	1.1	79	W	14	6.3		0	5s			0	0	Fair	
St. Marks, Fla.			30.14	765.5	52	11.1	93	Calm	0	0			10s		SW	0	0	Cloudy	
St. Paul, Minn.			30.11	764.8	— 4	—20.0	64	NW	24	10.7		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.89	759.2	38	3.3	63	SW	8	3.6			10s		W	0	0	Hazy	
Toledo, Ohio			29.86	758.4	38	3.3	71	SW	12	5.4		8k	Haze	SW	SW	0	0	Cloudy	
Tucson, Arizona	27.64	702.0	30.19	766.8	37	2.8		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.14	765.5	50	10.0	93	N	2	0.9			10s			0	0	Cloudy	
Vicksburg, Miss.			30.08	764.0	60	15.6	100	SW	6	2.7			10s,fg		SW	0	0	Cloudy	
Virginia City, M. T.	24.40	619.8	29.88	758.9	12	—11.1	80	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.			29.93	760.2	40	4.4	63	S	4	1.8		6ck,c	2s	SW,W	SW	0	0	Smoky	
Wilmington, N. C.			30.13	765.3	50	10.0	64	SW	6	2.7		10cs	Haze	SW		0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.93	760.2	42	5.6	75	SW	2	0.9			10s		SW	0	0	Cloudy	
Yankton, Dakota	29.11	739.4	30.53	776.7	4	−1.6	69	NW	22	9.8		0	0			Inap.	Inap.	Clear	
Yuma, Arizona			30.10	7[illegible].5	48	8.9		NE				0	0			0	0	Clear	
Coast Series.																			
Kingston, Jamaica, W. I.			30.17	766.3	76	24.4	76	N	8	3.6		2c	2s	E	E	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.21	691.1	30.01	762.2	65	18.3	6[illegible]	E	1.0	0.[illegible]		5c	0	E		0.20	5.1	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.01	762.[illegible]	80	26.7	87	E			2	5ks?	7ks	E		0	0	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.03	762.8			79.7	26.[illegible]		NE								0.394	10.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.81	649.3			[illegible]	16.[illegible]	76	E			1	3k	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.84	757.9	−[illegible].0	−21.7		W	11	4.[illegible]		2c	1s	W		0	0	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	74	23.3		NNW								0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.92	7[illegible].0	[illegible]	18.3	73	S			1	0	4k			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, Boston, Mass.					Hazy	Capt. James Jorgensen.
Steamer Leipzig, N. 39°, 54', W. 73°, 26'.	WSW	7.5	Long swells.	W	Clearing	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,675 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 15, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.00	761.9	59.2	15.1	67	Calm			0		9			0.248	6.3	Hidden	Charnot.
Algiers			29.91	759.6	62.6	17.0	81	N			2		10			0.394	10.0	Hidden	Peter.
La Calle			29.78	756.4	62.6	17.0	76	NW			1		5			0	0	Fair	Didier.
Tunis			29.87	758.6	64.4	18.0		SW			3		2			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.03	762.8	42.8	6.0	94	NNW			2		7			0.453	11.5	Cloudy	Millot.
Tebessa			29.82	757.5	49.1	9.5		ESE			1		6			0	0	Fair	Bourgeois.
Geriville			29.98	761.6	62.6	17.0	40	NNW			5		0			0	0	Clear	Lemaillot.
Laghouat			29.80	757.0	53.2	11.8	67	N			6		2			0	0	Clear	Guyot.
Biskra			29.85	758.2	65.8	18.8	86	SE			4		3			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.04	762.9	55.6	13.1	60	NW			3		7			Inap.	Inap.		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.11	764.8	36.7	2.6	89	NE			1		10			Inap.	Inap.		Dr. Wierzbiski.
Eperies			30.03	762.8	38.5	3.6	88	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.78	731.1	30.08	764.1	35.2	1.8	90	SW			1		0			0	0		Andreas Rospini.
Hermannstadt	28.68	726.0	30.02	762.6	46.6	8.1	76	ENE			1		10			0	0		Prof. Reissenberger.
Kremsmünster	28.67	728.3	30.07	763.8	35.2	1.8	93	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			30.12	765.1	27.7	— 2.4	96	NE			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.11	764.8	53.4	11.9	90	Calm			0		10s			0.039	0.99		I.R.Hydrographic Office.
Szegedin			30.04	763.1	42.8	6.0	82	NW			3		6			0	0		Karl Stancel.
Trieste			30.13	765.2	52.3	11.3	91	Calm			0		10			0.016	0.4	Rain and fog	Prof. V. Farolfi.
Vienna			30.07	763.6	39.2	4.0	93	Calm			0		6			0.079	2.0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.95	760.8	41.7	5.4	93	SSE			1		10		E	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.93	760.2	44.4	6.9		SSE	24	10.7			9			0	0	Overcast	William Boswell.
Ardrossan			29.80	756.9	44	6.7		SE			4		8					Overcast	William McNeil.
Armagh, Observatory			29.68	753.9	44.6	7.0		SE	11	4.9			10					Overcast	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.56	750.8	47.3	8.5		SE			3-4		10					Overcast	J. Dreyer.
Bradford			29.89	759.2	53.5	11.9		E			1		10			0	0	Gloomy	J. McLandsborough.
Bridgetown, (Barbados)			30.01	762.2	84.0	28.9		NE			3		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.91	759.7	43.0	6.1		SE			1		10					Overcast	H. Todd. [H. C.
Cardington			29.90	759.4	44.0	6.7		SE			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.91	759.7	44.2	6.8		E			1		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.34	719.8	29.86	758.4	43.4	6.3		SW			1		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.80	629.9			34.9	1.6	73	Calm			0		2			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.71	754.6	45	7.2		SE			5		10					Raining	J. Mac Gowan.
Dover			29.92	760.0	45	7.2		SE			3		7					Gloomy	J. Costello.
Eccles, (near Manchester)			29.86	758.4	42.9	6.1		SE	3.0	1.6			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.74	755.4	50.3	10.2		S			3		5					*D. clouds	The Staff.
Fort Napier, (Natal)	27.47	697.7	29.71	754.6	86.2	30.1		NE			2		9					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.98	761.5	85.0	29.4		N			0		5					*D. clouds	
Galway, Queen's College			29.39	746.5	47	8.3		S			1		2					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.03	762.7	58.5	14.7		NW			2		2					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			29.80	756.9	43.0	6.1		E			3		10					Threatening	Lewis Stuart.
Great Yarmouth			29.96	761.0	44	6.7		ESE			5		6					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.89	759.2	43.7	6.5		ESE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			29.80	756.9	49	9.4		SSW			1		5					*D. clouds	Dr. S. E. Hoskins.
Helston			29.67	753.6	50	10.0		SE			4		4ck			0.9	22.9	Fine	M. P. Moyle.
Holyhead			29.72	754.9	46	7.8		SSE			4		4					Hazy	John Tilston.
Kew, Observatory			29.88	758.9	44.7	7.1		E	15	6.7			10					Hazy	The Staff.
Kingstown			29.68	753.9	46	7.8		SSE			1		8					Overcast	George Mitchell.
Leicester Museum			29.89	759.2	41.7	5.4		E			1		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.01	762.2	67.0	19.4		E			4		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.82	757.4	43	6.1		Calm			0		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	70.0	21.1		NE			1		2					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.91	759.7	41.8	5.4		ESE			3		10k		ESE	0.027	0.6	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.87	758.7	39.8	4.3		ENE			2		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.84	757.9	43	6.1		E			1		10					Drizzling	J. Lucas.
Plymouth			29.76	755.9	47.5	8.6		ESE			1		4					*D. clouds	John Merrifield.
Roche's Point			29.55	750.6	50	10.0		S			6		10					Gloomy	W. Kennedy.
Saint Ann's Head			29.70	754.4	49	9.4		SSE			2		5					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.81	757.2	49.8	9.9		S			3		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.85	758.2	43.5	6.4		SSE	28	12.5			10					Misty	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.18	763.6	53.2	11.8		S			1		2					Blue sky	Sergt. W. H. Lyne.
Sheffield			29.90	759.4	42.8	6.0		SE			1		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory			29.81	757.2	44.9	7.2	78	S			2		4			0	0	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.87	758.7	41.0	5.0		SE			2		10s					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.71	754.6	44	6.7		SE			4		8					*D. clouds	John Smith.
Stratfield Turgiss			29.80	756.9	44.0	6.7		SE			1		10					Raining	Rev. Charles H. Griffith.
Thurso			29.83	757.7	43	6.1		S			6		7					*D. clouds	John Trotter.
Truro, Royal Institution			29.74	755.4	50	10.0		S			2		6					*D. clouds	W. Newcombe.
Valencia, Observatory			29.36	745.7	49.7	9.8		SSE	49	21.9			10					Raining	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					46	7.8		SE			6		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.13	765.3	70.6	21.4	45	SE	18	8.0		1	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.43	747.5	76.0	24.4	84	S			1		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.88	758.9	42.1	5.6		SW			2		4k			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.07	763.8				E	24.8	11.1						0.19	4.8		C. Meldrum.
Melbourne, Observatory			29.95	760.7	68.0	20.0	69	SSW	15	6.7			10			0.01	0.3		R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.65	753.1	47	8.3		SSE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.03	762.7	43	6.1		S			7		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.20	767.0	30.9	— 0.6	77	ENE			4		10						
Faröe			30.19	766.9	31.8	— 0.1	92	ENE			4		10						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.43	747.6	41.5	5.3	85	E			4		8						
Thorshavn, (Faröe)			29.82	757.3	45.1	7.3	80	SE			4		5						
Vestervig			30.23	767.8	28.8	— 1.8	88	NE			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.87	758.6	44.6	7	97	S			3		10			0	0	Covered	Normal School.
Amiens			29.91	759.6	44.6	7.0	91	W			3		0			0	0	Clear	Normal School.
Avignon			29.98	761.5	54.7	12.6	68	SE			2		8		S	0.110	2.8	Very cloudy	Normal School.
Bar-sur-Seine			29.95	760.7	45.7	7.6	87	S			1		10			0.165	4.2	Covered	C. Saillard.
Beaumette, (near Angers)			29.85	758.2	49.3	9.6	95	SSW	5.8	2.6					SW	0.177	4.5		Beaumette Observ'tory.
Beauvais			29.94	760.5	46.0	7.8	81	SE			2		10			0	0	Covered	Normal School.
Besançon			30.02	762.4	47.5	8.6	92	S			2		10			0.307	7.8	Covered	Normal School.
Bourg en Bresse			30.05	763.3	49.5	9.7	86	SE			1		10n		E	0.051	1.3	Raining	Normal School.
Bourges			29.95	760.8	41.0	5	100	E			2		5		N	0	0	Cloudy	Normal School.
Brest			29.73	755.2	49.1	9.5	86	S			3		5k		S	0.187	4.75		Naval Observatory.
Carcassonne			29.93	760.3	52.7	11.5	83	N			1		5		S	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.90	759.5	42.8	6	100	SSE			2		10		SE	0	0	Covered	Normal School.
Châlons-sur-Marne			29.96	761.0	45.9	7.7	83	SSE			2		10n			0.071	1.8	Covered	Normal School.
Clermont			29.89	759.2	50.0	10.0	84	S			2		10		S	0.039	1.0	Covered	Puy de Dome Obs'y.
Commercy			29.96	761.0	41.9	5.5	97	SW			2		10			0.47	12.	Covered	Normal School.
Commune de Gréasque*			30.04	763.0	54.1	12.3	67	E			4		8		E	0.24	6.		M. Kina.
Grenoble			30.03	762.8	41.9	5.5	51	ENE			1		2ck		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.91	759.7	47.8	8.8	97	SE			8		10			0.276	7.0	Covered	Normal School.
Le Mans			29.89	759.1	46.8	8.2	92	S			2		5		SW	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.98	761.6	48.7	9.3	92	NW			2		10			0.16	4.	Raining	Normal School.
Lorient			29.86	758.4	47.8	8.8	81	SE			1		8		S	0	0	Very cloudy	Naval Observatory.
Mâcon			30.08	764.0	46.0	7.8	94	S			2		10		S	0.110	2.8	Covered	Normal School.
Metz			30.05	763.3	43.3	6.3	92	E			2		10			0.47?	12.0	Foggy	M. Schuster.
Mirecourt			29.97	761.1	46.4	8	97	S			1		1		N	0.217	5.5	Clear	Normal School.
Nismes			29.94	760.4	54.0	12.2	65	S			6		5		S	0.374	9.5	Cloudy	Normal School.
Orleans			29.94	760.5	45.3	7.4	77	SW			1		5		SW	0	0	Cloudy	Normal School.
Paris, Observatory			29.93	760.2	45.3	7.4	87	SE			2		10			0	0	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.04	763.0	49.5	9.7		S			6		10		S	0.614	15.6	Covered	Normal School.
Rochefort, Observatory			29.91	759.7	45.9	7.7	91	S			3		10		N	0.039	1.0	Covered	Naval Observatory.
Rouen			29.89	759.3	48.0	8.9	76	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.06	763.5	47.3	8.5	76	S			3					0.20	5.	Foggy	Normal School.
Sub-Series.																			
Fort de France, Martinique.																			L'Abbé Marchési.
Marseilles			29.96	761.0	59.2	15.1	50	SE			3		9			0.031	0.80	Covered	Marseilles Observatory.
Mont-Louis	24.76	628.8	30.15	765.9	38.5	3.6	94	SSW	18.6	8.33			5		SW	0.004	0.1		—. Falguère.
Montsouris, Paris			29.92	759.9	45.1	7.3	91	SSE			2		10			0	0		Montsouris Observatory
Perpignan			29.93	760.1	56.1	13.4	79	E	5.6	2.50			5		SSW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P	21.05	534.7			24.1	— 4.4		N			2		1					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P	22.38	567.1			32.4	0.2		N			3		0			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			29.93	760.2	46.0	7.8	89	SSE			1		10			0	0	Covered	E. Renou.
Toulouse			29.98	761.4	45.1	7.3	93	ENE			1		10			0.016	0.4	Dense fog	Toulouse Observatory.
Tours			29.91	759.7	48.2	9.0	86	SSW			1		7		WSW	0	0		C. Marquet.
Versailles, (near Paris)			29.92	760.0	45.3	7.4	94	SE			1		10			0	0	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.20	767.0	45.1	7.3	86	NE	5.0	2.25			9			0.012	0.3		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.04	762.9	40.6	4.8	89	W			1		10			0.31	8.		Prof. T. Hoh.
Berlin			30.12	765.1	40.5	4.7	74	N			1		8			0	0		Prof. Arndt.
Breslau			30.10	764.6	37.6	3.1	91	ESE			2		10			0	0		Royal University Obs'y.
Carlsruhe			29.99	761.7	46.0	7.8	91	N			1		10			0.354	9.0		A. Senz.
Cassel			30.10	764.4	38.3	3.5	87	NNE			2		10	SSE		0	0		Dr. H. Möhl.
Crefeld			30.01	762.3	39.4	4.1	86	E			3		10			0	0	Foggy	Director Lose.
Emden			30.19	766.8	36.3	2.4	82	E			1		0			0	0		Prof. Prestel.
Frankfort on the Main			30.07	763.6	42.4	5.8	65	ENE			2		9			0.417	10.6		Physical Society.
Friedrichshafen			30.03	762.7	42.1	5.6	97	S			2		3			0.087	2.2	Raining	M. Wilhelm.
Hamburg			30.12	765.0	36.9	2.7	95	NE			1		10			0.004	0.1	Foggy	Captain F. Hogemann.
Kiel			30.12	765.1	36.0	2.2	87	ENE			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.21	767.3	17.6	— 8.0	86	E			2		5			0	0		Prof. E. Luther.
Köslin			30.16	766.0	32.9	0.5		Calm			0		4			0	0		H. Müller.
Leipsic			30.11	764.7	35.2	1.8	98	NNE			1		10			0	0		Prof. Bruhns.
Memel			30.27	768.8	19.4	— 7.0	94	E			2		10ks			0	0		Reinbrecht & Skalweit.
Münster			30.02	762.6	40.3	4.6	86	NW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.19	766.7	27.3	— 2.6	92	SSW			1		2			Inap.	Inap.	Snowing	A Lothe.
Posen			30.13	765.3	39.2	4.0	88	E			2		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.00	762.1	48.2	9.0	80	Calm			0		9	W		0.118	3.0		Dr. Schur.
Stuttgart			29.99	761.8	46.0	7.8	86	N			1		10			0.201	5.1		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.93	760.3	43.5	6.4	91	NE			1		10			0.303	7.7		Prof. Flesch.
Weissenburg, (Bavaria,)	28.48	723.3	30.01	762.3	44.1	6.7	83	Calm			0		9	SW		0.007	1.7		Dr. von Bebber.
Wustrow, Naval School			30.17	766.3	35.4	1.9	81	E			2		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 32°, 54′, W. 24°, 31′.			30.39	772.0	68.7	20.4	91	NE			3		6	NE				Smoke-haze.	Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.22	767.6	60.4	15.8		SW										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			30.09	764.2	48.4	9.1	86	Calm	0	0			10			0	0		Prof. Giovanni Clodig.
Padua			30.10	764.5	47.5	8.6	80	W	2.5	1.1			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.11	764.7	48.0	8.9	85	WSW	1.8	0.8			7	W		0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.75	730.2	30.10	764.5	43.2	6.2	85	S			1		10			0	0		Prof. Trionfini Carlo.
Domodossola			30.12	765.1	43.7	6.5	94	S			2		7			0	0		Prof. Giuseppe Calza.
Milan			30.15	765.8	45.1	7.3	88	NNW			1		8	NW		0	0		Ab. Gio. Capelli.
Pavia			30.13	765.2	46.6	8.1	75	SW			4		7	SW		0	0		Prof. Gio. Cantoni.
Moncalieri			30.14	765.6	43.9	6.6	88	SSE	1.3	0.6			9	NE		0	0		Prof. P. F. Denza.
Mondovi	28.16	715.3	30.12	765.1	46.2	7.9	61	NW			2		7	NNW		0	0		Prof. C. Bruno.
Porto Maurizio			30.10	764.4	57.9	14.4	46	NE			2		7			0	0		Prof. L. Vassallo.
Genoa																			Prof. Garibaldi.
Piacenza			30.13	765.4	45.5	7.5	81	W	4.3	1.9			10			0	0		Dott. G. Munzi.
Parma			30.13	765.3	45.0	7.2	85	W			2		10			0	0		Prof. P. Pigorini.
Bologna			30.15	765.8	46.6	8.1	36	NW			1		7	E		0	0		Prof. A. Palagi.
Florence			30.11	764.7	55.4	13.0	80	E			2		3	SW		0.01	0.4		Cav. F. Meucci.
Leghorn			30.07	763.6	55.8	13.2	68	NE	15.0	6.7			6			0.047	1.2		Prof. P. Monte.
Siena	28.84	732.5	30.07	763.6	52.7	11.5	85	ESE	0	0			5	S		0.03	1.0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			30.15	765.7	45.9	7.7	84	N	13.0	5.8			10	SW		0	0		Prof. Luigi Guidi.
Ancona			30.15	765.7	47.8	8.8	82	W			4		10			0.03	0.8	Light rain	Prof. F. De— Bosis.
Grosseto			30.07	763.6	60.1	15.6	79	SE			2		4	S		0.009	0.2		Avv. P. Ponticelli.
Rome			30.09	764.2	57.9	14.4	83	SE	13.0	5.8			10	SSW		0.681	17.3	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			30.13	765.3	63.0	17.2	59	SW			4		6	SW		0	0		Prof. L. Palmieri.
Lecce			30.21	767.4	59.7	15.4	77	SSW	9.4	4.2			7	S		0	0		Prof. C. De—Giorgi.
Cosenza			30.18	766.6	57.6	14.2	65	NE	1.3	0.6			9			0	0		Prof. F. D. Conti.
Riposto, (Sicily)			29.95	760.8	62.2	16.8	74	SE			2		8			0.016	0.4	Light rain	Prof. F. Cafiero.
Palermo			29.98	761.5	63.1	17.3	62	ESE	6.9	3.1			10			0.00	0.1	Light rain	Prof. G. Cacciatore.
Caltanissetta	28.10	713.8	30.08	764.0	54.0	12.2	83	E			6		10	SW		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.13	765.4	59.5	15.3	64	WNW	2.5	1.1			8	NE		0	0		Prof. F. Briosch'.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Tokei																			

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			30.00	762.1	39.9	4.4		E			2					0	0		
Groningen			30.03	762.8	37.4	3.0		ENE			2					0.004	0.1		
Helder			30.07	763.6	37.9	3.3		E			2					0	0		
Utrecht			30.00	761.9	37.9	3.3	84	ENE			2		10			0	0	Overcast	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			30.26	768.5	29.5	— 1.4	84	Calm	0	0			0			0	0		
Brono			30.21	767.4	22.6	— 5.2	61	Calm	0	0			0			0	0		
Christiania			30.28	769.2	19.8	— 6.8	89	WNW	0	0			10			0	0		
Tromsö			30.06	763.5	31.6	— 0.2	85	SW	4	2			10			0.157	4.0		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.05	763.2	59.0	15.0	75	W	23.7	10.6			6			0	0		Dr. J. A. Sampaio.
Campo Major			30.02	762.5	47.3	8.5	89	SE	3.8	1.7			9	SE		0.039	1.0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.12	765.0	66.2	19.0	54	WNW	11.2	5.0			4			0	0		Capt. D. A. de Cunha.
Lisbon			30.03	762.8	51.6	10.9	75	SE	1.3	0.6			6	W		0	0		The Observatory.
Ponta Delgada, (Azores)			30.11	764.8	63.7	17.6	59	NW	8.1	3.6			6			0.067	1.7		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.15	765.8	30.9	— 0.6	96	ESE	4	2			10					Light snow.	Astronomical Obs.
Wilna			30.30	769.7	14.2	— 9.9	74	Calm	0	0			10						Astronomical Obs.
Dorpat			30.26	768.7	16.5	— 8.6	94	WSW	7	3			10					Snowing	Physical Cabinet.
St. Petersburg			30.11	764.8	10.4	—12.0	94	NW	9	4			10					Light snow.	Central Physical Obs.
Knopio			29.96	760.9	16.7	— 8.5	100	WNW	13	6			10					Snowing	Ch. Forsten.
Kieff			30.27	768.9	10.4	—12.0	100	NE	7	3			9						Physical Cabinet.
Nikolaiev			30.20	767.1	26.1	— 3.3	87	NE	13	6			8						Kurdakof.
Kertch			30.19	766.8	31.5	— 0.3	92	ENE	9	4			10						Lagorio.
Moscow			30.22	767.5	— 9.8	—23.2	83	S	9	4			0						Meteorological Obs.
Lugan			30.16	766.1	10.8	—11.8	71	NW	7	3			0			Blank	Blank		Meteorological Obs.
Archangel			29.91	759.8	—22.4	—30.2	82	NE	9	4			8						Ogorodnikof.
Tiflis	28.83	732.3	30.31	769.8	39.4	4.1	59	Calm	0	0			9						Physical Observatory.
Astrakhan			30.19	766.9	12.2	—11.0	100	NW	7	3			10			Blank	Blank		Sebastianof.
Kasan			29.85	758.1	—23.4	—30.8	92	W	7	3			1						Physical Cabinet.
Orenburg			30.37	771.3	— 2.6	—19.2	64	E	18	8			5						Tschernischef.
Ekaterinburg	28.54	724.9	29.60	751.9	—11.0	—23.9	78	SW	4	2			10					Snowing	Meteorological Obs.
Nukuss			30.30	769.7	37.0	2.8	87	SW	4	2			10						
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.77	756.2	31.5	— 0.3	81	S	16	7			10						Meteorological Obs.
Yeniseisk			29.92	759.9	— 2.0	—18.9	78	SE	7	3			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.27	768.8	28.0	— 2.2	94	Calm	0	0			7						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 6.2	—21.2		W	18	8			0						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.98	761.6	50.7	10.4	74	SE	2.2	1.00		0	6			0	0	Cloudy	Royal Observatory.
San Fernando			30.04	763.0	55.0	12.8	85	SSE	5.8	2.6		0	10		SE	0.004	0.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.01	762.3	7.2	—13.8	92	W			2		10			0	0		
Umea			30.15	765.7	3.2	—16.0	90	N			2		5			0	0		
Hernosand			30.17	766.4	13.6	—10.2	97	NNE			2		10			0	0		
Stockholm			30.21	767.4	16.5	— 8.6	100	Calm			0		10			0.008	0.2		
Wisby			30.26	768.6	31.3	— 0.4	92	WNW			4		5			0	0		
SUB-SERIES.																			
Upsala			30.19	766.9	12.4	—10.9	100	SW	6.0	2.7			0			0.003	0.07		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.58	725.8	30.02	762.6	46.2	7.9	85	SSW			1		8			0	0	Misty	The Observatory.
Zurich	28.36	720.4	30.04	762.9	44.1	6.7	83	SW			1		6			0.083	2.1	Cloudy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —1.7 mm; Thermometer, +5.5 cent.; Relative Humidity, +5 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.21	767.4	54.0	12.2	83	SW	7	3.0			6		W	0	0		
Fao, (Persian Gulf)																			
Salonica			30.25	768.3	64.6	18.1		S			1		0						
Valona			30.19	766.7	59.4	15.2		S			2		5						
Varna			30.12	765.0	43.2	9.0		SE			2		5						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.20	767.0	67.6	19.8	51	NW			2		0			0	0	Blue sky	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			30.62	752.3	26.4	— 3.1	96	SW	6	2.7			10					Foggy	Hon. J. Ferguson.
Brockville, Ontario			29.94	760.5	13	—10.6		W	13	5.8		0	2s		W	0	0	Fair	W. R. Bigg.
*Chatham, N. B			29.50	749.3	28	— 2.2	100	Calm	0	0			Haz			0	0	Hazy	G. A. Blair.
Charlottetown, P. E. Island			29.53	750.0	34	1.1	93	E	13	5.8			10n			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.87	758.7	10.2	—12.1	78	NW			5	1k	0			0.01	0.3	Stormy	James Smith, M. A.
Dalhousie, N. B			29.42	747.3	27.0	— 2.8	100	S			1					0	0	Misty	H. A. Johnson.
Esquimault, B. C			30.31	769.9	32.1	0.1	100	NE					10s			0	0	Dense fog	W. H. Bevis.
Fredericton, N. B			29.49	749.0	29.2	— 1.6	98	S	1	0.4			Fog			0	0	Dense fog	Prof. Harrison.
*Fort Garry, Manitoba			29.62	752.3	10	—12.2	89	N	20	8.9			10n			0	0	Threatening	James Stewart.
Goderich, Ontario			30.10	764.5	12.7	—10.7	90	NW			3		9n					Stormy	H. J. Strang, M. A.
Granton, Ontario	28.91	734.3	30.12	765.0	8.6	—13.0		W			2		10n			Inap.	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.59	751.6	37	2.8	100	S	6	2.7			10n			Inap.	Inap.	Light rain	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.98	761.5	14	—10.0	67	W	23	10.3		0	2s		W	0.02	0.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.58	751.3	35.0	1.7		S	2	0.9			Fog			0	0	Fog, Mist	C. H. Rigby.
*Montreal, Quebec			29.72	754.9	16	— 8.9	75	W	32	14.3		0	2k			0.01	0.3	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			29.90	759.4	4	—15.6	76	W	18	8.0		0	0			Inap.	Inap.	Clear	J. B. Haney.
*Parry Sound, Ontario			29.99	761.7	— 7	—21.7	80	E	6	2.7		5k	2k	W	W	0.12	3.0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.15	765.8	10	—12.2	92	W	13	5.8		0	0			0	0	Clear	H. Morgan.
Port Hastings, N. S			29.53	750.0	36.4	2.4		E	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.18	766.6	10	—12.2	84	N	12	5.4		2k	0	W		Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec			29.47	748.5	23	— 5.0	93	W	38	17.0			10n			0.10	2.5	Light snow	Capt. Ashe, R. N.
St. John, N. B			29.48	748.8	40	4.4	91	S	14	6.3			10n			0	0	Overcast	G. Murdoch, C. E.
*Saugeen, Ontario			29.97	761.2	15	— 9.4	73	W	14	6.3			10n			0.08	2.0	Cloudy	K. Stewart.
Stayner, Ontario			29.99	761.7	11	—11.7	77	SE	6	2.7		5k	0	NW		0	0	Fair	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.10	764.5	9.1	—12.7	91	SW	20	8.9			10s			0.05	1.3		C. J. MacGregor, M. A.
*Sydney, C. B			29.66	753.4	34	1.1	100	Calm	0	0			Fog			0	0	Foggy	T. C. Hill.
*Toronto, Ontario			30.07	763.8	14	—10.0	86	W	10	4.5		0	2ks		W	0.02	0.5	Clear	Magnetic Observatory.
Woodstock, Ontario			30.14	765.5	8.0	—13.3	100	W	9	4.0		0	3s			0.130	3.30	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			30.04	763.0	31.0	— 0.6		Calm	0	0			10n			Inap.	Inap.	Hazy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.89	759.2	23	— 5.0	73	NW	12	5.4		0	2k		W	0	0	Clear	
Alpena, Mich.			29.97	761.2	6	—14.4	76	SW	11	4.9		5c	0			Inap.	Inap.	Fair	
Atlantic City, N. J.			30.00	762.0	34	1.1	43	NW	25	11.2		8cs	0	SW		0	0	Cloudy	
Augusta, Ga.			30.15	765.8	49	9.4	85	NW	4	1.8			10s		W	Inap.	Inap.	Cloudy	
Baltimore, Md.			30.15	765.8	30	— 1.1	68	NW	8	3.6		2c	5s	W	W	0	0	Fair	
Barnegat, N. J.			29.98	761.5	35	1.7	95	NW	23	10.3		8cs	0	SW		0	0	Fair	
Bismarck, Dakota	28.08	713.2	29.85	758.2	10	—12.2	78	NW	20	8.9			10s		NW	0	0	Cloudy	
Boston, Mass.			29.70	754.4	37	2.8	71	W	16	7.2		10ck	Haz	W		0	0	Cloudy	
Breckenridge, Minn.			29.58	751.3	33	0.6	79	W	28	12.5		0	5s		W	0	0	Fair	
Buffalo, N. Y.			30.08	764.0	15	— 9.4	65	W	28	12.5		1k	0	W		0.02	0.5	Clear	
Burlington, Vt.			29.78	756.4	25	— 3.9	74	W	20	8.9		2k	0	W		0	0	Fair	
Cairo, Ill.			30.49	774.4	16	— 8.9	66	N	1	0.4		0	0			0	0	Clear	
Cape Hatteras, N. C.			29.97	761.2	50	10.0	86	NW	10	4.5			10s		NW	0	0	Cloudy	
Cape Henry, Va.			30.08	764.0	44	6.7	76	NW				5c	5s	SW		Inap.	Inap.	Cloudy	
Cape Lookout, N. C.			30.06	763.5	49	9.4	93	W	8	3.6		0	5s			0	0	Fair	
Cape May, N. J.			30.02	762.5	36	2.2	62	NW	44	19.7		8cs	0	NW		0	0	Fair	
Charleston, S. C.			30.11	764.8	52	11.1	86	W	6	2.7			10s		W	Inap.	Inap.	Cloudy	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	27	— 2.8	59	W	2	0.9		0	0			0	0	Clear	
Chicago, Ill.			30.12	765.0	8	—13.3	78	S	14	6.3		0	5s		S	0	0	Fair	
Cincinnati, Ohio			30.32	770.1	15	— 9.4	65	SW	3	1.3		0	Sm'k			0	0	Clear	
Cleveland, Ohio			30.24	768.1	10	—12.2	79	S	18	8.0			10s		SW	Inap.	Inap.	Cloudy	
Corsicana, Tex.			30.40	772.1	35	1.7	61	N	8	3.6		0	5s			0	0	Fair	
Davenport, Iowa			30.16	766.1	11	—11.7	79	SW	16	7.2		5ck	5k	W	W	0	0	Fair	
Denison, Tex.			30.45	773.4	29	— 1.7	59	N	4	1.8		0	0			0	0	Clear	
Denver, Col.	24.86	631.9	30.10	764.5	29	— 1.7	46	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			30.13	765.3	13	—10.6	62	SW	12	5.4			10s		SW	0	0	Cloudy	
Dodge City, Kan.	27.57	700.3	30.02	762.5	22	— 5.6	72	W	6	2.7		0	0			0	0	Clear	
Dubuque, Iowa			30.00	762.0	12	—11.1	80	SE	12	5.4			10s		SW	0	0	Cloudy	
Duluth, Minn.			29.46	748.3	7	—13.9	77	SW	6	2.7			10n			0.01	0.3	Light snow	
Eastport, Me.			29.49	749.0	39	3.9	91	SW	9	4.0			10s			0	0	Cloudy	
Erie, Pa.			30.14	765.5	16	— 8.9	92	W	22	9.8			10ks		W	0.06	1.5	Cloudy	
Escanaba, Mich.			29.76	755.9	5	—15.0	75	SW	22	9.8			10s			Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.41	772.4	17	— 8.3	67	E	2	0.9		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.15	740.4	30.34	770.6	28	— 2.2	48	N	4	1.8		0	0			0	0	Clear	
Fort Sully, Dakota	28.14	714.7	29.80	756.9	42	5.6	83	W	20	8.9		0	5s		W	0	0	Fair	
Florence, Arizona	28.49	723.6	30.02	762.5	55	12.8		NE				0	0			0	0	Clear	
Galveston, Tex.			30.20	769.4	51	10.6	46	NE	20	8.9			10s			0	0	Cloudy	
Grand Haven, Mich.			30.05	763.3	18	— 7.8	84	SW	22	9.8			10s		SW	0.08	2.0	Cloudy	
Indianapolis, Ind.			30.38	771.6	10	—12.2	79	SW	5	2.2		0	Sm'k			0	0	Clear	
Indianola, Tex.			30.27	768.8	53	11.7	53	NE	23	10.3			10s			0	0	Cloudy	
Jacksonville, Fla.			30.16	766.1	57	13.9	87	NW	7	3.1			10s			0.07	1.8	Cloudy	
Keokuk, Iowa			30.10	764.5	13	—10.6	62	SW	13	5.8		0	5s		SW	0	0	Fair	
Key West, Fla.			30.09	764.3	68	20.0	94	NE	4	1.8		0	8ks			0	0	Cloudy	
Kittyhawk, N. C.			30.06	763.5	50	10.0	71	N	16	7.2			10s		N	0	0	Cloudy	
Knoxville, Tenn.			30.34	770.6	26	— 3.3	52	NW	8	3.6		0	Haz			Inap.	Inap.	Clear	
La Crosse, Wis.			29.86	758.4	17	— 8.3	67	SW	20	8.9			10s		SW	0	0	Cloudy	
Leavenworth, Kan.			30.29	769.4	17	— 8.3	83	S	6	2.7		0	0			0	0	Clear	
Louisville, Ky.			30.39	771.9	14	—10.0	63	NW	3	1.3		0	0			0	0	Clear	
Lynchburg, Va.			30.17	766.3	36	2.2	30	NW	8	3.6		0	0			0	0	Clear	
Malone, N. Y.			29.85	758.2	13	—10.6	80	NW	17	7.6			10s		W	0.10	2.5	Cloudy	
Marquette, Mich.			29.60	751.8	— 3	—19.4	68	S	16	7.2			10s			0	0	Cloudy	
Memphis, Tenn.			30.48	774.2	24	— 4.4	60	NE	4	1.8		0	Sm'k		NE	0	0	Clear	
Milwaukee, Wis.			30.05	763.3	4	—15.6	74	SW	14	6.3			10s			0	0	Cloudy	
Mobile, Ala.			30.24	768.1	47	8.3	92	N	10	4.5		2c	5s		N	0.11	2.8	Clearing	
Montgomery, Ala.			30.31	769.9	45	7.2	52	N	6	2.7		10cs	0	NW		0.21	5.3	Cloudy	
Morgantown, W. Va.	29.17	740.9	30.31	769.9	20	— 6.7	69	W	14	6.3		0	8s		W	Inap.	Inap.	Fair	
Mt. Washington, N. H.	22.96	583.2	29.32	744.7	7	—13.9	100	NW	100	44.7			Fog			0	0	Foggy	
Nashville, Tenn.			30.42	772.7	20	— 6.7	70	Calm	0	0		0	Fog			0	0	Clear	
New Haven, Conn.			29.85	758.2	38	3.3	45	NW	20	8.9		8ck	Sm'k	NW		0	0	Cloudy	
New London, Conn.			29.81	757.2	38	3.3	54	W	10	4.5		0	10s		W	0	0	Cloudy	
New Orleans, La.			30.25	768.3	49	9.4	64	N	16	7.2		10k	0	NE		0.78	19.8	Cloudy	
Newport, R. I.			29.77	756.1	39	3.9	63	W	21	9.4			10ks		W	0	0	Cloudy	
New York, N. Y.			29.91	759.7	34	1.1	51	NW	25	11.2		5k	5ks	SW	SW	0	0	Cloudy	
Norfolk, Va.			30.06	763.5	44	6.7	46	NW	8	3.6			10s		W	0.01	0.3	Cloudy	
North Platte, Neb.	27.14	689.3	29.87	758.7	20	— 6.7	100	W	12	5.4		0	2s			0	0	Clear	
Omaha, Neb.	28.90	734.0	30.05	763.3	21	— 6.1	57	SW	11	4.9		2c	2cs	NW		0	0	Fair	
Oswego, N. Y.			29.99	761.7	23.5	— 4.7	72	W	24	10.7			10s		W	Inap.	Inap.	Cloudy	
Pembina, Dakota			29.59	751.6	15	— 9.4	92	NW	30	13.4			10s		NW	0	0	Cloudy	
Philadelphia, Pa.			30.05	763.3	29	— 1.7	59	NW	28	12.5		2ck	5s	W	W	0	0	Cloudy	
Pike's Peak, Col.	17.74	450.6	29.95	760.7	10	—12.2	15	NW	27	12.1		0	0			0	0	Clear	
Pittsburgh, Pa.			30.27	768.8	14	—10.0	81	NW	12	5.4		2k	2s	NW	NW	Inap.	Inap.	Fair	
Port Huron, Mich.			30.14	765.5	7	—13.9	77	SW	11	4.9		1cs,hz.	0			Inap	Inap.	Clear	
Portland, Me.			29.60	751.8	33	0.6	89	S	12	5.4		2c,hz.	Haze	SW		0	0	Fair	
Portland, Oregon			30.23	767.8	35	1.7	79	N	6	2.7		0	0			0	0	Clear	
Punta Rassa, Fla.			30.11	764.8	66.5	19.2	97	N	5	2.2			Fog			0	0	Foggy	
Rochester, N. Y.			30.02	762.5	16	— 8.9	66	W	24	10.7		0	2s		W	Inap.	Inap.	Fair	
Salt Lake City, Utah	25.97	659.6	30.30	769.6	19	— 7.2	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.88	758.9	34	1.1	51	NW	42	18.8		10ck	0	NW		0	0	Cloudy	
San Diego, Cal.			30.14	765.5	46	7.8	92	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.19	766.8	49	9.4	71	N	8	3.6		0	0			0	0	Clear	
Santa Fé, N. M.	23.40	594.4	29.94	760.5	21	— 6.1	56	N	15	6.7		0	0			0	0	Clear	
Savannah, Ga.			30.13	765.3	52	11.1	86	NW	5	2.2		2k	5s	W		Inap.	Inap.	Fair	
Shreveport, La.			30.43	772.9	41	5.0	65	N	4	1.8		0	5s		N	Inap.	Inap.	Fair	
Smithville, N. C.			30.09	764.3	49	9.4	85	W	2	0.9			10ks		SW	0	0	Cloudy	
Springfield, Mass.			29.86	758.4	31.5	— 0.3	41	W	16	7.2		0	8s		W	0.02	0.5	Clearing	
St. Louis, Mo.			30.39	771.9	14	—10.0	63	S	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.16	766.1	55	12.8	93	N	10	4.5			10s		N	0	0	Cloudy	
St. Paul, Minn.			29.58	751.3	20	— 6.7	85	SW	16	7.2			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.69	754.1	37	2.8	62	W	24	10.7		2c	5s	W	W	0	0	Clearing	
Toledo, Ohio			30.20	767.1	13	—10.6	44	SW	12	5.4		0	Haze		SW	0	0	Hazy	
Tucson, Arizona	27.73	704.3	30.28	769.1	35	1.7		SE				0	0			0	0	Clear	
Tybee Island, Ga.			30.09	764.3	49	9.4	93	W	2	0.9		2c	2s	W		0.03	0.8	Fair	
Vicksburg, Miss.			30.40	772.1	42.5	5.8	58	NE	6	2.7		10cs	Sm'k	SW		0.01	0.3	Cloudy	
Virginia City, M. T.	24.44	620.8	29.92	760.0	23	— 5.0	73	Calm	0	0		3k	0	W		0	0	Fair	
Washington, D. C.			30.16	766.1	28	— 2.2	48	NW	20	8.9		2ck	2s	SW	SW	0	0	Fair	
Wilmington, N. C.			30.08	764.0	50	10.0	78	N	10	4.5			10s		NW	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.76	755.9	40	4.4	72	SW	12	5.4			10s		SW	0	0	Threatening	
Yankton, Dakota	28.60	726.4	29.93	760.2	30	— 1.1	73	SW	14	6.3		5cs	0	NW		0	0	Fair	
Yuma, Arizona			30.20	767.1	49	9.4		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.16	766.1	78	25.6	82	Calm	0	0		8c	2s			0	0		James Gall.
Navassa, W. I.					81	27.2		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.19	690.6	29.98	761.5	65	18.3	89	E	2.0	0.9		2c	0	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A.			30.00	762.0	80	26.7	87	SE			2	6ks?	6ks	E		1.430	36.32	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			80.2	26.8		N								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.0	17.8	80	Calm			0	0	4ks			0.08	2.0	Fair	Thomas Herran.
York Factory, B. A.			29.60	751.8	—32.5	—35.8		W	20	8.9			10n			0.07	1.8	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	74	23.3		N			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.08	764.0	62	16.7	72	NE			2	2cs	0			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, Boston, Mass.			29.69	754.1	36	2.2	80	W	20	8.9		5k	0	W				Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 38°, 29′, W. 47°, 12′.	WSW	9.5	30.33	770.4	65.8	18.8		WSW			4						N	Overcast	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft. or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitudes: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 16, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.95	760.7	64.4	18.0	39	Calm			0		0			0	0	Clear	Charnot.
Algiers			29.87	758.7	60.8	16.0	62	WNW			3		5			0.787	20.0	Fair	Peter.
La Calle			29.78	756.5	56.5	13.6	86	NW			3		8			0.630	16.0	Cloudy	Didier.
Tunis			29.80	757.0	60.8	16.0		SE			4		6			0.039	1.0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.00	762.0	52.2	11.2	52	W			2		2			0	0	Clear	Millot.
Tebessa			29.83	757.7	44.1	6.7		SW			5		10			0	0	Hidden	Bourgeois.
Geriville			30.02	762.6	60.8	16.0	63	NNW			4		0			0.236	6.0	Clear	Lemaillot.
Laghouat			29.89	759.1	55.4	13.0	55	N			2		1			0	0	Clear	Guyot.
Biskra			29.90	759.5	67.3	19.6	26	NW			1		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.91	759.7	46.8	8.2	95	SW			2		10			0.343	8.7	Rain and fog	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.07	763.8	29.8	— 1.2	92	NE			3		10			0	0		Dr. Wierzbiski.
Eperies			30.08	762.7	33.8	1.0	81	Calm			0		10			0.141	3.57		Julius Mikolik.
Gratz	28.68	728.4	29.99	761.7	32.7	0.4	92	SW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.54	724.9	29.99	761.7	45.0	7.2	87	SE			1		10			0.024	0.60		Prof. Reissenberger.
Kremsmünster	28.56	725.3	29.95	760.6	35.4	1.9	95	Calm			0		10			0.094	2.4		Prof. C. Wagner.
Lemberg			30.12	765.1	21.2	— 6.0	95	SE			1		10			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habsuda Daniel.
Pola			29.89	759.1	53.8	12.1	91	WNW			1		10s			0.035	0.088		I.R.Hydrographic Office.
Szegedin			29.90	759.5	42.6	5.9	79	NW			2		10			0.059	1.50		Karl Stancel.
Trieste			29.93	760.2	50.7	10.4	92	Calm			0		10			0.031	0.8	Rain and fog	Prof. V. Farolfi.
Vienna			29.98	761.4	37.6	3.1	98	Calm			0		10			0.083	2.1	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29 87	758.7	42.6	5 9	92	SE			1		10			0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.91	759.7	42.0	5.6		SE	26	11.6			9			0.075	1.91	Squally	William Boswell.
Ardrossan			29.71	754.6	46	7.8		ESE			4		8					Overcast	William McNeil.
Armagh, Observatory			29.56	750.3	48.3	9.1		ESE	21	9.4			10					Squally	S. Call, for Dr. Robinson.
Birr Castle, (Parsons Town)			29.46	748.3	47.0	8.3		SE			1		9					*D. clouds	J. Dreyer.
Bradford			29.83	757.7	44.3	6.8		SE			6		10			0.04	1.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.92	760.0	85.5	29.7		NE			1		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.82	757.4	45.9	7.7		SE			1		7					*D. clouds	H. Todd. [H.C.
Cardington			29.80	756.9	46.0	7.8		SE			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.84	757.9	43.7	6.5		Calm			0		10					Threatening	Capt. Fellowes, R. E.
Dartmoor	28.19	716.0	29.70	754.4	46.6	8.1		S			5		10					Rain & fog	R. E. Power.
Davos Platz, (Switzerland)	24.68	626.9			36.0	2.2	66	N			1		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.60	751.8	47	8.3		SE			6		10					Overcast	J. Mac Gowan.
Dover			28.83	757.7	45	7.2		ESE			2		7					Gloomy	J. Costello.
Eccles, (near Manchester)			29.79	756.7	45.7	7.6		ESE	4.2	1.9			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.55	750.6	52.5	11.4		SSE			4		9					Overcast	The Staff.
Fort Napier, (Natal)	27.77	705.4	30.00	762.0	60.4	15.8		E			1		10					Clearing	Pvt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.95	760.7	86.0	30.0		E			0		4					*D. clouds	
Galway, Queen's College			29.50	749.3	46	7.8		SW			4		8					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.91	759.7	60.8	16.0		SW			4		8					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.74	755.4	45.0	7.2		E			4		10					Gloomy	Lewis Stuart.
Great Yarmouth			29.86	758.4	44	6.7		ESE			4		8					Overcast	G. T. Watson.
Greenwich, Royal Obs'y			29.81	757.2	44.2	6.8		ESE			1		10					Drizzling	The Staff, for G. B. Airy.
Guernsey			29.68	753.9	49	9.4		SE			6		10					Raining	Dr. S. E. Hoskins.
Helston			29.49	749.0	53	11.7		S			4		8n			0.32	8.1		M. P. Moyle.
Holyhead			29.59	751.6	48	8.9		ESE			3		5					*D. clouds	John Tilston.
Kew, Observatory			29.81	757.2	44.5	6.9		ESE	13	5.8			10					Raining	The Staff.
Kingstown			29.51	749.5	50	10.0		SE			6		10					Overcast	George Mitchell.
Leicester Museum			29.78	756.4	45.0	7.2		SE			3		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.72	754.9	67.0	19.4		W			2		6κ					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.80	756.9	43	6.1		SSE			2		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.09	764.3	73.0	22.8		NE			1		0						Surg. Maj. Henry.
Nottingham, Observatory			29.81	757.2	45.3	7.4		SE			3		10k,d		SE	0.038	0.96	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.75	755.6	43.6	6.4		ESE			3		10					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.75	755.6	45	7.2		ESE			1		10					Raining	J. Lucas.
Plymouth			29.59	751.6	52.5	11.4		SE			4		10					Gloomy	John Merrifield.
Roche's Point			29.43	747.5	50	10.0		SSW			5		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.52	749.8	51	10.6		SE			5		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.70	754.4	48.0	8.9		SE			2		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.93	760.2	40.4	4.7		ESE	33	14.8			2					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.13	755.3	52.2	11.2		SW			1		7					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.81	757.2	43.1	7.8		SE			2		8			0.310	7.87	Overcast	W. F. Cooper.
Silloth Rectory			29.74	755.4	43.1	7.5	87	SE			3		8			0.105	2.67	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.76	755.9	44.5	6.9							10ns					Overcast	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.71	754.6	45	7.2		ESE			5		5					*D. clouds	John Smith.
Stratfield Turgiss			29.78	756.4	44.4	6.9		E			1		10					Raining	Rev. Charles H. Griffith
Thurso			29.88	758.9	42	5.6		SE			5		8					Gloomy	John Trotter.
Truro, Royal Institution			29.59	751.6	54	12.2		SE			4		10					Raining	W. Newcombe.
Valencia, Observatory			29.35	745.5	50.5	10.3		S	29	13.0			8					Showery	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					46	7.8		SE			6		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.06	763.5	75.2	24.0	38	S	13	5.8		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.81	757.2	72.0	22.2	78	W			2		7n			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.82	757.4	43.5	6.4		SE			3		10ks			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.07	763.8				E	24.0	10.7						0.115	2.92		C. Meldrum.
Melbourne, Observatory			30.16	766.1	59.0	15.0	61	SW	22	9.8			1			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.64	752.8	48	8.9		SSE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.08	764.0	41	5.0		SE			7	5	7	SE		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.15	765.7	32.2	0.1	94	E			4		10						
Fanöe			30.12	765.0	34.5	1.4	96	ENE			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.70	754.4	41.5	5.3	94	E			4		8						
Thorshavn, (Faröe)			30.00	761.9	42.8	6.0	81	SE			5		10					Raining	
Vestervig			30.16	766.1	25.9	— 3.4	87	NE			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the coöperation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.86	758.4	44.6	7	91	SW			2		10			0	0	Covered	Normal School.
Amiens			29.86	758.4	44.2	6.8	94	SW			3		5		W	0.071	1.8	Cloudy	Normal School.
Avignon			29.83	757.7	54.3	12.4	72	N			1		5		SE	0.043	1.1	Cloudy	Normal School.
Bar-sur-Seine †																0.264	6.7		C. Saillard.
Beaumette, (near Angers)			29.77	756.2	44.4	6.9	94	SE	4.0	1.8					SW	0.008	0.2		Beaumette Observ'tory.
Beauvais			29.87	758.7	44.4	6.9	89	SSE			2		10			0	0	Covered	Normal School.
Besançon			29.88	758.9	48.0	8.9	86	S			2		0			0.24	6.	Clear	Normal School.
Bourg en Bresse			29.96	760.9	49.5	9.7	79	SW			1		0			0.244	6.2	Clear	Normal School.
Bourges			29.83	757.6	42.1	5.6	91	N			2		2		NE	0	0	Slightly cl'dy	Normal School.
Brest			29.55	750.5	51.6	10.9	90	SW			4		9		SW	0.157	4.0	Rainy	Naval Observatory.
Carcassonne			29.77	756.2	58.2	11.8	85	E			2		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.83	757.6	39.0	3.9	97	SSE			2		10		SE	0	0	Covered	Normal School.
Châlons-sur-Marne			29.85	758.2	41.4	5.2	100	SSE			2		10			0.028	0.7	Foggy	Normal School.
Clermont			29.82	757.4	43.0	6.1	88	WSW			2		8		W	0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.89	759.2	43.0	6.1	94	W			2		10			0.224	5.7	Covered	Normal School.
Commune de Gréasque*			29.84	758.0	55.2	12.9	64	SE			2		2		SE	0	0		M. Kina.
Grenoble			29.92	760.0	45.1	7.3	83	SW			1		0			0	0	Clear	Normal School.
La Roche-sur-Yon			29.72	755.0	43.5	6.4	97	E			2		10			0.047	1.2	Covered	Normal School.
Le Mans			29.80	756.9	41.9	5.5	88	S			2		5		S	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.84	758.0	49.1	9.5	84	N			2		0			0	0	Clear	Normal School.
Lorient			29.68	753.9	53.2	11.8	76	SSE			4		8		SE	0.205	5.2	Very cloudy	Naval Observatory.
Mâcon			29.92	760.0	44.1	6.7	94	Calm			0		10			0.35	9.	Covered	Normal School.
Metz			29.96	760.9	43.0	6.1	88	NW			2		10			0.201	5.1	Covered	M. Schuster.
Mirecourt			29.85	758.2	45.0	7.2	85	S			1		2		N	0.295	7.5	Slightly cov.	Normal School.
Nismes			29.79	756.7	56.8	13.8	81	NE			4		2			0	0	Slightly cl'dy	Normal School.
Orleans			29.88	758.9	42.4	5.8	94	SE			1		5		S	0	0	Cloudy	Normal School.
Paris, Observatory			29.87	758.6	39.9	4.4	93	SE			2		10			0	0	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.00	762.1	50.2	10.1		E			2		2		E	0.417	10.6	Slightly cl'dy	Normal School.
Rochefort, Observatory			29.76	755.8	45.9	7.7	89	SE			3		10			0.059	1.5	Covered	Naval Observatory.
Rouen			29.84	757.8	45.3	7.4	75	SSE			2		10			0	0	Covered	Normal School.
Saint Lo																			N rmal School.
Tarbes																			Normal School.
Villefranche			29.84	758.0	44.6	7	85	S			1					0.35	9.	Foggy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.79	756.6	59.9	15.5	56	SE			1		8			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.61	625.0	29.98	761.4	38.3	3.5	78	SSW	18.6	8.33			4		SSW	0	0		—. Falguère.
Montsouris, Paris			29.85	758.1	40.1	4.5	100	SE			2		10			Inap.	Inap.	Foggy	Montsouris Observatory
Perpignan			29.80	757.0	57.6	14.2	73	SE	7.4	3.33			3		SE	0.004	0.1		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.97	532.6			26.6	— 3.0		NW			1		4					Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.24	564.8			41.9	5.5		NW			1		3			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.86	758.5	40.8	4.9	96	SE			1		10			0	0	Covered	E. Renou.
Toulouse			29.79	756.7	46.0	7.8	100	ESE			1		10			0.016	0.4		Toulouse Observatory.
Tours			29.80	757.0	41.4	5.2	94	SSE			1		10			0.008	0.2	Foggy	C. Marquet.
Versailles, (near Paris)			29.85	758.2	38.8	3.8	100	SE			1		10			0.004	0.11	Dense fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.25	768.4	42.6	5.9	89	NW	12.1	5.42			10			0.224	5.7		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,686.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône † Observation not simultaneous.

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.90	759.5	40.5	4.7	96	SW			2		10			0.236	6.0	Raining	Prof. T. Hoh.
Berlin			30.05	763.3	37.6	3.1	75	SE			4		8			0	0		Prof. Arndt.
Breslau			30.05	763.2	32.2	0.1	96	E			2		10			0	0		Royal University Obs'y.
Carlsruhe			29.88	758.9	45.3	7.4	90	SW			1		10			0.461	11.7		A. Senz.
Cassel			29.98	761.6	39.7	4.3	86	E			2		10	E		0	0		Dr. H. Möhl.
Crefeld			29.89	759.3	42.8	6.0	85	NE			1		10			0	0	Foggy	Director Lose.
Emden			30.10	764.6	37.0	2.8	85	NE			1		8			0	0		Prof. Prestel.
Frankfort on the Main			29.93	760.1	42.6	5.9	72	NE			1		10			0.213	5.4		Physical Society.
Friedrichshafen	28.46	722.9	29.92	759.9	45.0	7.2	86	N			2		10			0	0		M. Wilhelm.
Hamburg			30.05	763.2	36.7	2.6	85	ENE			2		9k	NE		0.016	0.4	Light fog	Captain F. Hegemann.
Kiel			30.05	763.3	38.1	3.4	80	E			3		10			0.030	0.9		Prof. G. Karsten.
Königsberg, (Prussia.)			30.18	766.5	24.3	— 4.3	95	NE			2		5			0	0		Prof. E. Luther.
Köslin			30.15	765.8	31.3	— 0.4		E			4		6			0.346	8.8		H. Müller.
Leipsic			30.00	761.9	36.5	2.5	89	ENE			2		9	SW	NE	0	0		Prof. Bruhns.
Memel			30.17	766.4	22.3	— 5.4	93	SSE			1		Fog			0.008	0.2	Smoke-haze.	Reinbrecht & Skalweit.
Münster			29.91	759.6	44.2	6.8	87	NW			2		10			0	0		Prof. E. Heis.
Neufahrwasser			30.17	766.4	30.0	— 1.1	82	E			1		10			Inap.	Inap.	Smoke-haze.	A Lothe.
Posen			30.11	764.9	33.6	0.9	84	SSE			5		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.91	759.6	45.5	7.5	90	Calm			0		2			0	0		Dr. Schur.
Stuttgart			29.88	759.0	45.9	7.7	89	NE			1		10			0.169	4.3	Foggy	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.84	757.9	44.8	7.1	86	E			1		10			0.008	0.2	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.37	720.5	29.91	759.7	39.2	4.0	88	SE			1		9			0.067	1.7	Foggy	Dr. von Bebber.
Wustrow, Naval School			30.13	765.4	34.7	1.5	96	E			2		10			0	.0	Foggy	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 33°, 32′, W. 23°, 26′.			30.31	769.9	70.3	21.3	91	NNE			3		6	NNE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.14	765.6	61.3	16.3		SE										Cloudy, smoky.	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine			29.89	759.3	50.7	10.4	75	Calm	0	0			9			0	0		Prof. Giovanni Clodig.
Padua			29.90	759.4	46.4	8.0	92	NNW	1.8	0.8			10	SSW		0.008	0.2	Light rain...	Prof. Dott. Lorenzoni.
Vicenza			29.90	759.5	48.2	9.0	84	NW	1.3	0.6			8	S		0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.56	725.3	29.91	759.6	43.9	6.6	82	SW			1		8			0	0		Prof. Trionfini Carlo.
Domodossola			29.94	760.4	44.4	6.9	91	Calm			0		9			0	0		Prof. Giuseppe Calza.
Milan			29.93	760.3	46.0	7.8	92	WNW			1		10	NNW		0	0		Ab. Gio. Capelli.
Pavia			29.93	760.2	46.2	7.9	83	S			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			29.95	760.8	44.8	7.1	87	NNW	0	0			9	E		0	0		Prof. P. F. Denza.
Mondovi	28.00	711.3	29.97	761.1	45.5	7.5	68	NW			2		10			0	0		Prof. C. Bruno.
Porto Maurizio			29.83	757.6	60.3	15.7	42	NW			4		6			0	0		Prof. L. Vassallo.
Genoa																			Prof. Garibaldi.
Piacenza			29.94	760.4	44.1	6.7	90	NW	0.7	0.3			10			0	0	Dense fog....	Dott. G. Manzi.
Parma			29.94	760.4	44.4	6.9	94	SW			2		10			0.047	1.2	Raining.....	Prof. P. Pigorini.
Bologna			29.95	760.7	44.8	7.1	47	NW			1		10			0	0		Prof. A. Palagi.
Florence			29.84	758.0	53.6	12.0	68	NE			2		10	NE		0.020	0.5	Light rain...	Cav. F. Meucci.
Leghorn			29.79	756.6	54.3	12.4	74	ENE	9.8	4.4			10	S		0.016	0.4	Light rain...	Prof. P. Monte.
Siena	28.77	730.8	30.00	761.9	53.6	12.0	68	ESE	0	0			5	S		0.012	0.3	Light rain...	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.92	760.0	44.6	7.0	94	NW	6.2	2.8			10	W		0.071	1.8	Raining.....	Prof. Luigi Guidi.
Ancona			29.89	759.2	45.9	7.7	93	W			4		10			0	0		Prof. F. De— Bosis.
Grosseto			29.79	756.7	58.3	14.6	73	NE			2		9	SE		0.037	0.9	Light rain...	Avv. P. Ponticelli.
Rome			29.78	756.3	59.4	15.2	66	E	15.1	6.7			9	SE		0.047	1.2	Raining.....	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.78	756.5	58.8	14.9	69	NNE			6		10	SE		0.433	11.0	Raining.....	Prof. L. Palmieri.
Lecce			30.00	761.9	58.6	14.8	93	SSE	17.4	7.8			9			0	0		Prof. C. De—Giorgi.
Cosenza			29.83	757.7	50.7	10.4	70	NE	1.8	0.8			10			0.472	12.0	Raining.....	Prof. F. D. Conti.
Riposto, (Sicily)			29.51	757.2	61.3	16.3	80	SE			4		10			3.071	78.0	Showery.....	Prof. F. Cafiero.
Palermo			29.67	753.5	64.9	18.3	37	SW	13.0	5.8			2			0.244	6.2	Raining.....	Prof. G. Cacciatore.
Caltanissetta	27.78	705.7	29.76	755.9	54.1	12.3	70	WSW			4		10	NW		0.626	15.9	Raining.....	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.80	756.9	55.8	13.2	66	WNW	6.3	2.8			10	W		0.467	11.8		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the
Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico — Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Flushing			29.93	760.1	41.9	5.5		E			2					0	0		
Groningen			29.93	760.1	36.1	2.3		ENE			3					0	0		
Helder			29.96	760.9	37.2	2.9		ENE			2					0	0		
Utrecht			29.89	759.3	39.0	3.9	87	E			2		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bergen			30.20	767.0	26.2	— 3.2	91	Calm	0	0			0			0.012	0.3		
Brönö			30.19	766.9	33.1	0.6	92	Calm	0	0			3			0	0		
Christiania			30.26	768.5	24.8	— 4.0	89	NNE	0	0			10			0	0		
Tromsö			29.99	761.8	32.0	0.0	96	Calm	0	0			10			0.150	3.8		

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

PORTUGUESE SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.26	768.6	59.0	15.0	81	W	9.8	4.4			7			0	0		Dr. J. A. Sampaio.
Campo Major			29.81	757.1	61.4	10.8	93	SSW	13.0	5.8			10	SSW		0.307	7.8		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.13	765.2	67.6	19.8	55	W	11.2	5 0			1			0.268	6.8		Capt. D. A. de Cunha.
Lisbon			29.76	755.8	57.7	14.3	81	SW	28.6	12.8			10			0.563	14.3	Raining	The Observatory.
Ponta Delgada, (Azores)			30.28	769.0	64.0	17.8	62	NW	7.4	3.3			5	E		0	0		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.13	765.4	25.8	— 3.7	93	ESE	4	2			10						Astronomical Obs.
Wilna			30.18	766.6	21.4	— 5.9	88	SW	2	1			10						Astronomical Obs.
Dorpat			30.02	762.6	22.5	— 5.3	86	NW	9	4			10					Snowing	Physical Cabinet.
St. Petersburg			29.93	760.2	12.9	—10.6	80	NNW	18	8			9						Central Physical Obs.
Kuopio			30.18	766.5	— 2.7	—19.3	94	N	13	6			0						Ch. Forsten.
Kieff			30.23	767.9	8.8	—12.9	100	NE	2	1			10					Light snow	Physical Cabinet.
Nikolaiev			30.25	768.4	14.5	— 9.7	84	NNE	13	6			9						Kurdakof.
Kertch			30.13	765.4	27.3	— 2.6	96	ENE	11	5			10					Snowing	Lagorio.
Moscow			29.95	760.7	6.8	—14.0	96	SSW	9	4			10					Light snow	Meteorological Obs.
Lugan			30.19	766.8	4.6	—15.2	72	SSE	7	3			10			Blank	Blank		Meteorological Obs.
Archangel			29.97	761.2	— 8.0	—22.2	88	W	9	4			10						Ogorodnikof.
Tiflis	28.75	730.3	30.22	767.5	41 0	5.0	72	Calm	0	0			9						Physical Observatory.
Astrakhan			30.33	770.3	7.5	—13.6	83	NNW	2	1			2						Sebastianof.
Kasan			30.06	763.5	—26.7	—32.6	90	WSW	2	1			1						Physical Cabinet.
Orenburg			30.54	775.6	— 3.5	—19.7	68	E	13	6			5						Tschernischef.
Ekaterinburg	28.70	729.0	29.80	757.0	—26.3	—32.4	72	WSW	13	6			3						Meteorogical Obs.
Nukuss			30.26	768.7	33.8	1.0	79	SSW	2	1			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.29	769.4	— 2.7	—19.3	87	W	0	0			5						Meteorological Obs.
Yeniseisk			30.07	763.7	4.1	—15.5	85	ESE	7	3			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.20	767.1	27.9	— 2.3	73	W	4	2			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					15.8	— 9.0		WNW	20	9			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.93	760.1	43.0	6.1	86	SW	9.7	4.34			10			0.008	0.2	Rainy	Royal Observatory.
San Fernando			29.93	760.1	57.0	13.9	92	S	14.1	6.3			10		N	1.284	32.6	Raining	Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.14	765.5	—17.0	—27.2		NW			2		0			0	0		
Umea			30.30	769.6	16.9	— 8.4	94	NNE			2		10			0	0		
Hernosand			30.28	769.2	8.4	—13.1	88	Calm			0		10			0	0		
Stockholm			30.19	766.9	20.1	— 6.6	95	Calm			0		10			0.004	0.1		
Wisby			30.22	767.5	28.4	— 2.0	96	E			4		10			0	0		
Sub-Series.																			
Upsala			30.23	767.8	16.5	— 8.6	94	NW	8.3	3.7			10		ENE	0.004	0.09		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.45	722.7	29.91	759.8	42.6	5.9	92	SSW			2		10			0.366	9.3	Foggy	The Observatory.
Zurich	28.26	717.7	29.93	760.1	45.1	7.3	87	SE					8			0	0	Foggy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —4.8 mm; Thermometer, +3.6 cent.; Relative Humidity, +12 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.17	766.3	53.1	11.7	81	SSW	3	1.5			10		WSW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.17	766.2	54.1	12.3		SE			1		10						
Valona			29.97	761.2	56.7	13.7		S			1		10			Blank	Blank		
Varna			30.12	765.0	46.4	8.0		NE			2		10					Foggy	
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.14	765.5	65.7	18.7	63	N			2		0			0	0	Blue sky	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			29.70	754.4	8.1	—13.7	91	SW	8	3.6			10					Snowy	Hon. J. Ferguson.
Brockville, Ontario			29.70	754.4	2	—16.9		W	15	6.7			10s		W	0.10	2.5	Light snow	W. R. Bigg.
*Chatham, N. B			29.55	750.6	7	—13.9	95	NE	2	0.9			10s			0.01	0.3	Light snow	G. A. Blair.
Charlottetown, P. E. Island			29.68	753.9	30	— 1.1	89	SE	13	5.8			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.47	748.5	0.8	—17.3	76	NW			6		10n			0.02	0.5	Stormy	James Smith, M. A.
Dalhousie, N. B			29.49	749.0	18.4	— 7.6	100	NE			1					0	0	Threatening	H. A. Johnson.
Esquimault, B. C			30.16	766.1	36.1	2.3	96	NW					10s			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.53	750.0	11.4	—11.4	94	W	1	0.4			10n			0.053	1.35	Snowing	Prof. Harrison.
*Fort Garry, Manitoba			30.54	775.7	—32	—35.6	100	N	4	1.8		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.14	765.5	0.0	—17.8	70	NW			6		10n			*0.20	*5.1	Very stormy	H. J. Strang, M. A.
Granton, Ontario	28.84	732.5	30.08	764.0	— 2.2	—19.0		W			4		10n			Inap.	Inap.	Snowing	James Grant.
*Halifax, N. S			29.73	755.1	25	— 3.9	87	S	10	4.5		2cs	2ks	SW	SW	0.01s	0.46	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.76	755.9	3	—16.1	75	W	21	9.4		2c	0			0.03	0.8	Fair	S. Woods, M. A.
Little Glace Bay, N. S			29.78	756.4	19.0	— 7.2		W	3	1.3		2c	0	N		0	0	Clear	C. H. Rigby.
*Montreal, Quebec			29.40	746.7	12	—11.7	98	W	42	18.8			10n		W	0.02	0.5	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.56	750.8	— 2	—18.9	68	W	26	11.6		5ck	0	W		0.55	14.0	Clearing	J. B. Haney.
*Parry Sound, Ontario			29.97	761.2	—14	—25.6	78	N	25	11.2			10n		N	0.45	11.4	Light snow	Rev. R. Mosley.
Port Dover, Ontario			30.05	763.3	3	—16.1	92	W	30	13.4			10n		SW	0.07	1.8	Threatening	H. Morgan.
Port Hastings, N. S			29.82	757.4	19.8	— 6.8		S	2	0.9						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.15	765.8	— 2	—18.9	83	NW	36	16.1			8ks		NW	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec			29.23	742.4	16	— 8.9	83	NE	10	4.5			10n			0.20	5.1	Heavy snow	Capt. Ashe, R. N.
St. John, N. B			29.54	750.3	33	0.6	80	S	24	10.7			10n			0.365	9.02	Snowing	G. Murdoch, C. E.
*Saugeen, Ontario			30.00	762.0	1	—17.2	64	NW	24	10.7			10s			0.30	7.6	Heavy snow	K. Stewart.
Stayner, Ontario			29.94	760.5	— 5	—20.6	96	NW	25	11.2			10n		NW	0.15	3.8	Light snow	R. J. Cole.
Stratford, Ontario	28.63	727.2	30.07	763.8	— 3.6	—19.8	90	NW	30	13.4			10n					Snowing	C. J. MacGregor, M. A.
*Sydney, C. B			29.81	757.2	20	— 6.7	79	SW	8	3.6		2c	0			0.16	4.1	Clear	T. C. Hill.
*Toronto, Ontario			29.95	760.7	3	—16.1	82	W	40	17.9		5k	8ks	W	W	0.09	2.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.07	763.8	— 0.5	—18.1	91	W	12	5.4			10s			0.200	5.08	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.66	753.4	30.0	— 1.1	89	W	6	2.7		10k	10s			0.07	1.8	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. *Precipitation in 48 hours.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.51	749.5	23	— 5.0	86	W	20	8.9			10n			Inap.	Inap.	Heavy snow	
Alpena, Mich.			30.12	765.0	— 9	—22.8	78	NW	24	10.7			10s			0.09	2.3	Cloudy	
Atlantic City, N. J.			29.76	755.9	38	3.3	46	SW	15	6.7		1cs	0	SW		0	0	Clear	
Augusta, Ga.			30.22	767.6	34	1.1	79	Calm	0	0		0	0			0	0	Clear	
Baltimore, Md.			29.82	757.4	34	1.1	61	SW	3	1.3		2c	2s	SW	SW	0	0	Fair	
Barnegat, N. J.			29.73	755.1	36	2.2	52	SW	20	8.9		2cs	0	W		0	0	Clear	
Bismarck, Dakota	28.28	718.3	30.16	766.1	—10	—23.3	76	Calm	0	0			10n		SE	0.07	1.8	Light snow	
Boston, Mass.			29.47	748.5	39	3.9	39	SW	26	11.6			10s		SW	0	0	Cloudy	
Breckenridge, Minn.			30.62	777.7	—20	—28.9	64	SW	4	1.8		0	5s			Inap.	Inap.	Fair	
Buffalo, N. Y.			29.92	760.0	6	—14.4	76	W	34	15.2		5c	5k	W	W	0.01	0.3	Cloudy	
Burlington, Vt.			29.45	748.0	17	— 8.3	100	NW	16	7.2			10n			0.04	1.0	Light snow	
Cairo, Ill.			30.55	776.0	17	— 8.3	67	N	12	5.4		0	0			0	0	Clear	
Cape Hatteras, N. C.			30.02	762.5	40	4.4	64	W	7	3.1		0	0			Inap.	Inap.	Clear	
Cape Henry, Va.			29.98	761.5	40	4.4	48	SW				0	0			0	0	Clear	
Cape Lookout, N. C.			30.11	764.8	46	7.8	68	W	12	5.4		0	Haze			0	0	Clear	
Cape May, N. J.			29.78	756.4	42	5.6	58	SW	36	16.1		2c	0	W		0	0	Fair	
Charleston, S. C.			30.20	767.1	39	3.9	47	W	7	3.1		0	0			0	0	Clear	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	17	— 8.3	83	S	4	1.8		0	0			0	0	Clear	
Chicago, Ill.			30.55	776.0	— 5	—20.6	63	NW	10	4.5		0	0			0	0	Clear	
Cincinnati, Ohio			30.36	771.1	13	—10.6	44	NW	8	3.6		0	Sm'e			0	0	Clear	
Cleveland, Ohio			30.24	768.1	4	—15.6	74	NW	34	15.2			10s		WNW	Inap.	Inap.	Cloudy	
Corsicana, Tex.			30.36	771.1	35	1.7	70	Calm	0	0		2cs	0			0	0	Clear	
Davenport, Iowa			30.67	779.0	— 7	—21.7	80	NW	10	4.5		5cs	0	NW		0	0	Fair	
Denison, Tex.			30.38	771.6	36	2.2	61	N	4	1.8		0	0			0	0	Clear	
Denver, Col.	24.79	629.6	30.01	762.2	21	— 6.1	73	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			30.25	768.3	— 2	—18.9	51	NW	17	7.6		10cs	0			0.01	0.3	Cloudy	
Dodge City, Kan.	27.68	703.1	30.22	767.6	10	—12.2	78	S	10	4.5		0	0			0	0	Clear	
Dubuque, Iowa			30.65	778.5	—10	—23.3	54	NW	3	1.3		2cs	Haze	W		0	0	Fair	
Duluth, Minn.			30.60	777.2	—26	—32.2		W	6	2.7		0	0			0.05	1.3	Clear	
Eastport, Me.			29.48	748.8	32	0.0	100	SW	20	8.9			10n			0.02	0.5	Light snow	
Erie, Pa.			30.10	764.5	3	—16.1	100	W	36	16.1		9k	Haze	W		Inap.	Inap.	Cloudy	
Escanaba, Mich.			30.32	770.1	—12	—24.4	75	NW	23	10.3			10s		NW	0.01	0.3	Cloudy	
Fort Gibson, Indian Ter.			30.38	771.6	32	0.0	69	N	6	2.7		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.00	736.6	30.30	769.6	26	— 3.3	38	N	18	8.0		0	0			0	0	Clear	
Fort Sully, Dakota	28.29	718.6	30.13	765.3	2	—16.7	72	SE	20	8.9			10s		SE	0	0	Cloudy	
Florence, Arizona	28.50	723.9	30.02	762.5	55	12.8		NE				0	0			0	0	Clear	
Galveston, Tex.			30.37	771.4	50	10.0	71	NE	6	2.7		0	0			0	0	Clear	
Grand Haven, Mich.			30.34	770.6	0	—17.8	69	NW					10s		NW	0.04	1.0	Cloudy	
Indianapolis, Ind.			30.50	774.7	3	—16.1	86	NW	10	4.5		0	0			Inap.	Inap.	Clear	
Indianola, Tex.			30.35	770.9	49	9.4	77	NE	19	8.5		2c	0			0	0	Fair	
Jacksonville, Fla.			30.25	768.3	44	6.7	54	NW	4	1.8		5ck	0	SW		0	0	Fair	
Keokuk, Iowa			30.67	779.0	— 2	—18.9	67	N	8	3.6		0	0			0	0	Clear	
Key West, Fla.			30.11	764.8	67	19.4	100	NE	10	4.5			Fog			0	0	Foggy	
Kittyhawk, N. C.			30.04	763.0	37	2.8	62	SW	14	6.3		0	0			0	0	Clear	
Knoxville, Tenn.			30.32	770.1	27	— 2.8	54	S	4	1.8		0	0			0	0	Clear	
La Crosse, Wis.			30.66	778.7	—16	—26.7	69	NW	1	0.4		0	0			0.03	0.8	Clear	
Leavenworth, Kan.			30.65	778.5	3	—16.1	73	N	2	0.9		0	2s			0	0	Clear	
Louisville, Ky.			30.45	773.4	15	— 9.4	30	W	16	7.2		0	0			0	0	Clear	
Lynchburg, Va.			29.95	760.7	39	3.9	37	W	6	2.7		5c	0	W		0	0	Fair	
Malone, N. Y.			29.50	749.3	5	—15.0	100	W	20	8.9			10n		W	0.09	2.3	Light snow	
Marquette, Mich.			30.21	767.3	—10.5	—23.6	76	W	20	8.9			10s			0	0	Cloudy	
Memphis, Tenn.			30.42	772.7	34	1.1	61	N	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.57	776.5	—17	—27.2	66	NW	19	8.5		0	0			Inap.	Inap.	Clear	
Mobile, Ala.			30.37	771.4	34	1.1	61	N	6	2.7		0	0			0	0	Clear	
Montgomery, Ala.			30.38	771.6	33.5	0.8	69	NW	1	0.4		0	Sm'e			0	0	Clear	
Morgantown, W. Va.	28.95	735.3	30.06	763.5	24	— 4.4	48	NW	36	16.1		0	0			0	0	Clear	
Mt. Washington, N. H.	22.75	577.8	29.11	739.4	6	—14.4	100	NW	90	40.2			Fog			0	0	Foggy	
Nashville, Tenn.			30.38	771.6	31	— 0.6	60	NW	6	2.7		0	Haze			0	0	Clear	
New Haven, Conn.			29.60	751.8	39	3.9	71	SW	20	8.9		Haze	0			0	0	Clear	
New London, Conn.			29.61	752.1	39	3.9	47	SW	12	5.4		0	8s		SW	0	0	Clearing	
New Orleans, La.			30.35	770.9	41	5.0	57	NE	7	3.1		0	0			0	0	Clear	
Newport, R. I.			29.58	751.3	40	4.4	71	SW	20	8.9			10ks		SW	0	0	Cloudy	
New York, N. Y.			29.64	752.8	34	1.1	69	SW	32	14.3		0	0			0	0	Clear	
Norfolk, Va.			29.99	761.7	36	2.2	62	SW	14	6.3		0	Haze			0	0	Clear	
North Platte, Neb.	27.27	692.6	30.13	765.3	6	—14.4	76	SW	25	11.2			10ks		SW	0	0	Cloudy	
Omaha, Neb.	29.42	747.3	30.67	779.0	0	—17.8	69	N	3	1.3		0	8s		N	0	0	Cloudy	
Oswego, N. Y.			29.74	755.4	12	—11.1	79	NW	32	14.3			10n			Inap.	Inap.	Light snow	
Pembina, Dakota			30.52	775.2	—30	—34.4		Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa.			29.75	755.6	34	1.1	51	W	19	8.5		1cs	Haze	W		0	0	Clear	
Pike's Peak, Col.	17.72	450.1	29.94	760.5	11	—11.7	60	W	31	13.9		0	0			0	0	Clear	
Pittsburgh, Pa.			30.13	765.3	13	—10.6	81	NW	18	8.0		2k	0	NW		Inap.	Inap.	Fair	
Port Huron, Mich.			30.20	767.1	— 3	—19.4	66	NW	22	9.8			10s		NW	Inap.	Inap.	Threatening	
Portland, Me.			29.41	747.0	29	— 1.7	77	SW	12	5.4			10s			0	0	Cloudy	
Portland, Oregon			30.11	764.8	28	— 2.2	88	NW	1	0.4		0	0			0	0	Clear	
Punta Rassa, Fla.			30.17	766.3	61.5	16.4	85	NE	11	4.9			10s			Inap.	Inap.	Cloudy	
Rochester, N. Y.			29.81	757.2	7	—13.9	78	W	24	10.7			10n			0.05	1.3	Light snow	
Salt Lake City, Utah	25.76	654.3	30.09	764.3	18	— 7.8	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			29.63	752.6	37	2.8	54	SW	36	16.1		0	0			0	0	Clear	
San Diego, Cal.			30.00	762.0	53	11.7	23	Calm	0	0		0	5s			0	0	Fair	
San Francisco, Cal.			30.05	763.3	48	8.9	70	N	10	4.5		0	0			0	0	Clear	
Santa Fé, N. M.	23.34	592.8	29.88	758.9	23	— 5.0	60	E	3	1.3		0	0			0	0	Clear	
Savannah, Ga.			30.23	767.8	37	2.8	45	NW	8	3.6		0	1s			0	0	Clear	
Shreveport, La.			30.43	772.9	32	0.0	69	Calm	0	0		0	Sm'e			0	0	Clear	
Smithville, N. C.			30.14	765.5	37	2.8	52	NW	4	1.8		0	0			0	0	Clear	
Springfield, Mass.			29.51	749.5	34	1.1	61	SW	16	7.2		1k	0			0	0	Clear	
St. Louis, Mo.			30.66	778.7	5	—15.0	87	N	12	5.4		0	0			0	0	Clear	
St. Marks, Fla.			30.30	769.6	37	2.8	53	N	8	3.6		2c	0	SW		0	0	Clear	
St. Paul, Minn.			30.56	776.2	—20	—28.9	64	W	4	1.8		0	0			Inap.	Inap.	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.48	748.8	39	3.9	56	SW	36	16.1			10s		W	0	0	Cloudy	
Toledo, Ohio			30.29	769.4	4	—15.6	48	NW	18	8.0		0	2ks		NW	0.02	0.5	Clear	
Tucson, Arizona	27.60	701.0	30.15	765.8	33	0.6		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.20	767.1	38	3.3	45	NW	12	5.4		0	1s		NW	0	0	Clear	
Vicksburg, Miss.			30.43	772.9	34	1.1	65	Calm	0	0		1cs	Sm'e		N	0	0	Smoky	
Virginia City, M. T.	24.17	613.9	29.65	753.1	20	— 6.7	63	Calm	0	0		2c	0	NW		0	0	Fair	
Washington, D. C.			29.84	757.9	33	0.6	41	W	8	3.6		2c	Haze	SW		0	0	Fair	
Wilmington, N. C.			30.14	765.5	35	1.7	61	W	4	1.8		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.60	751.8	43	6.1	67	SW	24	10.7			10s		SW	0	0	Threatening	
Yankton, Dakota	29.20	741.7	30.70	779.8	— 3	—19.4	83	S	1	0.4			10s			Inap.	Inap.	Cloudy	
Yuma, Arizona			30.06	763.5	48	8.9		NE				0	5s		NW	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.15	765.8	77	25.0	82	N	6	2.7		8c	2s		E	0	0		James Gall.
Navassa, W. I.					79	26.1		NE			2							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.16	689.8	29.96	761.0	65	18.3	89	NE	2.0	0.9		5c	2k	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A.			29.97	761.2	81	27.2	87	E			2	5k	5ks	E		0.270	6.86	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.8			80.6	27.0		E								0.561	14.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64 0	17.8	87	Calm			0		10s,ks			0.06	1.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.12	765.0	—27.0	—32.8		NW	1	0.4		2c	4s	W		0.07	1.8	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.06	763.5	74	23.3		N			1					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.08	764.0	67	19.4	69	NE			2	0	0			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Boston, Mass.			29.47	748.5	36	2.2	80	SW	24	10.7			8ks		SW			Threatening	Capt. James Jorgensen.
Steamer Leipzig, N. 37°, 13′, W. 50°, 47′.	WSW	8	30.10	764.5	68.0	20.0		SW			5					High swells.	W	Overcast	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,870 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv. Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 17, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.85	758.2	56.1	13.4	68	WSW			2		9			0.016	0.4	Hidden	Charnot.
Algiers			29.82	757.5	60.4	15.8	61	NW			1		4			0	0	Fair	Peter.
La Calle			29.81	757.1	62.6	17.0	67	NW			2		2			0.039	1.0	Clear	Didier.
Tunis			29.82	757.3	59.0	15.0		E			4		6			0.157	4.0	Fair	Jacques.
Sfax																			Chauvey.
Saida			29.93	760.3	51.8	11.0	63	S			1		7			0	0	Cloudy	Millot.
Tebessa			29.85	758.2	54.0	12.2		ESE			1		0			0	0	Clear	Bourgeois.
Geriville			30.00	762.1	51.8	11.0	71	SSW			2		0			0.551	14.0	Clear	Lemaillot.
Laghouat			29.87	758.6	59.0	15.0	33	W			2		2			0	0	Clear	Guyot.
Biskra			29.91	759.6	64.2	17.9	39	NW			1		3			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.84	757.8	40.5	4.7	90	NE			2		10			0.039	1.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.00	761.9	25.5	— 3.6	95	NNE			2		10			0	0		Dr. Wierzbiski.
Eperies			28.89	759.1	32.0	0.0	78	N			2		10			0.034	0.86		Julius Mikolik.
Gratz	28.60	726.4	29.88	759.0	37.2	2.9	93	WSW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.33	719.6	28.78	756.3	42.8	6.0	93	SE			1		10			0.118	3.00	Raining	Prof. Reissenberger.
Kremsmünster	28.44	722.4	29.83	757.6	34.2	1.2	92	E			3		10			0	0		Prof. C. Wagner.
Lemberg			30.01	762.3	22.3	— 5.4	96	E			1		10			Blank	Blank		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.73	755.2	57.2	14.0	66	NE			1		8ks			0.066	1.67		I.R. Hydrographic Of'ce.
Szegedin			29.80	756.8	44.2	6.8	81	Calm			0		10			0.073	1.85		Karl Stancel.
Trieste			29.78	756.3	51.4	10.8	64	E			2		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.89	759.3	36.0	2.2	85	NE			1		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.71	754.7	41.5	5.3	86	SSE			1	9c	3k		ESE	0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.79	756.7	41.5	5.3		SE	32	14.3			10			0.170	4.32	Raining	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.52	749.8	48.2	9.0		ESE	13	5.8									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.43	747.5	48.6	9.2		SSE			1		5					*D. clouds	J. Dreyer.
Bradford																0.49	12.4		J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	85.0	29.4		NE			2		7					*D. clouds	Sergt. J. F. Halanen, A. [H.C.
Cambridge, Observatory			29.68	753.9	46.0	7.8		SE			1		10					Overcast	H. Todd.
Cardington			29.67	753.6	46.0	7.8		SE			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.77	756.1	45.2	7.3		Calm			0		5					Hazy	Capt. Fellowes, R. E.
Dartmoor	28.13	714.5	29.64	752.8	44.4	6.9		S			2		10					Raining	R. E. Power.
Davos Platz, (Switzerland)	24.62	625.3			35.8	2.1	62	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.54	750.3	48	8.9		SSE			5		5					*D. clouds	J. Mac Gowan.
Dover			29.67	753.6	45	7.2		ESE			3		7					Gloomy	J. Costello.
Eccles, (near Manchester)			29.64	752.8	44.9	7.2		SE	3.8	1.7			10					Misty	Thomas Mackereth.
Falmouth, Observatory			29.53	750.0	51.9	11.1		SSE			3		7					Overcast	The Staff.
Fort Napier, (Natal)	27.51	698.7	29.75	755.6	89.0	31.7		E			3		8					*D. clouds	Pvt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.97	761.2	84.0	28.9		N			0		3					*D. clouds	
Galway, Queen's College			29.43	747.5	45	7.2		NW			5		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.84	757.9	59.5	15.3		N			4		2					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.34	752.8	40.8	4.9		E			2		10					Overcast	Lewis Stuart.
Great Yarmouth			29.74	755.4	44	6.7		ESE			4		8					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.67	753.6	44.3	6.8		ESE			1		10			Blank	Blan.	Overcast	The Staff, for G. B. Airy.
Guernsey			29.57	751.1	47.0	8.3		ESE			2		10					Raining	Dr. S. E. Hoskins.
Helston			29.56	750.8	53	11.7		SW			4		10n			0.7	17.8	Raining	M. P. Moyle.
Holyhead			29.56	750.8	48	8.9		SE			2		4					*D. clouds	John Tilston.
Kew, Observatory			29.66	753.4	45.0	7.2		ESE	11	4.9			10					Hazy	The Staff.
Kingstown			29.51	749.5	50	10.0		SE			4		7					*D. clouds	George Mitchell.
Leicester Museum			29.67	753.6	44.4	6.9		SE			1		10					Gloomy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.81	757.2	63.0	17.2		W			2		6k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.71	754.6	42	5.6		ESE			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.13	765.3	73.0	22.8		NE			7		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.68	753.9	44.2	6.8		SE			3		10cs,d		SE	0.430	10.92	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.65	753.1	41.9	5.5		ESE			2		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y.			29.64	752.8	44	6.7		Calm			0		10					Hazy	J. Lucas.
Plymouth			29.55	750.6	49.7	9.8		S			2		10					Raining	John Merrifield.
Roche's Point			29.42	747.3	50	10.0		SSW			4		10					Showery	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.58	751.3	47.0	8.3		SE			2		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.84	757.9	40.9	4.9		E	29	13.0			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.84	757.7	54.4	12.4		SE			1		9					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.68	753.9	44.0	6.7		SSE			2		10			0.112	2.84	Raining	W. F. Cooper.
Silloth Rectory			29.33	752.6	45.1	7.3	87	SE			2		7			0.200	5.08	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.65	753.1	43.5	6.4		SE			2		10n					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.64	752.8	44	6.7		ESE			5		10					Showery	John Smith.
Stratfield Turgiss			29.65	753.1	44.2	6.8		E			1		10					Overcast	Rev. Charles H. Griffith
Thurso			29.78	756.4	42	5.6		ESE			6		9					Raining	John Trotter.
Truro, Royal Institution			29.57	751.1	52	11.1		SE			4		10					Raining	W. Newcombe.
Valencia, Observatory			29.33	745.0	47.7	8.7		SE	16	7.2			9					Raining	The Staff.
SUB-SERIES.																		Showery	
Calf of Man, (Isle of Man)					48	8.9		SE			4		0			0.40	10.2		Henry Mercer.
Cape Good Hope, Obs'y			30.05	763.3	74.3	23.5	41	W	1	0.4		0	2						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.11	764.8	68.5	20.3	78	W			2		6x			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.72	754.9	40.9	4.9		SE			2		10n			0.03	0.8	Raining	Andrew Gibb.
Mauritius, Observatory			30.06	763.5				E	26.0	11.6						0.01	0.3		C. Meldrum.
Melbourne, Observatory			30.31	769.9	54.6	12.6	77	SE	7	3.1			3			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.55	750.6	46	7.8		SSE			4		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			30.91	762.2	39	3.9		SE			4		2	S					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.07	763.8	32.0	0.0	87	ESE			2		6						
Fanöe			30.01	762.3	32.7	0.4	83	E			4		9						
Godthaab, (Greenland)																			
Stykkisholm, (Iceland)			29.78	756.3	39.7	4.3	84	E			2		5						
Thorshavn, (Faröe)			29.97	761.1	41.7	5.4	69	ESE			5		10						
Vestervig			30.05	763.2	29.5	— 1.4	88	E			4		11						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.65	753.2	44.6	7	91	E			2		10			0	0	Covered	Normal School.
Amiens			29.70	754.4	39.6	4.2	93	W			3		8			0.102	2.6	Very cloudy	Normal School.
Avignon			29.72	754.9	51.3	10.7	84	N			1		8		SE			Light rain	Normal School.
Bar-sur-Seine			30.09	764.3	44.8	7.1	84	S			2		10			Inap.	Inap.	Covered	C. Saillard.
Beaumette, (near Angers)			29.54	750.2	43.7	6.5	91	E	2.7	1.2						0.217	5.5	Foggy	Beaumette Observ'tory.
Beauvais			29.70	754.4	39.7	4.3	90	ESE			2		10			0	0	Covered	Normal School.
Besançon			29.80	756.9	38.5	3.6	98	SSW			2					0	0	Foggy	Normal School.
Bourg en Bresse			29.81	757.1	43.5	6.4	97	SE			2		2cs		N	0	0	Slightly cl'dy	Normal School.
Bourges			29.69	754.2	42.8	6	91	E			2		5		E	0	0	Cloudy	Normal School.
Brest			29.52	749.8	47.7	8.7	89	S			2		10		S	0.492	12.50	Misty	Naval Observatory.
Carcassonne			29.60	751.7	51.8	11	66	E			3		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.70	754.3	41.2	5.1	97	E			2		10		E	0	0	Covered	Normal School.
Châlons-sur-Marne			29.71	754.6	41.9	5.5	88	SSE			4		10n			0	0	Covered	Normal School.
Clermont			29.62	752.4	44.1	6.7	94	S			1		10			0	0	Covered	Puy de Dome Obs'y.
Commercy			29.74	755.5	40.6	4.8	93	ESE			2		10			0	0	Covered	Normal School.
Commune de Grésque*			29.76	755.9	53.4	11.9	83	SE			1		10		SE	0	0		M. Kina.
Grenoble			29.80	757.0	42.3	5.7	78	ENE			2		2cs		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.63	752.6	44.2	6.8	97	E			2		10			0	0	Covered	Normal School.
Le Mans			29.63	752.6	43.2	6.2	91	SE			2		10			0	0	Covered	Normal School.
Lons-Le-Saulnier			29.70	754.4	41.5	5.3	93	S			2					0	0	Misty	Normal School.
Lorient			29.61	752.2	45.7	7.6	80	ESE			1					0.024	0.6	Misty	Naval Observatory.
Mâcon			29.80	756.9	45.3	7.4	94	E			2		5		S	0	0	Cloudy	Normal School.
Metz			29.82	757.3	41.9	5.5	85	NE			2		10			0	0	Foggy	M. Schuster.
Mirecourt			29.75	755.7	37.8	3.2	93	S			2		10		N	0	0	Covered	Normal School.
Nismes			29.59	751.5	54.7	12.6	78	SW			2		0			0.482	12.25	Clear	Normal School.
Orleans			29.86	758.5	45.0	7.2	94	SW			2		10			0	0	Covered	Normal School.
Paris, Observatory			29.68	753.9	40.3	4.6	91	ESE			2		10			0	0	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			29.77	756.2	45.7	7.6		S			2		10		S	0	0	Covered	Normal School.
Rochefort, Observatory			29.63	752.6	46.9	8.3	93	SE			3		10		N	0.177	4.5	Raining	Naval Observatory.
Rouen			29.68	753.8	42.6	5.9	85	SE			2		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.80	756.8	46.4	8	87	S			1		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchôsi.
Marseilles			29.71	754.6	55.0	12.8	87	SE			1		10			0.181	4.60	Raining	Marseilles Observatory.
Mont-Louis	24.47	621.5	29.82	757.3	36.9	2.7	79	SSW	24.2	10.83			3		SSW	0	0		—. Falguère.
Montsouris, Paris			29.66	753.4	40.8	4.9	89	E			2		10			Inap.	Inap.	Foggy	Montsouris Observatory
Perpignan			29.60	751.7	55.0	12.8	57	E	3.7	1.67			7		SE	0	0		Dr. Fines.
Pic du-Midi, (Summit,) H. P.	20.88	530.3			22.8	— 5.1		SW			2		4			Blank	Blank	Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.07	560.6			28.4	— 2.0		SW			1		4			0.028	0.7	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.67	753.7	41.0	5.0	94	E			1		10			Inap.	Inap.	Covered	E. Renou.
Toulouse			29.61	752.1	52.5	11.4	75	SSE			6		4			0	0		Toulouse Observatory.
Tours			29.62	752.3	45.3	7.4	91	SE			1		10			0	0	Misty	C. Marquet.
Versailles, (near Paris)			29.67	753.7	40.3	4.6	100	SE			1		10			0.006	0.14	Dense fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.31	769.8	34.9	1.6	93	NNE	2.4	1.08			0			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the ra in-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Grésque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2.877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.86	758.5	42.4	5.8	77	Calm			0		10			0	0		Prof. T. Hoh.
Berlin			30.02	762.4	32.5	0.3	71	E			2		8			0	0		Prof. Arndt.
Breslau			30.00	762.0	27.7	— 2.4	95	E			2		10			0	0		Royal University Obs'y.
Carlsruhe			29.76	755.9	45.3	7.4	80	SE			5		10			0	0		A. Senz.
Cassel			29.87	758.8	37.4	3.0	86	ENE			1		10	E		0	0		Dr. H. Möhl.
Crefeld			29.77	756.2	43.3	6.3	85	NE			0		10			0	0	Smoke-haze	Director Lose.
Emden			29.99	761.7	33.8	1.0	84	ESE			3		10			0	0		Prof. Prestel.
Frankfort on the Main			29.84	757.9	43.7	6.5	72	E			2		10			0	0		Physical Society.
Friedrichshafen	28.37	720.5	29.84	758.0	36.0	2.2	87	NE			2		10					Rain & fog	M. Wilhelm.
Hamburg			30.00	761.9	33.1	0.6	77	ESE			3		10			Inap.	Inap.	Covered	Captain F. Hegemann.
Kiel			30.03	762.7	34.0	1.1	74	ESE			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.16	766.0	23.7	— 4.6	85	SE			2		2			0	0		Prof. E. Luther.
Köslin			30.11	764.9	23.4	— 4.8		E			1		1			0	0		H. Müller.
Leipsic			29.97	761.1	31.1	— 0.5	86	NE			3		10	ENE		0	0		Prof. Bruhns.
Memel			30.20	767.0	13.5	—10.3	87	E			2		1ks			Inap.	Inap.	Clear	Reinbrecht & Skalweit.
Münster			29.89	759.3	40.8	4.9	92	NE			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.15	765.7	22.3	— 5.4	80	SSW			1		2			0	0		A Lothe.
Posen			30.06	763.5	27.5	— 2.5	77	SE			3		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.79	756.6	41.7	5.4	88	Calm			0		10			0	0		Dr. Schur.
Stuttgart			29.78	756.5	42.8	6.0	75	NE			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.71	754.5	43.5	6.4	78	ESE			1		10			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.30	718.8	29.85	758.2	36.7	2.6	85	SE			1		10	E		Inap.	Inap.	Foggy	Dr. von Bebber.
Wustrow, Naval School			30.12	765.0	30.6	— 0.8	85	SE			2		5			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 34°, 23′, W. 21°, 20′.			30.21	767.3	68.7	20.4	93	WNW			3		4	WNW					Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper nd lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer corrected for instru-m'tal error and temperature: Inches.	Millimeters.	Barometer reduced to sea-level: Inches.	Millimeters.	Temperature of the Air: Fahrenheit.	Centigrade.	Relative Humidity: Per cent.	Wind Direction: From—	Wind Velocity: Miles per hour.	Meters per second.	Wind Force: 0—10.	Clouds Amount Up'er: 0—10.	Clouds Amount Low'r: 0—10.	Clouds Direction Upper: From—	Clouds Direction Lower: From—	Rain-fall or melted snow in the past 24 hours: Inches.	Millimeters.	Weather.	Observer.
Athens			29.74	755.3	60.6	15.9		S										Raining	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. sea-level Inches.	Bar. sea-level Millimeters.	Fahrenheit.	Centigrade.	Humidity Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds Low'r 0—10.	Clouds Upper From—	Clouds Lower From—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Udine			29.74	755.5	51.4	10.8	59	Calm	0	0			8			0.028	0.7	Light rain	Prof. Giovanni Clodig.
Padua			29.75	755.6	50.9	10.5	83	NE	4.3	1.9			8	SW		0	0		Prof. Dott. Lorenzoni.
Vicenza			29.76	756.0	52.3	11.3	67	SW	1.8	0.8			2			0	0		Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.43	722.0	29.78	756.3	48.9	9.4	56	W			1		4			0	0		Prof. Trionfini Carlo.
Domodossola			29.82	757.4	41.2	5.1	83	Calm			0		10			0	0		Prof. Giuseppe Calza.
Milan			29.81	757.1	45.1	7.3	58	S			1		4	NNW		0	0		Ab. Gio. Capelli.
Pavia			29.80	757.0	40.5	4.7	90	SW			1		10			0	0	Dense fog	Prof. Gio. Cantoni.
Moncalieri			29.82	757.5	44.6	7.0	81	N	0	0			9	SE		0	0		Prof. P. F. Denza.
Mondovi	27.87	707.9	29.83	757.7	46.2	7.9	59	SW			2		9			0	0		Prof. C. Bruno.
Porto Maurizio			29.79	756.7	55.8	13.2	88	SE			2		2			0	0		Prof. L. Vassallo.
Genoa																			Prof. Garibaldi.
Piacenza			29.81	757.1	41.2	5.1	97	NW	3.8	1.7			10			0	0	Dense fog	Dott. G. Manzi.
Parma			29.79	756.7	44.8	7.1	93	SW			2		10			0	0		Prof. P. Pigorini.
Bologna			29.79	756.7	49.1	9.5	44	W			1		10			0	0		Prof. A. Palagi.
Florence			29.75	755.7	57.6	14.2	63	NE			4		7			0	0		Cav. F. Meucci.
Leghorn			29.73	755.1	53.6	12.0	77	NE	0.7	0.3			10	S		0	0		Prof. P. Monte.
Siena	28.51	724.2	29.74	755.3	54.0	12.2	55	NE	3.1	1.4			5	E		0	0		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.78	756.4	48.4	9.1	88	NW	39.1	17.5			10	W		0.031	1.0	Raining	Prof. Luigi Guidi.
Ancona			29.76	755.9	47.7	8.7	90	NW			6		10			0.807	20.5	Raining	Prof. F. De—Bosis.
Grosseto			29.71	754.7	60.1	15.6	60	NE			2		4	N		0	0		Avv. P. Ponticelli.
Rome			29.71	754.5	58.1	14.5	74	SSE	0.7	0.3			3	SW		0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U.			29.72	756.0	58.1	14.5	79	SW			2		10	SSW		0.787	20.0	Raining	Prof. L. Palmieri.
Lecce			29.73	755.2	56.8	13.8	80	S	7.4	3.3			9			0.681	17.3	Raining	Prof. C. De—Giorgi.
Cosenza			29.79	756.6	55.8	13.2	75	SW	3.8	1.7			9			0.622	15.8		Prof. F. D. Conti.
Riposto, (Sicily)			29.77	756.1	59.9	15.5	73	SW			2		3			0.079	2.0	Raining	Prof. F. Cafiero.
Palermo			29.70	754.4	61.7	16.5	60	W	4.9	2.2			4			0	0		Prof. G. Cacciatore.
Caltanissetta	27.84	707.2	29.8[illegible]	757.4	54.0	12.2	70	WNW			2		4	N		0.138	3.5		Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			29.76	755.8	53.1	11.7	93	SW	1.3	0.6			10	W		0.066	17.0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. sea-level Inches.	Bar. sea-level Millimeters.	Fahrenheit.	Centigrade.	Humidity Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds Low'r 0—10.	Clouds Upper From—	Clouds Lower From—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Tokei																			

By authority of the
SECRETARY OF PUBLIC WORKS.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. sea-level Inches.	Bar. sea-level Millimeters.	Fahrenheit.	Centigrade.	Humidity Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds Low'r 0—10.	Clouds Upper From—	Clouds Lower From—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena.
																			Vicente Reyes.
																			Miguel Perez. (Engineers in charge.)

NOTE.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. sea-level Inches.	Bar. sea-level Millimeters.	Fahrenheit.	Centigrade.	Humidity Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds Low'r 0—10.	Clouds Upper From—	Clouds Lower From—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Flushing			29.77	756.1	39.9	4.4		ENE			2					0	0		
Groningen			29.84	757.8	34.7	1.5		E			4					0	0		
Helder			29.82	757.5	37.2	2.9		E			2					0	0		
Utrecht			29.75	755.6	39.7	4.3	88	E			2		5			0	0	Cloudy	

NOTE.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Bar. corr. Inches.	Bar. corr. Millimeters.	Bar. sea-level Inches.	Bar. sea-level Millimeters.	Fahrenheit.	Centigrade.	Humidity Per cent.	Wind From—	Miles per hour.	Meters per second.	Force 0—10.	Clouds Up'er 0—10.	Clouds Low'r 0—10.	Clouds Upper From—	Clouds Lower From—	Rain Inches.	Rain Millimeters.	Weather.	Observer.
Bergen			30.09	764.2	31.6	— 0.2	92	SE	7	3			10			0	0		
Brōno			29.99	761.8	33.8	1.0	85	S	9	4			10			0	0		
Christiania			30.17	766.3	14.4	— 9.8	87	NNE	4.3	1.9			10			0	0		
Tromsö			29.99	761.7	15.8	— 9.0	81	NE	4	2			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.19	766.9	61.7	16.5	92	W	11.2	5.0			7			0.087	2.2	Raining	Dr. J. A. Sampaio.
Campo Major			29.82	757.4	49.1	9.5	86	SW	9.4	4.2			7	WNW		0.272	6.9		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.15	765.9	63.7	17.6	65	Calm	0	0			10			0	0		Capt. D. A. de Cunha.
Lisbon			29.84	758.0	53.8	12.1	78	WSW	9.8	4.4			9			0.319	8.1		The Observatory.
Ponta Delgada, (Azores)			30.21	767.4	62.6	17.0	94	NW	2.5	1.1			10			0.166	4.2	Light rain	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.11	764.9	21.2	— 6.0	93	ESE	7	3			0						Astronomical Obs.
Wilna			30.20	767.1	11.1	—11.6	80	Calm	0	0			2						Astronomical Obs.
Dorpat			30.19	766.7	7.5	—13.6	90	SSW	7	3			10			Blank	Blank		Physical Cabinet.
St. Petersburg			30.08	764.0	5.7	—14.6	88	SW	7	3			10					Light snow	Central Physical Obs.
Kuopio			30.05	763.2	— 8.5	—22.5	84	Calm	0	0			2						Ch. Forsten.
Kieff			30.13	765.4	11.1	—11.6	100	N	4	2			10					Light snow	Physical Cabinet.
Nikolaiev			30.12	765.0	19.8	— 6.8	89	NE	22	10			10						Kurdakof.
Kertch			30.04	762.9	29.1	— 1.6	96	E	11	5			10						Lagorio.
Moscow			30.21	767.2	—10.3	—23.5	82	NNW	4	2			0						Meteorological Obs.
Lugan			30.08	763.9	10.8	—11.8	74	SW	7	3			8						Meteorological Obs.
Archangel			29.51	749.5	10.0	—12.2	100	W	27	12			10						Ogorodnikof.
Tiflis	28.67	728.3	30.12	765.0	48.0	8.9	60	Calm	0	0			2						Physical Observatory.
Astrakhan			30.09	764.3	18.0	— 7.8	100	N	2	1			10			Blank	Blank		Sebastianof.
Kasan			29.90	759.4	—22.7	—30.4	92	N	7	3			1						Physical Cabinet.
Orenburg			29.92	760.0	8.4	—13.1	76	E	16	7			10					Snowing	Tschernischef.
Ekaterinburg	28.88	733.5	29.97	761.3	—17.7	—27.6	72	Calm	0	0			8						Meteorogical Obs.
Nukuss			30.19	766.9	33.1	0.6	85	S	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Baraitul			30.50	774.7	— 5.6	—20.9	79	W	2	1			0						Meteorological Obs.
Yeniseisk			30.06	763.4	2.8	—16.2	88	SE	2	1			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.50	774.6	20.5	— 6.4	28	NE	4	2			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					—10.7	—23.7		W	2	1			0						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.74	755.3	43.0	6.1	87	SW	16.4	7.33		0	10			0.378	9.6	Covered	Royal Observatory.
San Fernando			29.89	759.3	55.2	12.9	77	NW	4.0	1.8		0	4		SW	0.185	4.7		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.14	765.5	—17.0	—27.2		NW			2		0			0	0		
Umea			30.13	765.4	12.2	—11.0	100	NE			2		10			0	0		
Hernosand			30.12	765.1	9.7	—12.4	92	Calm			0		10			0	0		
Stockholm			30.11	764.9	22.6	— 5.2	90	Calm			0		10			0	0	Foggy	
Wisby			30.19	766.9	27.7	— 2.4	96	SSE			2		3			0.016	0.4		
SUB-SERIES.																			
Upsala			30.10	764.6	22.1	— 5.5	91	WSW	6.0	2.7			10			0.004	0.10	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.34	719.7	29.80	757.0	40.5	4.7	83	ENE			2		10			0	0	Covered	The Observatory.
Zurich	28.16	715.3	29.85	758.3	38.3	3.5	90	E					10			0	0	Covered	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —7.8 mm; Thermometer, +2.4 cent.; Relative Humidity, +3 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.88	759.0	53.8	12.1	69	SE	3	1.5			10		NE	0	0		
Fao, (Persian Gulf)																			
Salonica			29.81	757.1	58.3	14.6		SE			1		10					Raining	
Valona			29.71	754.7	58.8	14.9		W			2		8						
Varna			29.84	758.0	50.0	10.0		SW			2		10					Foggy	
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.95	760.8	70.0	21.1	54	W			1		8c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario			30.72	780.3	—19	—28.3		Calm	0	0		Haze	5s		W	0.05	1.3	Fair	W. R. Bigg.
*Chatham, N. B.			29.94	760.5	—13	—25.0	100	SW	17	7.6		0	0			0.36	9.1	Clear	G. A. Blair.
Charlottetown, P. E. Island			29.97	761.2	—12	—24.4	91	W	15	6.7			10s			Inap.	Inap.	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.73	780.5	—19.5	—28.6	60	W			2	0	0			0	0	Bright	James Smith, M. A.
Dalhousie, N. B.								W			4					0	0	Clear	H. A. Johnson.
Esquimault, B. C.			30.21	767.3	32.1	0.1	100	N				0	0			0	0	Frosty	W. H. Bevis.
Fredericton, N. B.			30.26	768.6	—17.6	—27.6	74	NW	24	10.7		0	0			0.12	3.18	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.52	775.2	—24	—31.1	100	SE	6	2.7		0	Haz			0	0	Hazy	James Stewart.
Goderich, Ontario			30.56	776.2	4.4	—15.3	85	NW			2		10n			0.10	2.5	Light snow.	H. J. Strang, M. A.
Granton, Ontario	29.31	744.5	30.56	776.2	— 0.8	—18.2		SE			1		10n					Cloudy	James Grant.
*Halifax, N. S.			30.11	764.8	—1	—18.3	90	NW	28	12.5		2cs	2ks	NW	NW	0.001	0.03	Fair	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.76	781.3	—15	—26.1	70	NE	3	1.3		2c	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S.			29.80	756.9	3.0	—16.1		NW	24	10.7		0	0			0.21	5.3		C. H. Rigby.
*Montreal, Quebec			30.65	778.5	—22	—30.0	100	W	24	10.7		0	0			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.68	779.3	—25	—31.7	73	SW	1	0.4		Haze	0	SW		0	0	Fair	J. B. Haney.
*Parry Sound, Ontario			30.67	779.0	—27	—32.8	56	N	8	3.6		2cs	2ks	N	N	0.02	0.5	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.59	777.0	1	—17.2	94	NW	6	2.7		Haze	Haz			0	0	Cloudy	H. Morgan.
Port Hastings, N. S.			30.01	762.2	12.5	—10.8		NW	30	13.4						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.57	776.5	0	—17.8	94	N	4	1.8			10n		NW	0.01	0.3	Light snow.	M. Payne.
*Quebec, Quebec			30.50	774.7	—22	—30.0	84	W	10	4.5		0	0			0.54	13.7	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.29	769.4	—13	—25.0	100	W	16	7.2		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.41	772.4	—2	—18.9	41	Calm	0	0			10n			0.25	6.3	Cloudy	K. Stewart.
Stayner, Ontario																Inap.	Inap.		R. J. Cole.
Stratford, Ontario	29.12	739.6	30.58	776.7	— 1.2	—18.4	94	Calm	0	0			10s			0.30	7.6	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.79	756.7	0	—17.8	97	W	31	13.9			10ks		W	0.06	1.5	Cloudy	T. C. Hill.
*Toronto, Ontario			30.63	778.0	—3	—19.4	87	N	5	2.2			10n		N	0.05	1.3	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.58	776.7	2.7	—16.3	75	W	1	0.4			9s			0.12	3.05	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.48	748.8	19.0	— 7.2	84	W				5k	5s			0.15	3.8	Stormy	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.62	777.7	— 5	—20.6	63	Calm	0	0		0	0			0.05	1.3	Clear	
Alpena, Mich.			30.56	776.2	— 8	—22.2	56	W	3	1.3			10s			0.06	1.5	Cloudy	
Atlantic City, N. J.			30.68	779.3	10	—12.2	58	N	8	3.6		1ck	0	W		0	0	Clear	
Augusta, Ga.			30.43	772.9	35	1.7	63	Calm	0	0		0	0			0	0	Clear	
Baltimore, Md.			30.68	779.3	15	— 9.4	47	E	3	1.3		0	2s			0	0	Clear	
Barnegat, N. J.			30.67	779.0	8	—13.3	66	N	11	4.9		2k	0	W		0	0	Fair	
Bismarck, Dakota	28.61	726.7	30.59	777.0	—20	—28.9	63	Calm	0	0		Haze	0			0.18	4.6	Hazy	
Boston, Mass.			30.57	776.5	0	—17.8	85	W	12	5.4		1c	1s			Inap.	Inap.	Clear	
Breckenridge, Minn.			30.50	774.7	— 9	—22.8	58	NE	2	0.9		0	2s			Inap.	Inap.	Clear	
Buffalo, N. Y.			30.09	764.3	4	—15.6	74	E	2	0.9			10s			0.01	0.3	Cloudy	
Burlington, Vt.			30.70	779.8	—12	—24.4	50	N	2	0.9		0	3s			Inap.	Inap.	Fair	
Cairo, Ill.			30.19	766.8	22	— 5.6	73	SE	6	2.7		0	Haze			0	0	Clear	
Cape Hatteras, N. C.			30.42	772.7	43	6.1	75	NE	21	9.4		0	2s			0	0	Fair	
Cape Henry, Va.			30.63	778.0	23	— 5.0	80	NE				0	0			0	0	Clear	
Cape Lookout, N. C.			30.50	774.7	35	1.7	80	NE	24	10.7		0	5s		NE	0	0	Fair	
Cape May, N. J.			30.68	779.3	10	—12.2	58	NE	6	2.7		0	0			0	0	Clear	
Charleston, S. C.			30.39	771.9	41	5.0	65	N	8	3.6		0	0			0	0	Clear	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	16	— 8.9	83	N	24	10.7		0	5s			Inap.	Inap.	Threatening	
Chicago, Ill.			30.25	768.3	12	—11.1	80	SE	14	6.3			10n			0.04	1.0	Light snow	
Cincinnati, Ohio			30.33	770.4	14	—10.0	64	E	6	2.7			10ks		W	0	0	Cloudy	
Cleveland, Ohio			30.55	776.0	5	—15.0	75	E	5	2.2			10n			0.17	4.3	Light snow	
Corsicana, Tex.			30.06	763.5	44	6.7	59	S	8	3.6		0	2s			0	0	Clear	
Davenport, Iowa			30.27	768.8	7	—13.9	88	E	14	6.3			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			30.04	763.0	45	7.2	60	SW	16	7.2		0	0			0	0	Clear	
Denver, Col.	24.82	630.4	30.04	763.0	27	— 2.8	77	NE	9	4.0			10s			0	0	Cloudy	
Detroit, Mich.			30.51	774.9	2	—16.7	72	NE	5	2.2			10n			0.02	0.5	Light snow	
Dodge City, Kan.	27.32	693.9	29.77	756.1	16	— 8.9	74	N	30	13.4		0	0			0	0	Clear	
Dubuque, Iowa			30.35	770.9	1	—17.2	72	E	4	1.8			10n			0.10	2.5	Light snow	
Duluth, Minn.			30.52	775.2	7	—13.9	80	NW	9	4.0			10s		W	0	0	Cloudy	
Eastport, Me.			30.27	768.8	—13	—25.0	32	W	28	12.5		0	Fog			0.24	6.1	Clear	
Erie, Pa.			30.56	776.2	5	—15.0	87	S	10	4.5			10n			0.01	0.3	Light snow	
Escanaba, Mich.			30.54	775.7	—11	—23.9	76	N	8	3.6			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			29.88	758.9	43	6.1	35	SE	16	7.2			10s		SW	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.72	729.5	29.86	758.4	35	1.7	37	NW	8	3.6		0	0			0	0	Clear	
Fort Sully, Dakota	28.63	727.2	30.53	775.4	0	—17.8	69	NW	20	8.9		0	5s		NW	0.08	2.0	Fair	
Florence, Arizona	28.47	723.1	29.99	761.7	55	12.8		E				0	0			0	0	Clear	
Galveston, Tex.			30.14	765.5	57	13.9	93	E	6	2.7			10s		SW	0	0	Cloudy	
Grand Haven, Mich.			30.45	773.4	2	—16.7	86	E	16	7.2			10s			0.03	0.8	Cloudy	
Indianapolis, Ind.			30.31	769.9	15	— 9.4	64	E	6	2.7			10s			0	0	Cloudy	
Indianola, Tex.			30.09	764.3	58	14.4	87	E	4	1.8			10s		S	0	0	Cloudy	
Jacksonville, Fla.			30.28	769.1	45	7.2	75	N	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			30.14	765.5	18	—10.6	62	E	14	6.3			10s		E	0	0	Cloudy	
Key West, Fla.			30.15	765.8	65	18.3	90	NE	12	5.4		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.58	776.7	34	1.1	79	NE	32	14.3		0	8ks		NE	0	0	Cloudy	
Knoxville, Tenn.			30.38	771.6	21	— 6.1	85	N	1	0.4		0	Sm'e			0	0	Fair	
La Crosse, Wis.			30.42	772.7	— 4	—20.0	100	NE	3	1.3			10n			0.10	2.5	Light snow	
Leavenworth, Kan.			30.04	763.0	14	—10.0	63	N	6	2.7			10s			0	0	Cloudy	
Louisville, Ky.			30.20	769.6	16	— 8.9	49	NE	5	2.2			8s		NE	0	0	Cloudy	
Lynchburg, Va.			30.67	779.0	16	— 8.9	42	NE	3	1.3		0	0			0	0	Clear	
Malone, N. Y.			30.69	779.5	—15	—26.1	71	SW	1	0.4		0	0			Inap.	Inap.	Clear	
Marquette, Mich.			30.44	773.2	— 5	—20.6	63	W	12	5.4		0	0			0	0	Clear	
Memphis, Tenn.			30.20	767.1	32	0.0	79	S	4	1.8		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.37	771.4	4	—15.6	87	NW	6	2.7			10n			0.18	4.6	Light snow	
Mobile, Ala.			30.28	769.1	36	2.2	80	N	5	2.2		0	0			0	0	Clear	
Montgomery, Ala.			30.35	770.9	33.5	0.8	74	NE	2	0.9		0	Fog			0	0	Clear	
Morgantown, W. Va.	29.34	745.2	30.52	775.2	9.5	—12.5	68	NE	6	2.7		10c,cs	0	W		0	0	Cloudy	
Mt. Washington, N. H.	23.24	590.3	29.60	751.8	—35	—37.2		NW	80	35.8		0	0			0	0	Clear	
Nashville, Tenn.			30.29	769.4	21	— 6.1	56	Calm	0	0		0	0			0	0	Clear	
New Haven, Conn.			30.66	778.7	8	—13.3	40	Calm	0	0		5cs	Sm'e			Inap.	Inap.	Fair	
New London, Conn.			30.64	778.2	7	—13.9	31	Calm	0	0		1c	2ck	W	W	Inap.	Inap.	Fair	
New Orleans, La.			30.22	767.6	44	6.7	67	Calm	0	0		0	Sm'e		NE	0	0	Clear	
Newport, R. I.			30.62	777.7	6	—14.4	76	W	16	7.2		7ck	0	W		Inap.	Inap.	Fair	
New York, N. Y.			30.67	779.0	7	—13.9	54	NW	6	2.7		5cs	Sm'e	W		Inap.	Inap.	Fair	
Norfolk, Va.			30.65	778.5	20.5	— 6.4	55	NE	11	4.9		0	0			0	0	Clear	
North Platte, Neb.	27.18	690.4	29.95	760.7	14	—10.0	81	N	34	15.2			10ks		N	0	0	Cloudy	
Omaha, Neb.	28.98	736.1	30.17	766.3	10	—12.2	79	NE	7	3.1			10s			0.01	0.3	Cloudy	
Oswego, N. Y.			30.66	778.7	1.5	—16.9	100	SE	4	1.8			10n			Inap	Inap.	Light snow	
Pembina, Dakota			30.47	773.9	—20	—28.9	63	W	4	1.8			10s			0	0	Cloudy	
Philadelphia, Pa.			30.68	779.3	8.5	—13.1	45	N	7	3.1		2cs	Haze	W		0	0	Clear	
Pike's Peak, Col.	17.55	445.8	29.76	755.9	4	—15.6	61	W	52	23.2		0	0			0	0	Clear	
Pittsburgh, Pa.			30.57	776.5	5	—15.0	87	E	4	1.8			10s		E	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.54	775.7	0	—17.8	100	Calm	0	0			10n		S	Inap.	Inap.	Light snow	
Portland, Me.			30.54	775.7	— 7	—21.7	59	NW	4	1.8		0	Haze			Inap.	Inap.	Clear	
Portland, Oregon			30.07	763.8	30	— 1.1	89	NW	8	3.6		0	0			0	0	Clear	
Punta Rassa, Fla.			30.19	766.8	59.0	15.0	78	NE	14	6.3		2ck	0	SW		0	0	Fair	
Rochester, N. Y.			30.62	777.7	2	—16.7	86	SE	3	1.3			10s		S	0.09	2.3	Cloudy	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	20	— 6.7	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.61	777.5	9	—12.8	57	N	13	5.8		0	0			0	0	Clear	
San Diego, Cal.			30.00	762.0	51	10.6	32	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			29.99	761.7	45	7.2	76	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.23	590.0	29.77	756.1	25	— 3.9	38	Calm	0	0		0	0			0	0	Clear	
Savannah, Ga.			30.36	771.1	41	5.0	83	NE	6	2.7		0	0			0	0	Clear	
Shreveport, La.			30.19	766.8	37	2.8	81	SE	2	0.9			10s		SE	0	0	Cloudy	
Smithville, N. C.			30.45	773.4	42	5.6	75	NE	13	5.8		2k	0	NE		0	0	Fair	
Springfield, Mass.			30.60	777.2	5.5	—14.7	34	W	4	1.8		1cs	2s			0.01	0.3	Fair	
St. Louis, Mo.			30.14	765.5	19	— 7.2	69	SE	8	3.6			10s		SW	0	0	Cloudy	
St. Marks, Fla.			30.31	769.9	37	2.8	71	NE	4	1.8		0	0			0	0	Clear	
St. Paul, Minn.			30.42	772.7	— 4	—20.0	82	NE	4	1.8			10s			0.05	1.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.56	776.2	— 1	—18.3	72	W	24	10.7		0	0			0	0	Clear	
Toledo, Ohio			30.48	774.2	8	—13.3	100	E	1	0.4			10n			0.20	5.1	Light snow	
Tucson, Arizona	27.55	699.8	30.10	764.5	43	6.1		SE				10c	0	SW		0	0	Cloudy	
Tybee Island, Ga.			30.34	770.6	49	9.4	77	NE	20	8.9		0	0			0	0	Clear	
Vicksburg, Miss.			30.25	768.3	37	2.8	66	SE	10	4.5		1cs	Sm'e			0	0	Clear	
Virginia City, M. T.	24.38	619.2	29.86	758.4	11	—11.7	79	Calm	0	0		0	0			Inap.	Inap.	Clear	
Washington, D. C.			30.68	779.3	11	—11.7	50	NE	6	2.7		0	1s,hz.			0	0	Hazy	
Wilmington, N. C.			30.48	774.2	30	— 1.1	67	NE	7	3.1		0	1s			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.61	777.5	9	—12.8	57	NW	24	10.7		0	0			0	0	Clear	
Yankton, Dakota	28.90	734.0	30.34	770.6	5	—15.0	75	NE	5	2.2			10s			0	0	Cloudy	
Yuma, Arizona			30.04	763.0	50	10.0		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	77	25.0	78	N	8	3.6		8c	2s	E	E	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	30.00	762.0	66	18.9	83	E	1.0	0.4		2c	0	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.99	761.7	79	26.1	82	E			1	4c	4c ?	E		0.070	1.78	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.04	763.0			79.7	26.5		E								0.098	2.50		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			63.5	17.5	90	NE			2	0	7ks			0.16	4.1	Cloudy	Thomas Herran.
York Factory, B. A.			30.20	767.1	—32.5	—35.8		N	10	4.5		2cs	0	N		0.01	0.3	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	74	23.3		N			1					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.05	763.3	63	17.2	78	Calm			0	0	4k			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, Boston, Mass.			30.30	769.6	7	—13.9	77	W	14	6.3		2c	0	W				Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 36°, 13′, W. 54°, 15′.	WSW	8.5	30.11	764.8	68.0	20.0		W			5		10		W				Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 0.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 18, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.89	759.2	63.5	17.5	83	SSW			1		10			0	0	Hidden	Charnot.
Algiers			29.83	757.6	61.2	16.2	61	N			1		2			0.295	7.5	Clear	Peter.
La Calle			29.79	756.7	60.1	15.6	61	W			3		5			0	0	Fair	Didier.
Tunis			29.81	757.2															Jacques.
Sfax																			Chauvey.
Saida			29.95	760.7	54.0	12.2	63	S			5		7			0	0	Cloudy	Millot.
Tebessa			29.83	757.7	48.2	9.0		N			2		4			0	0	Fair	Bourgeois.
Geriville			30.03	762.7	58.1	14.5	78	W			1		1			0	0	Clear	Lemaillot.
Laghouat			29.91	759.6	55.0	12.8	68	NW			1		2			0	0	Clear	Guyot.
Biskra			29.95	760.6	63.5	17.5	83	NW			3		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Agram			29.69	754.2	42.1	5.6	90	NE			1		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.79	756.7	27.7	— 2.4	98	NE			2		10			0.075	1.9		Dr. Wierzbiski.
Eperies			29.79	756.6	32.2	0.1	83	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.43	722.2	29.71	754.7	38.3	3.5	91	WSW			1		9			0	0		Andreas Rospini.
Hermannstadt	28.34	719.7	29.78	756.5	41.4	5.2	80	SE			2		3			0	0		Prof. Reissenberger.
Kremsmünster	28.29	718.5	29.68	753.9	30.2	— 1.0	94	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.83	757.6	21.0	— 6.1	98	SE			2		10			0.165	4.2		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.68	753.9	55.4	13.0	87	SSW			1		10ks			0.043	1.08		I.R.Hydrographic Of'ce.
Szegedin			29.74	755.5	40.3	4.6	82	S			3		10			0.037	0.97		Karl Stancel.
Trieste			29.70	754.4	49.8	9 9	99	Calm			0		10			0.913	23.2	Rain and fog	Prof. V. Farolfi.
Vienna			29.68	753.8	34.2	1.2	100	Calm			0		10			0	0	Foggy	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Brussels			29 36	745.8	45.9	7.7	87	S			2		10ks		SSW	0.014	0.35	Covered	Royal Observatory.

NOTE.—In the originals, the wea her is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.56	750.8	41.0	5.0		SE	34	15.2			9			0.425	10.80	Squally	William Boswell.
Ardrossan			29.41	747.0	44	6.7		E			3		7					*D. clouds	William McNeil.
Armagh, Observatory			29.32	744.7	42.8	6.0		ENE	12	5.4			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.27	743.4	46.2	7.9		ESE			1		3					*D. clouds	J. Dreyer.
Bradford			29.26	743.2	41.7	5.4		E			4		10			0.12	3.0	Drizzling	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	83.0	28.3		SE			2		6					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.23	742.4	44.0	6.7		ESE			1		10					Raining	H. Todd. [H. C.
Cardington			29.26	743.2	43.4	6.3		E			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.27	743.4	46.7	8.2		SW			1		3					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.79	705.8	29.29	744.0	41.6	5.3		SW			1		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.42	620.3			42.8	5.7	60	SW			1		3			0.095	2.42	*D. clouds	Francis Redford, M. A.
Donaghadee			29.44	747.8	43	6.1		ESE			6		10					Raining	J. Mac Gowan.
Dover			29.27	743.4	48	8.9		SSW			3		9					Overcast	J. Costello.
Eccles, (near Manchester)			29.30	744.2	42.7	5.9		ESE	4.2	1.9			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.20	741.7	44.9	7.2		W			3		10					Overcast	The Staff.
Fort Napier, (Natal)	27.63	701.8	29.87	758.7	68.0	20.0		E			3		10					Overcast	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.96	761.0	85.0	29.4		NW			0		4					*D. clouds	
Galway, Queen's College			29.23	742.4	44	6.7		S			6		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.79	756.7	55.2	12.9		E			3		10					Raining	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.42	747.3	41.4	5.2		ENE			2		10					Threatening	Lewis Stuart.
Great Yarmouth			29.30	744.2	44	6.7		SSE			3		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y			29.26	743.2	46.9	8.3		SW			1		3			Blank	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.26	743.2	45.5	7.5		WSW			3		10					Raining	Dr. S. E. Hoskins.
Helston			29.17	740.9	47	8.3		SW			4		10n					Raining	M. P. Moyle.
Holyhead			29.27	743.4	44	6.7		ENE			4		4					*D. clouds	John Tilston.
Kew, Observatory			29.26	743.2	45.9	7.7		SSW	5	2.2			9					*D. clouds	The Staff.
Kingstown			29.27	743.4	48	8.9		SE			2		10					Gloomy	George Mitchell.
Leicester Museum			29.26	743.2	42.2	5.7		NE			1		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.87	758.7	64.8	18.2		W			2		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.52	749.8	40	4.4		ESE			2		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.08	764.0	73.6	23.1		NE			3		3					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.28	743.7	41.1	5.1		ENE			3		10s,n		ENE	0.218	5.53	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.26	743.2	40.9	4.9		NE			2		10					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.24	742.7	43	6.1		E			1		10					Hazy	J. Lucas.
Plymouth			29.19	741.4	45.7	7.6		SW			2		6					*D. clouds	John Merrifield.
Roche's Point			29.23	742.4	47	8.3		NNE			3		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.20	741.7	46	7.8		E			2		8					Showery	John C. Walker.
Saint Helier, (Jersey)			29.26	743.2	47.0	8.3		WSW			6		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.64	752.8	37.9	3.3		ESE	22	9.8			10					Drizzling	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.87	758.7	46.2	7.9		NNE			2		10					Drizzling	Sergt. W. H. Lyne.
Sheffield			29.31	744.5	42.2	5.7		NE			2		10			0.667	16.94	Raining	W. F. Cooper.
Silloth Rectory			29.35	745.5	40.5	4.7	92	E			4		7			0.025	0.63	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.33	745.0	40.5	4.7		E			2		8ns					Showery	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.47	748.5	42	5.6		ESE			5		8					*D. clouds	John Smith.
Stratfield Turgiss			29.28	743.7	43.6	6.4		E			1		7					Misty	Rev. Charles H. Griffith
Thurso			29.60	751.8	39	3.9		ESE			4		10					Showery	John Trotter.
Truro, Royal Institution			29.24	742.7	46	7.8		SW			5		10					Raining	W. Newcombe.
Valencia, Observatory			29.28	743.7	47.6	8.7		NNE	5	2.2			2					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					43	6.1		ESE			6		10			0.60	15.2		Henry Mercer.
Cape Good Hope, Obs'y			30.03	762.7	78.2	25.7	40	S	13	5.8		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.94	760.5	68.0	20.0	88	S			3		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.48	748.8	41.0	5.0		E			2		10ks			0.16	4.1	Showery	Andrew Gibb.
Mauritius, Observatory			30.05	763.3				E	20.8	9.3						0	0		C. Meldrum.
Melbourne, Observatory			30.07	763.8	59.6	15.3	85	Calm	0	0			0			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.41	747.0	45	7.2		SE			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.77	756.1	39	3.9		S			3	4	3	S					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.73	755.1	30.4	— 0.9	88	SE			4		10						
Fanöe			29.68	753.8	30.0	— 1.1	90	E			4		10						
Godthaab, (Greenland)			29.03	737.3	42.1	5.6	42	ENE			4		10						
Stykkisholm, (Iceland)			29.72	754.8	38.7	3.7	82	E			6		5						
Thorshavn, (Faröe)			29.74	755.4	38.5	3.6	83	E			5		10						
Vestervig			29.71	754.5	26.6	— 3.0	91	ENE			6		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.37	746.0	45.5	7.5	94	SW			4	2c		SW		0.299	7.6	Slightly cl'dy	Normal School.
Amiens			29.35	745.6	47.5	8.6	97	W			3		10			0.024	0.6	Covered	Normal School.
Avignon			29.61	752.2	55.6	13.1	75	S			1		5		SE	0.283	7.2	Cloudy	Normal School.
Bar-sur-Seine			29.48	748.8	46.6	8.1	82	SW			2		10		SW	0.004	0.1	Covered	C. Saillard.
Beaumette, (near Angers)			29.37	746.1	46.0	7.8	97	SW	6.5	2.9			10		SW	0.325	8.2	Raining	Beaumette Observ'tory.
Beauvais			29.39	746.5	46.6	8.1	86	S			2		10		SSW	0.089	2.25	Covered	Normal School.
Besançon			29.58	751.2	47.3	8.5	82	S			3		8		SW	0.047	1.2	Very cloudy	Normal School.
Bourg en Bresse			29.58	751.3	48.6	9.2	84	SW			8		2kn		N	0.059	1.5	Slightly cl'dy	Normal School.
Bourges			29.32	744.8	48.2	9	86	SW			2		5		S	0	0	Cloudy	Normal School.
Brest			29.26	743.3	46.6	8.1	83	W			3		4		W	0.236	6.00	Hail-squall	Naval Observatory.
Carcassonne			29.64	752.8	53.6	12	67	W			1		1		E	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			29.34	745.3	45.1	7.3	94	SSW			3		10		SSW	0.035	0.9	Covered	Normal School.
Châlons-sur-Marne			29.48	748.9	46.6	8.1	86	S			4		10n			0	0	Covered	Normal School.
Clermont			29.53	750.1	49.6	9.8	56	SW			3		8		SW	0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.49	749.0	45.1	7.3	97	E			2		10			0	0	Covered	Normal School.
Commune de Gréasque*			29.63	752.7	48.0	8.9	95	W			2		10		NE	0.256	6.5		M. Kina.
Grenoble			29.69	754.1	41.5	5.3	83	NE			2		10n		N	0.035	0.85	Raining	Normal School.
La Roche-sur-Yon			29.47	748.4	46.4	8.0	86	S			2		5		N	0.206	5.2	Cloudy	Normal School.
Le Mans			29.38	746.2	44.1	6.7	91	SW			4		8		SW	0.224	5.7	Very cloudy	Normal School.
Lons-Le-Saulnier			29.56	750.9	48.4	9.1	70	W			2		5		W	0.071	1.80	Cloudy	Normal School.
Lorient			29.39	746.5	46.0	7.8	66	SW			2		8		W	0.427	10.8	Very cloudy	Naval Observatory.
Mâcon			29.63	752.7	47.8	8.8	92	S			2		5		S	0.047	1.2	Cloudy	Normal School.
Metz			29.56	750.7	42.8	6.0	94	ESE			2		10			0.013	0.3	Foggy	M. Schuster.
Mirecourt			29.51	749.5	45.0	7.2	75	SSW			2		10		NNE	0	0	Covered	Normal School.
Nismes			29.52	749.7	54.3	12.4	69	SW			2		2		SW	0	0	Slightly cl'dy	Normal School.
Orleans			29.50	749.4	46.8	8.2	94	SSW			2		5		WSW	0	0	Cloudy	Normal School.
Paris, Observatory			29.41	747.0	45.7	7.6	90	S			2		10n		SSW	0.017	0.43	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.64	752.9	53.6	12		SW			2		5		SW	0.480	12.2	Cloudy	Normal School.
Rochefort, Observatory			29.49	749.0	45.7	8.7	86	WSW			3		10		ENE	0.984	25.0	Covered	Naval Observatory.
Rouen			29.35	745.5	48.4	9.1	79	SE			2		10			0.071	1.8	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.61	752.2	46.4	8	66	SW			2		5		S	0.150	3.8	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.59	751.6	53.6	12.0	84	SE			1		9			0.181	4.60	Very cloudy	Marseilles Observatory.
Mont-Louis	24.59	624.5	29.95	760.8	37.2	2.9	76	SW	14.9	6.66			2		SW	0	0		—. Falguère.
Montsouris, Paris			29.40	746.7	45.5	7.5	91	S			2		10		S	0.024	0.6		Montsouris Observatory
Perpignan			29.67	753.6	56.8	13.8	54	SE	1.9	0.83			1		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.87	530.0			18.5	— 7.5		NW			2		3					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.10	561.4			28.0	— 2.2		NW			3		2			0.126	3.2	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.41	746.9	46.2	7.9	87	S			1		10			0	0	Covered	E. Renou.
Toulouse			29.65	753.2	52.0	11.1	64	WSW			1		2			0.012	0.3		Toulouse Observatory.
Tours			29.40	746.8	45.1	7.3	86	SSW			3		10		SSW	0.063	1.6		C. Marquet.
Versailles, (near Paris)			29.40	746.8	46.0	7.8	94	SW			2		10			0.014	0.35	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.46	773.6	30.0	— 1.1	96	Calm	0	0			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.63	752.6	38.7	3.7	75	S			3		10			0	0		Prof. T. Hoh.
Berlin			29.70	754.3	32.7	0.4	86	SE			2		10			0.024	0.6	Light rain	Prof. Arndt.
Breslau			29.72	755.0	30.0	— 1.1	86	SE			4		10			0	0	Foggy	Royal University Obs'y.
Carlsruhe			29.51	749.6	44.2	6.8	82	E			1		9			0	0		A. Senz.
Cassel			29.56	750.8	40.1	4.5	86	SSE			1		10	SE		0	0		Dr. H. Möhl.
Crefeld			29.42	747.3	43.3	6.3	85	SE			4		10			0.04	1.	Smoke-haze.	Director Lose.
Emden			29.67	753.5	32.0	0.0	90	E			3		10			0.142	3.6		Prof. Prestel.
Frankfort on the Main			29.50	750.7	42.1	5.6	62	ESE			2		10			0.008	0.2		Physical Society.
Friedrichshafen	28.16	715.2	29.61	752.2	38.5	3.6	87	SSW			2		10			0.504	12.8	Foggy	M. Wilhelm.
Hamburg			29.63	752.5	30.2	— 1.0	86	ESE			4		10			Inap.	Inap.	Very cloudy	Captain F. Hegemann.
Kiel			29.65	753.1	31.8	— 0.1	79	ESE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.90	759.5	17.1	— 8.3	94	SE			2		10			0	0		Prof. E. Luther.
Köslin			29.81	757.2	23.0	— 5.0		E			2		1			0	0		H. Müller.
Leipsic			29.66	753.3	34.3	1.3	80	SSE			1		10			0	0		Prof. Bruhns.
Memel			29.95	760.7	15.1	— 9.4	97	S			1		Fog			0.004	0.1	Snow & fog.	Reinbrecht & Skalweit.
Münster			29.46	748.3	42.1	5.6	90	SW			1		10			0	0		Prof. E. Heis.
Neufahrwasser			29.89	759.1	16.5	— 8.6	88	SSW			1		8			0	0		A Lothe.
Posen			29.80	756.9	26.6	— 3.0	88	SSE			5		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.54	750.2	44.8	7.1	84	E			1		10	SW				Raining	Dr. Schur.
Stuttgart			29.54	750.2	43.7	6.5	75	W			1		4			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.42	747.3	44.4	6.9	89	W			1		10			0.134	3.4	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.08	713.1	29.62	752.3	34.9	1.6	85	SSE			4		6	SE		0	0	Foggy	Dr. von Bebber.
Wustrow, Naval School			29.78	756.3	27.9	— 2.3	95	SE			3		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 34°, 48′, W. 17°, 16′.			30.17	766.4	66.9	19.4	90	NW			5		7	WSW				Smoke-haze.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 9 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.87	758.7	61.3	16.3		S										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			29.66	753.3	47.5	8.6	90	Calm	0	0			10			0.082	2.1	Raining	Prof. Giovanni Clodig.
Padua			29.66	753.4	48.6	9.2	80	NE	3.8	1.7			10			0.047	1.2	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.68	753.8	48.7	9.3	79	E	0	0			8	E		0	0		Alm. Da Schio.
Verona																			Dott. B. Bertone li.
Bergamo	28.32	719.3	29.67	753.6	44.6	7.0	77	E			1		10			0	0		Prof. Trionfini Carlo.
Domodossola			29.70	754.4	41.9	5.5	98	Calm			0		10			0.508	12.9	Raining	Prof. Giuseppe Calza.
Milan			29.71	754.5	42.4	5.8	98	ENE			1		10			0.693	17.6	Raining	Ab. Gio. Capelli.
Pavia			29.67	753.7	43.9	6.6	90	E			1		10			0.287	7.3	Raining	Prof. Gio. Cantoni.
Moncalieri			29.69	754.2	42.8	6.0	92	NNW	1.3	0.6			10	E		0.150	3.8	Raining	Prof. P. F. Denza.
Mondovi	27 75	704.8	29.71	754.6	41.9	5.5	88	W			1		10			0.059	1.5	Raining	Prof. C. Bruno.
Porto Maurizio			29.67	753.6	50.5	10.3	91	NW			2		10			0.667	16.9	Raining	Prof. L. Vassallo
Genoa																			Prof. Garibaldi.
Placenza			29.67	753.7	43.2	6.2	86	W	1.5	0.6			10			0.236	6.0	Raining	Dott. G. Manzi.
Parma			29.67	753.7	46.2	7.9	92	NW			1		10			0.055	1.4	Raining	Prof. P. Pigorini.
Bologna			29.71	754.7	50.9	10.5	49	W			1		7	E		0	0		Prof. A. Palagi.
Florence			29.69	754.1	53.6	12.0	84	NW			2		10			0.059	1.5	Raining	Cav. F. Meucci.
Leghorn			29.65	753.0	56.8	13.8	65	SE	5.6	2.5			10	S		0.646	16.4	Rain & hail	Prof. P. Monte.
Siena	28.45	722.5	29.67	753.6	50.2	10.1	100	ENE	0	0			10	SW		0.409	10.4	Raining	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.69	754.2	48.0	8.9	96	N	6.3	2.8			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.70	754.3	52.7	11.5	86	SE			2		2			0	0		Prof. F. De— Bosis.
Grosseto			29.67	753.5	57.2	14.0	88	SE			2		8	S		0.23[illegible]	5.9	Raining	Avv. P. Ponticelli.
Rome			29.71	754.5	56.7	13.7	76	NW	1.8	0.8			10	S		0.236	6.0	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.71	754.7	59.7	15.4	81	SSE			6		10	S		0.787	20.0	Raining	Prof. L. Palmieri.
Lecce			29.85	758.3	58.1	14.5	82	S	13.0	5.8			8			0.020	0.5	Light rain	Prof. C. De—Giorgi.
Cosenza			29.81	757.2	59.0	15.0	74	NE	2.7	1.1			4			0.055	1.4	Raining	Prof. F. D. Conti.
[illegible]sto, (Sicily)			29.71	754.5	57.4	14.1	60	SE			4		10			0	0		Prof. F. Cafiero.
[illegible]aterm[illegible]			29.69	754.1	62.2	16.8	48	WSW	9.4	4.2			10	WSW		0	0		Prof. G. Cacciatore.
Caltanissetta	27.82	706.6	29.85	756.8	53.1	11.7	71	SSW					5	NE		0.10[illegible]	2.6	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.76	755.9	56.3	13.5	81	SW	1.8	0.8			10	W		0.618	15.7		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

By authority of the
Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico — Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Flushing			29.39	746.4	44.6	7.0		S			4					0	0		
Groningen			29.43	747.5	32.9	0.5		E			4					0	0		
Helder			29.41	747.0	36.5	2.5		E			2					0.106	2.7		
Utrecht			29.36	745.8	41.0	5.0	94	SE			2		8			0.098	2.5	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Bergen			29.78	756.5	26.6	— 3.0	87	Calm	0	0			2			0	0		
Brönö			29.85	758.3	23.0	— 5.0	69	Calm	0	0			10			0.500	12.7		
Christiania			29.88	759.0	18.5	— 7.5	81	ENE	0.2	0.1			10			0	0		
Tromsö			29.97	761.3	18.0	— 7.8	86	SW	4	2			5			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.13	765.2	62.2	16.8	90	W	6.3	2.8			7			0	0		Dr. J. A. Sampaio.
Campo Major			29.86	758.4	54.5	12.5	70	NNE	2.5	1.1			7	NNE		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.10	764.6	66.6	19.2	55	SSE	3.8	1 7			5			0.031	0.8		Capt. D. A. de Cunha.
Lisbon			29.89	759.3	53.1	11.7	76	NE	6.3	2.8			6			0.181	4.6		The Observatory.
Ponta Delgada, (Azores)			30.18	766.6	65.5	18.6	84	NNW	4.9	2.2			3			0.110	2.8		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.85	758.3	18.9	— 7.3	95	ESE	9	4			8						Astronomical Obs.
Wilna			30.01	762.2	13.8	—10.1	80	Calm	0	0			10						Astronomical Obs.
Dorpat			29.96	760.9	9.1	—12.7	92	ESE	4	2			10						Physical Cabinet.
St. Petersburg			29.86	758.5	2.7	—16.3	88	WNW	13	6			10					Light snow	Central Physical Obs.
Kuopio			29.85	758.1	2.3	—16.5	100	N	7	3			5						Ch. Forsten.
Kieff			30.06	763.5	5.5	—14.7	100	SE	4	2			10						Physical Cabinet.
Nikolaiev			29.99	761.7	19.0	— 7.2	87	NE	13	6			10						Kurdakof.
Kertch			29.92	759.9	27.3	— 2.6	100	ENE	11	5			10						Lagorio.
Moscow			29.92	760.0	6.4	—14.2	87	S	7	3			10						Meteorological Obs.
Lugan			30.10	764.6	— 4.9	—20.5	73	NE	7	3			10						Meteorological Obs.
Archangel			29.71	754.7	—24.2	—31.2	82	NNE	9	4			1						Ogorodnikof.
Tiflis	28.54	724.9	29.98	761.6	44.2	6.8	69	N	4	2			7						Physical Observatory.
Astrakhan			30.19	766.8	10.8	—11.8	97	ENE	4	2			10			Blank	Blank		Sebastianof.
Kasan			30.09	764.3	—17.5	—27.5	91	WNW	4	2			10						Physical Cabinet.
Orenburg			30.00	762.1	2.3	—16.5	75	E	13	6			8						Tschernischef.
Ekaterinburg	28.82	732.0	29.92	760.0	—17.3	—27.4	81	Calm	0	0			0						Meteorogical Obs.
Nukuss			30.11	764.8	36.9	2.7	100	SSW	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.35	771.0	—11.0	—23.9	79	NE	0	0			1						Meteorological Obs.
Yeniseisk			30.34	770.5	—18.8	—28.2	76	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.41	772.5	20.5	— 6.4	48	SE	4	2			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.85	758.3	42.3	5.7	90	NW	1.5	0.67		0	9			0	0	Foggy	Royal Observatory.
San Fernando			29.80	756.8	60.4	15.8	82	NW	10.3	4.6		0	4		NW	0.480	12.2		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.00	762.0	3.2	—16.0	90	N			2		10			0	0		
Umea			30.02	762.5	6.8	—14.0	91	N			2		10			0	0		
Hernosand			29.90	759.4	21.2	— 6.0	95	ESE			2		10			0.063	1.6	Snowing	
Stockholm			29.86	758.5	19.8	— 6.8	92	Calm			0		9			0	0		
Wisby			29.91	759.7	27.3	— 2.6	96	ESE			4		10			0	0		
Sub-Series.																			
Upsala			29.88	758.9	20.3	— 6.5	96	S	0	0			10		WSW	0.033	0.85	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.20	716.3	29.67	753.7	39.2	4.0	99	W			1		10					Raining	The Observatory.
Zurich	27.96	710.3	29.66	753.3	37.8	3.2	88	W			1		10			0	0	Foggy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —11.2 mm; Thermometer, +1.8 cent.; Relative Humidity, +19 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.87	758.8	46.4	8.0	91	NNE	15	6.5			10		SW	0.299	7.6	Raining	
Fao, (Persian Gulf)																			
Salonica			29.87	758.7	63.0	17.2		N			1		0			Blank	Blank		
Valona			29.81	757.2	59.2	15.1		S			1		8			Blank	Blank		
Varna			29.88	759.0	42.8	6.0		NW			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.96	760.9	69.8	21.0	74	WSW			1		3ck			0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

Bathurst, N. B.			30.48	774.2	5.5	—14.7	81	Calm	0	0			9						Hon. J. Ferguson.
Brockville, Ontario			30.07	763.8	— 3	—19.4		E	10	4.5			10s		E	0.20	5.1	Light snow	W. R. Bigg.
*Chatham, N. B.			30.51	774.9	— 9	—22.8	100	SW	8	3.6		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island			30.51	774.9	— 5	—20.6	85	W	3	1.3		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			30.10	764.5	— 5.3	—20.7	81	E			4		10n			0.40	10.2	Snowing	James Smith, M. A.
Dalhousie, N. B.			30.36	771.1	6.5	—14.2	88	W			2					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.24	768.1	31.0	— 0.6	95	Calm				0	0			0	0	Frosty	W. H. Bevis.
Fredericton, N. B.			30.60	777.2	—10.4	—23.6	72	W	1	0.4			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.01	762.2	4	—15.6	90	N	13	5.8			10n			0.052	1.32	Cloudy	James Stewart.
Goderich, Ontario			30.09	764.3	6.2	—14.3	84	NW			3	4k	2s	W		0.15	3.8	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.80	731.5	30.02	762.5	3.6	—15.8		N			1		10n					Cloudy	James Grant.
*Halifax, N. S.			30.57	776.5	2	—16.7	94	W	12	5.4		0	2ks		W	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.05	763.3	— 2	—18.9	77	NE	12	5.4			10n		NE	0.23	5.8	Light snow	S. Woods, M. A.
Little Glace Bay, N. S.			30.40	772.1	12.0	—11.1		NW	8	3.6		6k	0	NW		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.24	768.1	— 8	—22.2	87	N	15	6.7			10n			0.07	1.8	Heavy snow	C. H. McLeod, C. E.
*Ottawa, Ontario			30.11	764.8	— 8	—22.2	79	NE	16	7.2			10n		E	0.10	2.5	Light snow	J. B. Haney.
*Parry Sound, Ontario			30.11	764.8	— 3	—19.4	87	N	8	3.6			10n		N	0.05	1.3	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			29.94	760.5	7	—13.9	98	N	11	4.9			10n			0.48	12.2	Threatening	H. Morgan.
Port Hastings, N. S.			30.48	774.2	4.7	—15.2		NW	16	7.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.99	761.7	11	—11.7	98	W	12	5.4			10n		N	0.65	16.5	Light snow	M. Payne.
*Quebec, Quebec			30.37	771.4	— 8	—22.2	58	NE	29	13.0			10n			0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			30.59	777.0	— 9	—22.8	100	NE	2	0.9		3k	0			0.760	19.30	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.06	763.5	3	—16.1	62	Calm	0	0			10ks			0.09	2.3	Light snow	K. Stewart.
Stayner, Ontario			30.08	764.0	1	—17.2	90	E	3	1.3			10n		E	0.45	11.4	Light snow	R. J. Cole.
Stratford, Ontario	28.62	726.9	30.04	763.0	1.3	—17.1	91	NE	7	3.1			10s			0.25	6.3	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			30.43	772.9	10	—12.2	94	SW	10	4.5		0	2ks		W	0	0	Clear	T. C. Hill.
*Toronto, Ontario			29.94	760.5	4	—15.6	87	N	12	5.4			10n			1.00	25.4	Light snow	Magnetic Observatory.
Woodstock, Ontario			29.96	761.0	4.0	—15.6	95	E	9	4.0			10s			0.600	15.24	Snowing	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.12	765.0	22.0	— 5.6	58	W				5k	5s			0.05	1.3	Stormy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.16	766.1	10	—12.2	100	S	3	1.3			10n			0.25	6.3	Heavy snow	
Alpena, Mich.			30.15	765.8	10	—12.2	100	NW	4	1.8			10n			0.45	11.4	Light snow	
Atlantic City, N. J.			30.05	763.3	41	5.0	100	S	10	4.5			Fog			Inap.	Inap.	Foggy	
Augusta, Ga.			30.12	765.0	44	6.7	96	Calm	0	0			Fog			0.01	0.3	Foggy	
Baltimore, Md.			30.11	764.8	25	— 3.9	87	Calm	0	0			10s			0.01	0.3	Threatening	
Barnegat, N. J.			30.05	763.3	42	5.6	100	SW	12	5.4			Fog			0.03	0.8	Foggy	
Bismarck, Dakota	28.09	713.5	29.89	759.2	— 2	—18.9	67	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			30.32	770.4	9	—12.8	100	N	12	5.4			10n			0.01	0.3	Light snow	
Breckenridge, Minn.			30.17	766.3	— 4	—20.0	64	SE	8	3.6		0	5s			0	0	Fair	
Buffalo, N. Y.			29.84	757.9	25	— 3.9	75	SW	12	5.4			10n			0.30	7.6	Light snow	
Burlington, Vt.			30.22	767.6	5	—15.0	100	SE	4	1.8			10n			0.07	1.8	Light snow	
Cairo, Ill.			30.58	776.7	9	—12.8	78	NW	20	8.9		0	Haze			0.01	0.3	Clear	
Cape Hatteras, N. C.			30.04	763.0	53	11.7	93	S	12	5.4			10n		S	1.18	30.0	Light rain	
Cape Henry, Va.			30.12	765.0	33	0.6	100	W					Fog			0	0	Foggy	
Cape Lookout, N. C.			30.11	764.8	49	9.4	85	Calm	0	0		2c	Fog	NW		0	0	Foggy	
Cape May, N. J.			30.08	764.0	30	— 1.1	100	NW	16	7.2			Fog			Inap.	Inap.	Foggy	
Charleston, S. C.			30.13	765.3	47	8.3	92	N	4	1.8			Fog			0	0	Foggy	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	19	— 7.2	52	SW	8	3.6		0	0			0	0	Clear	
Chicago, Ill.			30.35	770.9	6	—14.4	76	NW	8	3.6		0	0			0.13	3.3	Clear	
Cincinnati, Ohio			30.22	767.6	16	— 8.9	66	NW	10	4.5			10s		NW	0.03	0.8	Cloudy	
Cleveland, Ohio			30.09	764.3	9	—12.8	78	SW	22	9.8			10s		W	0.09	2.3	Cloudy	
Corsicana, Tex.			30.60	777.2	23	— 5.0	73	N	12	5.4		0	0			0	0	Clear	
Davenport, Iowa			30.57	776.5	— 7	—21.7	80	W	5	2.2		0	0			0.14	3.6	Clear	
Denison, Tex.			30.70	779.8	14	—10.0	81	N	8	3.6		0	0			0	0	Clear	
Denver, Col.	24.96	634.0	30.18	766.6	20	— 6.7	70	S	4	1.8		0	0			0.05	1.3	Clear	
Detroit, Mich.			30.06	763.5	10	—12.2	79	NW	8	3.6		8ck	2s	NW	NW	0.55	14.0	Cloudy	
Dodge City, Kan.	27.80	706.1	30.39	771.9	6	—14.4	63	NW	2	0.9		0	0			0	0	Clear	
Dubuque, Iowa			30.49	774.4	— 3	—19.4	75	Calm	0	0			10s			0.14	3.6	Cloudy	
Duluth, Minn.			30.12	765.0	— 2	—18.9	84	SW	10	4.5			10s			0	0	Cloudy	
Eastport, Me.			30.55	776.0	— 3	—19.4	83	N	7	3.1			10s			0	0	Cloudy	
Erie, Pa.			29.94	760.5	20	— 6.7	92	SW	26	11.6			10n			0.27	6.9	Light snow	
Escanaba, Mich.			30.25	768.3	0	—17.8	86	Calm	0	0		0	0			0	0	Clear	
Fort Gibson, Indian Ter.			30.69	779.5	9	—12.8	57	N	8	3.6		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.36	745.7	30.49	774.4	14	—10.0	28	N	15	6.7		0	0			0	0	Clear	
Fort Sully, Dakota	28.27	718.0	30.08	764.0	9	—12.8	78	SE	3	1.3		0	0			0	0	Clear	
Florence, Arizona	28.62	726.9	30.16	766.1	54	12.2		E				0	0			0	0	Clear	
Galveston, Tex.			30.31	769.9	50	10.0	86	N	42	18.8			10s			0.32	8.1	Cloudy	
Grand Haven, Mich.			30.22	767.6	8	—13.3	78	NE	9	4.0		0	1s			0.10	2.5	Clear	
Indianapolis, Ind.			30.35	770.9	10	—12.2	79	W	14	6.3			10s		NW	0.04	1.0	Cloudy	
Indianola, Tex.			30.35	770.9	46	7.8	77	N	44	19.7			10s		N	0	0	Cloudy	
Jacksonville, Fla.			30.14	765.5	51	10.6	93	N	2	0.9		0	Fog			0	0	Foggy	
Keokuk, Iowa			30.58	776.7	— 5	—20.6	82	W	10	4.5		0	0			0.12	3.0	Clear	
Key West, Fla.			30.11	764.8	68	20.0	90	E	8	3.6		0	5ks			0	0	Fair	
Kittyhawk, N. C.			30.10	764.5	47	8.3	100	SE	8	3.6		0	8ks,hz		SW	0.32	8.1	Cloudy	
Knoxville, Tenn.			30.11	764.8	37	2.8	90	S	10	4.5			10n		W	0.23	5.8	Light rain	
La Crosse, Wis.			30.43	772.9	— 7	—21.7	59	S	8	3.6		0	0			0.05	1.3	Clear	
Leavenworth, Kan.			30.67	779.0	1	—17.2	72	NW	2	0.9		0	0			0	0	Clear	
Louisville, Ky.			30.37	771.4	14	—10.0	63	NW	24	10.7			10n		NW	0.02	0.5	Light snow	
Lynchburg, Va.			30.10	764.5	26	— 3.3	88	S	2	0.9			10s			0	0	Cloudy	
Malone, N. Y.			30.06	763.5	— 2	—18.9	100	N	7	3.1			10n		N	0.16	4.1	Light snow	
Marquette, Mich.			30.16	766.1	3	—16.1	73	SW	12	5.4			10s			0	0	Cloudy	
Memphis, Tenn.			30.53	775.4	20	— 6.7	72	NW	20	8.9		0	0			0.23	5.8	Clear	
Milwaukee, Wis.			30.38	771.6	— 1	—18.3	84	W	16	7.2		0	0			0.64	16.3	Clear	
Mobile, Ala.			30.15	765.8	57	13.9	96	SW	8	3.6			10s		NW	0.31	7.9	Cloudy	
Montgomery, Ala.			30.15	765.8	46	7.8	92	N	7	3.1			10s			0.25	6.3	Threatening	
Morgantown, W. Va.	28.83	732.3	29.90	759.4	37	2.8	80	SW	8	3.6			10n		SW	0.11	2.8	Light rain	
Mt. Washington, N. H.	23.50	596.9	29.86	758.4	0	—17.8	100	SW	72	32.2			Fog			0	0	Foggy	
Nashville, Tenn.			30.41	772.4	18	— 7.8	68	NW	9	4.0		0	8s		NW	0.14	3.6	Cloudy	
New Haven, Conn.			30.10	764.5	11	—11.7	100	NE	32	14.3			10n			Inap.	Inap.	Heavy hail	
New London, Conn.			30.18	766.6	22	— 5.6	72	NE	6	2.7			10s			0.04	1.0	Threatening	
New Orleans, La.			30.17	766.3	57.5	14.2	91	N	14	6.3			10ks		N	0.67	17.0	Threatening	
Newport, R. I.			30.22	767.6	34	1.1	90	SE	13	5.8			10n		SE	0.06	1.5	Light snow	
New York, N. Y.			30.09	764.3	20	— 6.7	85	NW	16	7.2			10n,fg			0.04	1.0	Light snow	
Norfolk, Va.			30.12	765.0	31	— 0.6	100	NW	7	3.1			Fog			0	0	Foggy	
North Platte, Neb.	27.34	694.4	30.22	767.6	3	—16.1	73	NW	6	2.7		0	0			0	0	Clear	
Omaha, Neb.	29.35	745.5	30.60	777.2	— 2	—18.9	83	SW	6	2.7		0	0			0.01	0.3	Clear	
Oswego, N. Y.			29.94	760.5	17.5	— 8.1	92	SE	8	3.6			10n			0.01	0.3	Light snow	
Pembina, Dakota			29.99	761.7	5	—15.0	100	W	6	2.7			10n			0.05	1.3	Light snow	
Philadelphia, Pa.			30.08	764.0	26	— 3.3	100	NE	6	2.7			10n,fg		E	0.10	2.5	Sleeting	
Pike's Peak, Col.	17.76	451.1	29.97	761.2	9	—12.8	46	N	24	10.7		0	1s			0	0	Clear	
Pittsburgh, Pa.			29.88	758.9	33	0.6	89	NW	12	5.4			10n		NW	0.12	3.0	Light snow	
Port Huron, Mich.			30.01	762.2	13	—10.6	81	NW	13	5.8			10s			0.75	19.1	Threatening	
Portland, Me.			30.41	772.4	1	—17.2	85	NE	14	6.3			10n			0.06	1.5	Light snow	
Portland, Oregon			30.18	766.6	31	— 0.6	78	NW	4	1.8		0	0			0	0	Clear	
Punta Rassa, Fla.			30.15	765.8	63.0	17.2	97	NE	4	1.8			Fog			Inap.	Inap.	Foggy	
Rochester, N. Y.			29.86	758.4	21	— 6.1	86	SW	7	3.1			10n			0.09	2.3	Light snow	
Salt Lake City, Utah	25.93	658.6	30.26	768.6	16	— 8.9	100	Calm	0	0			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.01	762.2	30	— 1.1	89	NE	17	7.6			10n		NE	0.16	4.1	Sleeting	
San Diego, Cal.			30.16	766.1	46	7.8	60	Calm	0	0			0			0	0	Clear	
San Francisco, Cal.			30.14	765.5	46	7.8	76	N	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.48	596.4	30.02	762.5	14	—10.0	81	Calm	0	0		0	0			0	0	Clear	
Savannah, Ga.			30.18	766.6	49	9.4	100	Calm	0	0			Fog			0	0	Foggy	
Shreveport, La.			30.54	775.7	30	— 1.1	67	N	12	5.4		0	0			0.39	9.9	Clear	
Smithville, N. C.			30.10	764.5	41	5.0	91	Calm	0	0			Fog			0	0	Foggy	
Springfield, Mass.			30.25	768.3	8	—13.3	77	N	8	3.6			10n			0.09	2.3	Light snow	
St. Louis, Mo.			30.60	777.2	3	—16.1	74	NW	12	5.4		0	0			Inap.	Inap.	Clear	
St. Marks, Fla.			30.13	765.3	47	8.3	96	Calm	0	0		0	5s		SW	0	0	Fair	
St. Paul, Minn.			30.32	770.1	— 6	—21.1	61	SW	8	3.6		5c	2s	SW		0.02	0.5	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.29	769.4	30	— 1.1	89	SE	16	7.2			10s		SE	0	0	Cloudy	
Toledo, Ohio			30.13	765.3	9	—12.8	78	SW	12	5.4		0	5ks		NW	0.70	17.8	Clearing	
Tucson, Arizona	27.73	704.3	30.28	769.1	34	1.1		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.12	765.0	47	8.3	100	NE	8	3.6			Fog			0.22	5.6	Threatening	
Vicksburg, Miss.			30.45	773.4	32	0.0	68	N	24	10.7		0	Sm'k			0.61	15.5	Smoky	
Virginia City, M. T.	24.38	619.2	29.86	758.4	13	—10.6	44	Calm	0	0		1k	0	W		0	0	Clear	
Washington, D. C.			30.08	764.0	24	— 4.4	82	SE	4	1.8			10s		SE	0.09	2.3	Cloudy	
Wilmington, N. C.			30.12	765.0	36	2.2	100	NW	5	2.2			Fog			0	0	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.26	768.6	31	— 0.6	89	NE	24	10.7			10n		NE	0.10	2.5	Heavy snow	
Yankton, Dakota	29.05	737.9	30.53	775.4	— 2	—18.9	67	SW	6	2.7		0	0			0.05	1.3	Clear	
Yuma, Arizona			30.20	767.1	47	8.3		NE				0	0			0	0	Clear	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.17	766.3	77	25.0	76	Calm	0	0		2ck	2s			0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.20	690.9	30.00	762.0	65	18.3	89	NE	1.0	0.4		8c	0	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.98	761.5	80	26.7	82	E			2	5k	6ks	E		0.840	21.34	¾ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.7			81.5	27.5		E								0.118	3.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			64 8	18.2	83	Calm			0	0	3ks			0.09	2.3	Fair	Thomas Herran.
York Factory, B. A.			30.13	765.3	—21.0	—29.4		N	7	3.1			10n			0.01	0.3	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	74	23.3		S			1					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.																			F. L. Clarke.

MARINE SERIES.	True course towards.	Hourly rate in knots.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, off Cape Cod, Mass.	NW	9	29.93	760.2	35	1.7	100	SSE	30	13.4			10n		SE	Rough	SE	Light snow	Capt. James Jorgensen.
Steamer Leipzig, N. 35°, 58′, W. 59°, 16′.	W	10.5	30.46	773.7	59.0	15.0		NE			4		10		NE		NE		Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 19, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.83	757.6	64.0	17.8	65	Calm			0		6			0	0	Fair	Charnot.
Algiers			29.76	755.9	61.5	16.4	81	WSW			1		8			0.248	6.3	Cloudy	Peter.
La Calle			29.78	756.5	64.8	18.2	58	NNW			3		5			0	0	Fair	Didier.
Tunis			29.84	758.0	62.6	17.0		NW			4		2			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			29.92	759.9	55.8	13.2	64	W			4		7			0	0	Cloudy	Millot.,
Tebessa			29.85	758.1	48.6	9.2		SSW			4		6			0	0	Fair	Bourgeois.
Geriville			30.00	761.9	54.5	12.5	100	WSW			2		2			0.079	2.0	Clear	Lemaillot.
Laghouat			29.95	760.6	60.8	16.0	44	W			2		2			0	0	Clear	Guyot.
Biskra			29.95	760.6	63.1	17.3	62	NW			3		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.39	746.5	43.3	6.3	93	NE			1		10			0.020	0.5		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.39	746.6	32.9	0.5	94	NE			1		10			0.004	0.1		Dr. Wierzbiski.
Eperies			29.44	747.8	40.3	4.6	90	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.10	713.7	29.36	745.8	39.9	4.4	92	WSW			1		10			0	0		Andreas Rospini.
Hermannstadt	28.08	713.3	29.50	749.4	46.8	8.2	73	SSE			1		5			0	0		Prof. Reissenberger.
Kremsmünster	28.04	712.1	29.41	747.0	32.4	0.2	96	Calm			0		10			0.178	4.4		Prof. C. Wagner.
Lemberg			29.46	748.3	31.5	— 0.3	92	S			1		8			0.201	5.1		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.42	747.2	55.9	13.3	76	SSW			3		6cs			0.083	2.12		I.R. Hydrographic Office.
Szegedin			29.43	747.5	43.3	6.3	88	S			3		8			0.016	0.40		Karl Stancel.
Trieste			29.43	747.5	51.8	11.0	92	SW			1		10			0.437	11.1	Rain and fog	Prof. V. Farolfi.
Vienna			29.39	746.6	37.8	3.2	80	W			2		10			0.047	1.2		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.18	741.2	41.2	5.1	91	SSW			2		10n		SW			Raining	Royal Observatory.

NOTE.—In the originals, the wea her is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.29	744.0	38.0	3.3		ENE	37	16.5			9			0.110	2.79	Squally	William Boswell.
Ardrossan			29.16	740.7	42	5.6		ENE			3		6					*D. clouds	William McNeil.
Armagh, Observatory			29.04	737.6	42.9	6.1		ENE	13	5.8			8					Overcast	S. Call, for Dr. Robinson
Birr Castle, (Parsonstown)			28.93	734.8	43.5	6.4		E			1		10					Overcast	J. Dreyer.
Bradford			29.05	737.9	41.1	5.1		E			4		10			0.45	11.4	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.92	760.0	83.8	28.8		SE			1		6					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.10	739.1	42.0	5.6		S			1		10					Overcast	H. Todd. [H.C.
Cardington			29.09	738.9	43.0	6.1		S			1		10					Overcast	John McLaren.
Carlisle																			T. Fell, for J. Cartmell.
Chatham, School M. E.			29.13	739.9	43.0	6.1		SW			1		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	27.48	698.0	28.97	735.8	38.4	3.6		E			5		10					Raining	R. E. Power.
Davos Platz, (Switzerland)	24.25	615.9			29.8	— 1.2	79	NE			1		4			0.067	1.70	*D. clouds	Francis Redford, M. A.
Donaghadee			29.07	738.4	43	6.1		ESE			6		10					Overcast	J. Mac Gowan.
Dover			29.12	739.6	46	7.8		SSW			3		7					¾ clouded	J. Costello.
Eccles, (near Manchester)			29.08	738.6	42.7	5.9		ENE	2.[illegible]	1.1			10					Misty	Thomas Mackereth.
Falmouth, Observatory			28.84	732.5	48.7	9.3		SE			6		10					Squally	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.86	758.4	71.4	21.9		NW			2		10					Overcast	Pt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.96	761.0	86.0	30.0		Calm			0		3					*D. clouds	
Galway, Queen's College			29.29	744.0	42	5.6		SE			5		8					Misty	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.81	757.2	61.7	16.5		SW			5		10					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.16	740.7	37.8	3.2		NE			3		4					*D. clouds	Lewis Stuart.
Great Yarmouth			29.14	740.1	42	5.6		W			1		7					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			29.11	739.4	42.5	5.8		SE			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.03	737.3	48	8.9		SE			6		10					Raining	Dr. S. E. Hoskins.
Helston			28.78	731.0	49	9.4		SW			6		10n			0.12	3.0	Raining	M. P. Moyle.
Holyhead			28.99	736.3	42	5.6		E			4		3					*D. clouds	John Tilston.
Kew, Observatory			29.11	739.4	43.7	6.5		SE	8	3.6			9					Hazy	The Staff.
Kingstown			28.99	736.3	46	7.8		ESE			5		10					Gloomy	George Mitchell.
Leicester Museum			29.07	738.4	41.8	5.4		S			3		10					Gloomy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.83	757.7	64.8	18.2		NW			4		2k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.30	744.2	36	2.2		ESE			3		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.09	764.3	73.5	23.1		NE			4		4					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.12	739.6	41.5	5.3		SW			1		10cs,			0.02	0.74	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.06	738.1	39.0	3.9		S			0–1		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.08	738.6	43	6.1		Calm			0		10					Hazy	J. Lucas.
Plymouth			28.93	734.8	44.5	6.9		SE			5		10					Raining	John Merrifield.
Roche's Point			28.81	731.8	49	9.4		SE			6		10					Gloomy	W. Kennedy.
Saint Ann's Head			28.92	734.6	46	7.8		ESE			6		10					Overcast	John C. Walker.
Saint Helier, (Jersey)			29.04	737.6	48.8	9.3		S			5		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.40	746.7	37.0	2.8		E	26	11.6			8					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.73	755.1	54.0	12.2		SE			2		6			0an	Blank	*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.08	738.6	42.5	5.8		E			1		10			0.82	20.88	Overcast	W. F. Cooper.
Silloth Rectory			29.08	738.6	42.6	5.9	81	SE			5		4			0.06	1.52	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.08	738.6	40.9	4.9		E			2		8n					Overcast	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)			29.30	744.2	39	3.9		E			6		2					Blue sky	John Smith.
Stratfield Turgiss			29.12	739.6	43.3	6.3		NE			1		9					Misty	Rev. Charles H. Griffith
Thurso			29.37	746.0	38	3.3		E			4		7					Showery	John Trotter.
Truro, Royal Institution			28.83	732.3	51	10.6		NE			4		10					Raining	W. Newcombe.
Valencia, Observatory			28.83	732.3	45.7	7.6		NNE	6	2.7			10					Showery	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					43	6.1		E			4		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.99	761.7	74.0	23.3	47	W	19	8.5		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.81	757.2	67.0	19.4	94				2		4k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.22	742.2	40.2	4.6		E			4		10k			0.19	5.8	Showery	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				ENE	16.3	7.3						0.01	0.3		C. Meldrum.
Melbourne, Observatory			30.03	762.7	62.0	16.7	89	SSW	7	3.1			0			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.24	742.7	41	5.0		SE			6	5	5	SE		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.53	750.0	35	1.7		S			3	4	2	NE		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,1052 feet, or 1,556.02 meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																		

DANISH SERIES.

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

Copenhagen			29.43	747.5	30.2	— 1.0	82	ESE			7		10					
Fanöe			29.34	745.2	29.8	— 1.2	100	E			4		10					Snowing
Godthaab, (Greenland)			29.72	754.8	37.2	2.9	61	Calm			0		5					
Stykkisholm, (Iceland)			29.81	757.2	35.8	2.1	93	E			4		0					
Thorshavn, (Faröe)			29.58	751.4	38.5	3.6	46	ENE			7							
Vestervig			29.42	747.2	27.7	— 2.4	92	E			7		10					Snowing

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, w[illegible]her by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.26	743.1	44.6	7	100	W			2		10			0.20	5.	Covered	Normal School.
Amiens			29.20	741.7	45.7	7.6	83	W			3		10			0.102	2.6	Covered	Normal School.
Avignon			29.56	750.9	52.3	11.3	73	SW			2		5		W	0	0	Cloudy	Normal School.
Bar-sur-Seine			29.33	745.0	44.8	7.1	70	SW			2		8n		SW	0.173	4.4	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.14	740.2	48.0	8.9	97	SSW	11.6	5.2			10		SW	0.602	15.3	Raining	Beaumette Observ'tory.
Beauvais			29.26	743.1	44.4	6.9	84	S			3		10		SSW	0.089	2.25	Covered	Normal School.
Besançon			29.45	747.9	44.6	7	77	S			3		8		SW	0.374	9.5	Very cloudy	Normal School.
Bourg en Bresse			29.52	749.9	48.4	9.1	63	SSW			8		2ks		SE	0.098	2.5	Slightly cl'dy	Normal School.
Bourges			29.35	745.6	48.2	9	86	SW			6		8		S	0.177	4.5	Very cloudy	Normal School.
Brest			28.90	734.0	51.6	10.9	90	SW			4		5		SW	0.345	8.75	Squally	Naval Observatory.
Carcassonne			29.50	749.4	53.6	12	57	W			1		1		E	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			29.15	740.4	45.5	7.5	97	SSW			2		9		NE	0.205	5.2		Normal School.
Châlons-sur-Marne			29.29	744.0	43.2	6.2	82	SSW			4		10n		NNE	0.024	0.6	Covered	Normal School.
Clermont			29.39	746.5	48.4	9.1	69	S			3		8		SW	0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.35	745.4	41.5	5.3	94	SW			2		10			0.150	3.8	Covered	Normal School.
Commune de Gréasque*			29.60	751.9	51.8	11.0	65	SW			2		8		W	0.402	10.2		M. Kina.
Grenoble			29.56	750.9	49.5	9.7	70	NW			4		2cs		SE	0.12	3.	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.21	741.8	49.6	9.8	97	SE			1		2		N	0.402	10.2	Slightly cl'dy	Normal School.
Le Mans			29.21	742.0	45.1	7.3	92	SSW			2		10			0.189	4.8	Covered	Normal School.
Lons-Le-Saulnier			29.44	747.8	46.6	8.1	59	S			4		5		E	0.31	8.	Cloudy	Normal School.
Lorient			29.02	737.1	54.7	12.6	55	SSW			5		8		SW	0.547	13.9	Very cloudy	Naval Observatory.
Mâcon			29.52	749.8	43.9	6.6	91	S			2		5		SW	0.047	1.2	Cloudy	Normal School.
Metz			29.40	746.8	40.6	4.8	85	SSE					10			0.106	2.7	Covered	M. Schuster.
Mirecourt			29.31	744.5	41.4	5.2	84	SSW			2		10		NNE	0	0	Covered	Normal School.
Nismes			29.23	743.2	56.5	13.6	71	NE			1		2		NE	0	0	Slightly cl'dy	Normal School.
Orleans			29.30	744.3	46.8	8.2	92	SSW			2		2		SW	0.20	5.	Slightly cl'dy	Normal School.
Paris, Observatory			29.24	742.8	45.1	7.3	85	SSW			2		10kn		SW	0.057	1.46	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.67	751.1	47.8	8.8		SW			2		5		SW	0	0	Partly cl'dy	Normal School.
Rochefort, Observatory			29.27	743.5	52.3	11.3	83	SSW			5		10		NE	1.102	28.0	Covered	Naval Observatory.
Rouen			29.20	741.6	47.1	8.4	78	SSE			2		8		S	0	0	Very cloudy	Normal School.
Saint Lo																			N rmal School.
Tarbes																			Normal School.
Villefranche			29.67	753.5	49.6	9.8	72	SE			3		5		S	0	0	Cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.56	750.9	54.1	12.3	74	NW			1		8			0.289	7.35	Very cloudy	Marseilles Observatory.
Mont-Louis	24.39	619.5	29.74	755.4	33.8	1.0	87	SSW	28.0	12.50			1		SW	0	0		—. Falguère.
Montsouris, Paris			29.24	742.6	45.1	7.3	87	SSW			2		9		SSW	0.071	1.8		Montsouris Observatory
Perpignan			29.54	750.3	56.3	13.5	55	S	7.4	3.33			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.73	526.6			23.9	— 4.5		N			3		2					Clear	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.02	559.4			33.4	0.8		NW			3		4			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.24	742.8	46.4	8.0	90	SSW			1		8			0.118	3.0	Covered	E. Renou.
Toulouse			29.49	749.1	53.2	11.8	58	SE			1		0			0.146	3.7		Toulouse Observatory.
Tours			29.26	743.3	47.8	8.8	85	SSW			4		10			0.272	6.9	Rainy	C. Marquet.
Versailles, (near Paris)			29.21	741.8	45.7	7.6	89	SW			1		6			0.144	3.65	Cloudy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.39	771.8	36.5	2.5	91	E	2.2	1.00			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 185. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.35	745.6	41.0	5.0	88	S			2		9	S		0.039	1.0		Prof. T. Hoh.
Berlin			29.34	745.1	37.4	3.0	87	SE			2		10			0.063	1.6		Prof. Arndt.
Breslau			29.37	745.9	33.6	0.9	88	ESE			2		10					Rain & fog	Royal University Obs'y
Carlsruhe			29.35	745.6	42.1	5.6	89	SW			3		10			0.276	7.0		A. Senz.
Cassel			29.26	743.3	41.7	5.4	85	SW			2		7	SW		0.106	2.7		Dr. H. Möhl.
Crefeld			29.24	742.6	44.6	7.0	72	S			3		8			0.08	2.		Director Lose.
Emden			29.32	744.7	40.3	4.6	100	S			1		10			0.106	2.7		Prof. Prestel.
Frankfort on the Main			29.36	745.7	41.9	5.5	65	SSW			1		10			0.138	3.5	Raining	Physical Society.
Friedrichshafen	28.01	711.5	29.46	748.2	40.8	4.9	97	SW			4		8			0	0	Föhn	M. Wilhelm.
Hamburg			29.29	744.0	33.3	0.7	96	ESE			3		10			0.283	7.2	Foggy	Captain F. Hegemann.
Kiel			29.31	744.4	32.0	0.0	87	ENE			2		10			0.205	5.2	Snowing	Prof. G. Karsten.
Königsberg, (Prussia.)			29.56	750.9	18.0	— 7.8	86	E			5		10			0	0		Prof. E. Luther.
Köslin			29.46	748.2	23.7	— 4.6		E			3		6			0	0		H. Müller.
Leipsic			29.34	745.2	39.4	4.1	88	SSW			2		9	SW		0	0		Prof. Bruhns.
Memel			29.65	753.0	14.7	— 9.6	84	E			4		10ks			0	0	Covered	Reinbrecht & Skalweit.
Münster			29.27	743.4	43.7	6.5	81	SE			1		10			0.169	4.3		Prof. E. Heis.
Neufahrwasser			29.53	750.0	22.1	— 5.5	83	SSE			2		10			0.091	2.3	Light snow	A Lothe.
Posen			29.43	747.5	30.9	— 0.6	92	S			5		10			0.240	6.1		Dr. Magener.
Strassburg, (in Alsace)			29.40	746.8	44.2	6.8	74	SW			2		10	SW		0.094	2.4		Dr. Schur.
Stuttgart			29.36	745.8	43.7	6.5	68	W			1		6			0.008	0.2		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.20	743.2	41.7	5.4	81	WSW			5		10			0.169	4.3		Prof. Flesch.
Weissenburg, (Bavaria,)	27.86	707.7	29.38	746.3	39.6	4.2	85	SW			3		10	SW		0.083	2.1	Raining	Dr. von Bebber.
Wustrow, Naval School			29.43	747.5	27.9	— 2.3	95	E			3		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 34°, 54', W. 13°, 29'.			30.21	767.2	62.2	16.8	77	SW			5		10	SW					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 9 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.78	756.3	61.3	16.3		W										¾ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			29.37	745.9	52.2	11.2	73	S	1.3	0.6			10			0.610	15.5	Raining	Prof. Giovanni Clodig
Padua			29.36	745.7	48.6	9.2	91	SW	9.8	4.4			10	SW		0.370	9.4	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.36	745.8	47.5	8.6	90	SW	8.7	3.9			6	S		0.558	14.2	Raining	Alm. Da Schio.
Verona																			Dott. B. Bertoncelli.
Bergamo	28.08	713.2	29.43	747.5	45.0	7.2	85	SW			2		8			0.947	24.0		Prof. Trionfini Carlo.
Domodossola			29.44	747.8	46.0	7.8	79	SW			6		4			0.172	4.4		Prof. Giuseppe Colza.
Milan			29.44	747.8	45.3	7.4	91	NW			1		8	SW		0	0		Ab. Gio. Capelli.
Pavia			29.44	747.8	45.1	7.3	87	SW			4		9	SW		0.157	4.0		Prof. Gio. Cantoni.
Moncalieri			29.46	748.2	44.4	6.9	88	ENE	1.8	0.8			2	SW		0	0		Prof. P. F. Denza.
Mondovi	27.52	699.0	29.48	748.8	45.5	7.5	62	NE			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.47	748.6	54.9	12.7	43	W			8		1	SW		0.020	0.5		Prof. L. Vassallo
Genoa																			Prof. Garibaldi.
Piacenza			29.42	747.3	46.0	7.8	86	WNW	24.2	10.8			3			0.031	0.8		Dott. G. Manzi.
Parma			29.45	747.9	46.6	8.1	84	W			4		4			0.114	2.9		Prof. P. Pigorini.
Bologna			29.52	749.7	46.6	8.1	53	W			6		5	N		0.197	5.0		Prof. A. Palagi.
Florence			29.50	749.2	51.8	11.0	79	SW			6		10	SW		0.795	20.2	Raining	Cav. F. Meucci.
Leghorn			29.48	748.8	56.1	13.4	62	WSW	25.5	11.4			6	W		0.315	8.0	Raining	Prof. P. Monte.
Siena	28.30	718.7	29.52	749.8	49.6	9.8	78	SW	4.9	2.2			4	W		0.508	12.9		Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.46	748.2	53.4	11.9	70	SSW	32.9	14.7			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.41	747.0	54.3	12.4	72	W			4		10			0	0		Prof. F. De— Bosis.
Grosseto			29.54	750.3	58.3	14.6	71	SSW			4		2	NW		0.469	11.9		Avv. P. Ponticelli.
Rome			29.60	751.8	56.1	13.4	86	W	2.5	1.1			8	WSW		0.305	7.7	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.67	753.6	61.0	16.1	80	SSW			2		10	SW		0.119	3.0	Raining	Prof. L. Palmieri.
Lecce			29.67	753.7	59.0	15.0	68	W	18.6	8.3			7	W		0.029	0.7	Light rain	Prof. C. De—Giorgi.
Cosenza			29.77	756.1	53.6	12.0	69	SW	4.9	2.2			10			1.422	36.2	Raining	Prof. F. D. Conti.
Liposto, (Sicily)			29.72	754.8	57.7	14.3	61	SE			2		1			0	0		Prof. F. Cafiero.
Palermo			29.72	755.0	60.4	15.8	67	WSW	5.6	2.5			10			0.055	1.4	Raining	Prof. G. Cacciatore.
Caltanissetta	27.86	707.5	29.83	757.7	54.1	12.3	72	SSW			4		3	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.68	753.8	55.9	13.3	66	SW	14.3	6.4			8	SW		0.748	19.0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico — Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.
Flushing			29.19	741.3	41.9	5.5		SSW			4					0.059	1.5	
Groningen			29.16	740.7	40.6	4.8		S			3					0.157	4.0	
Helder			29.17	741.0	41.5	5.3		S			3					0.185	4.7	
Utrecht			29.16	740.7	41.9	5.5	80	S			3		8			0.059	1.5	Very cloudy.

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.
Bergen			29.61	752.2	25.7	— 3.5	76	Calm	0	0			0			0	0	
Brönö			30.04	763.1	12.2	—11.0	48	NE	20	9			2			0	0	
Christiania			29.78	756.5	19.6	— 6.9	81	NNE	3.8	1.7			10			0.100	0.1	Light snow.
Tromsö			30.29	769.4	11.1	—11.6	85	SE	4	2			0			0.039	1.0	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.10	764.6	56.8	13.8	67	WNW	16.1	7.2			6			Inap.	Inap.	Raining	Dr. J. A. Sampaio.
Campo Major			29.70	754.4	50.2	10.1	97	SSW	16.1	7.2			10	SSW		0.157	4.0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.06	763.4	66.4	19.1	71	S	1.8	0.8			6			0	0		Capt. D. A. de Cunha.
Lisbon			29.69	754.2	58.3	14.6	91	W	15.0	6.7			9			0.567	14.4		The Observatory.
Ponta Delgada, (Azores)			30.14	765.6	59.0	15.0	58	NNW	6.3	2.8			3			0.004	0.1		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.47	748.6	24.1	— 4.4	93	E	11	5			10						Astronomical Obs.
Wilna			29.70	754.3	16.9	— 8.4	80	Calm	0	0			10						Astronomical Obs.
Dorpat			29.87	758.7	9.9	—12.3	93	NE	7	3			10					Light snow	Physical Cabinet.
St. Petersburg			29.92	759.9	— 4.4	—20.2	86	NNE	13	6			5						Central Physical Obs.
Kuopio			30.12	765.0	—18.8	—28.2		N	13	6			0						Ch. Forsten.
Kieff			29.67	753.6	19.2	— 7.1	100	SSE	13	6			10					Snowing	Physical Cabinet.
Nikolaiev			29.78	756.5	26.1	— 3.3	100	NNE	9	4			10						Kurdakof.
Kertch			29.89	759.1	31.3	— 0.4	98	E	4	2			9						Lagorio.
Moscow			29.93	760.1	5.2	—14.9	87	S	4	2			10						Meteorological Obs.
Lugan			29.95	760.8	4.6	—15.2	81	NE	2	1			10						Meteorological Obs.
Archangel			29.88	759.0	—34.1	—36.7	81	N	7	3			1						Ogorodnikof.
Tiflis	28.58	726.0	30.03	762.7	46.4	8.0	68	N	18	8			10						Physical Observatory.
Astrakhan			30.08	763.9	18.5	— 7.5	95	E	7	3			10			Blank	Blank		Sebastianof.
Kasan			29.92	759.9	1.4	—17.0	94	S	9	4			10						Physical Cabinet.
Orenburg			30.06	763.5	1.6	—16.9	75	SE	13	6			10						Tschernischef.
Ekaterinburg	28.91	734.4	29.98	761 4	— 7.4	—21.9	76	SW	2	1			10						Meteorogical Obs.
Nukuss			30.04	763.0	28.8	— 1.8	96	NE	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.27	768.8	— 1.3	—18.5	72	SW	4	2			0						Meteorological Obs.
Yeniseisk			29.68	753.9	— 4.9	—20.5	85	SE	9	4			7			Blank	Blank		Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.48	774.2	20.8	— 6.2	61	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					6.8	—14.0		W	13	6			10					Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.72	755.0	42.3	5.7	97	SW	12.7	5.67			10			0.03?	0.9	Misty	Royal Observatory.
San Fernando			29.86	758.4	60.1	15.6	80	SW	15.9	7.1			10		SW	0.681	17.3	Light rain	Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Happaranda			30.25	768.3	—14.8	—26.0	60	N			2		0			0	0		
Umea			30.26	768.5	— 4.0	—20.0	74	NE			4		0			0	0		
Hernosand			30.13	765.3	8.6	—13.0	88	ENE			7		10			0.25?	6.4		
Stockholm			29.76	756.0	20.1	— 6.6	87	N			6		10					Snowing	
Wisby			29.71	754.7	22.6	— 5.2	96	SE			4		5			0	0		
SUB-SERIES.																			
Upsala			29.84	757.9	19.6	— 6.9	82	NE	10.7	4.8			10			0.018	0.45	Snowing	Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.05	712.5	29.50	749.3	46.8	8.2	71	S			5		9			0.322	8.2	Cloudy	The Observatory.
Zurich	27.82	706.7	29.50	749.3	42.3	5.7	76	W			4		8			0.098	2.5	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —15.1 mm; Thermometer, +6.1 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.76	756 0	53.1	11.7	93	SE	6	2.5			10		WSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.73	755.2	59.7	15.4		SE			1		10			Blank	Blank		
Valona			29.71	754.6	59.0	15.0		S			3		2						
Varna			29.72	755.0	50.0	10.0		NE			2		10						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.02	762.5	69.1	20.6	86	SW			3		5n		SW	Blank	Blank	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			28.96	735.6	12.6	—10.8	90	NW	25	11.2			0						Hon. J. Ferguson.
Brockville, Ontario			29.70	754.4	16	— 8.9		SW	17	7.6			10s		SW	0.30	7.6	Light snow	W. R. Bigg.
*Chatham, N. B			29.61	736.8	14	—10.0	100	SW	17	7.6		2k	2ks	W	W	1.42	36.1	Fair	G. A. Blair.
Charlottetown, P. E. Island			28.99	736.3	26	— 3.3	89	W	20	8.9			10n			0.900	22.86	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			29.63	752.6	0.0	—17.8	91	SW			1		10n			0.20	5.1	Snowing	James Smith, M. A.
Dalhousie, N. B			29.04	737.6	14.5	— 9.7	91	W			5					1.50	38.1	Snowing	H. A. Johnson.
Esquimault, B. C			30.21	767.3	36.6	2.6	96	Calm					10n			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			29.44	747.8	4.1	—15.5	72	NW	22	9.8		0	0			2.075	52.71	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.50	774.7	—26	—32.2	90	NE	6	2.7		5k	2ks	NE	NE	0	0	Cloudy	James Stewart.
Goderich, Ontario			29.97	761.2	14.8	— 9.6	91	NW			3	6k	0	NW		0.10	2.5	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.78	731.0	29.99	761.7	9.4	—12.6		W			3		10n					Snowing	James Grant.
*Halifax, N. S			29.34	745.2	24	— 4.4	80	W	46	20.6		0	2ks		W	0.525	13.34	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.79	756.7	16	— 8.9	88	W	28	12.5		10 s	0	W		0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.11	739.4	33.0	0.6		SW	30	13.4		7k	0	SW		0.46	11 7		C. H. Rigby.
*Montreal, Quebec			29.71	754.6	— 3	—19.4	94	S	8	3.6			10n			0.46	11.7	Heavy snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.72	754.9	— 8	—22.2	88	Calm	0	0			10n			0.70	17.8	Light snow	J. B. Haney.
*Parry Sound, Ontario			29.84	757.9	5	—15.0	82	N	12	5.4		2k	5n	W	W	0.25	6.3	Light snow	Rev. R. Mosley.
Port Dover, Ontario			29.98	761.5	14	—10.0	98	W	18	8.0		8k	0	W		0	0	Fair	H. Morgan.
Port Hastings, N. S			28.98	736.1	41.5	5.3		SW	6	2.7						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.03	762.7	13	—10.6	90	N	20	8.9			10ks		W	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.72	754.9	—10	—23.3	54	SW	12	5.4		0	0			0.60	15.2	Clear	Capt. Ashe, R. N.
St. John, N. B			29.54	750.3	8	—13.3	78	W	21	9.4		0	0			0.700	17.78	Clear	G. Murdoch, C. E.
*Sangeen, Ontario			29.85	758.2	13	—10.6	44	W	20	8.9			10ks			0.20	5.1	Cloudy	K. Stewart.
Stayner, Ontario			29.82	757.4	13	—10.6	82	NW	18	8.0		5k	0	NW		0.09	2.3	Cloudy	R. J. Cole.
Stratford, Ontario	28.55	725.2	29.94	760.5	8.1	—13.3	95	W	17	7.6			10n					Snowing	C. J. MacGregor, M. A.
*Sydney, C. B			29.00	736.6	40	4.4	94	SE	34	15.2			10n			0.53	13.5	Heavy rain	T. C. Hill.
*Toronto, Ontario			29.89	759.2	11	—11.7	78	SW	18	8.0		0	0			0.05	1.3	Clear	Magnetic Observatory.
Woodstock, Ontario			30.01	762.2	9.2	—12.7	91	W	6	2.7			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			30.12	765.0	22.0	— 5.6		Calm				10	10			0.05	1.3	Threatening	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.92	760.0	6	—14.4	64	S	5	2.2		1k	0	S		0.32	8.1	Clear	
Alpena, Mich.			29.96	761.0	4	—15.6	74	W	12	5.4		0	0			0.03	0.8	Clear	
Atlantic City, N. J.			30.17	766.3	14	—10.0	81	W	8	3.6		0	0			0.52	13.2	Clear	
Augusta, Ga.			30.39	771.9	25	— 3.9	62	Calm	0	0		0	0			0.04	1.0	Clear	
Baltimore, Md.			30.21	767.3	15	— 9.4	65	SW	2	0.9		5ck	Sm'e	W		0.39	9.9	Fair	
Barnegat, N. J.			30.14	765.5	12	—11.1	90	W	15	6.7		0	0			0.70	17.8	Clear	
Bismarck, Dakota	28.26	717.8	30.09	764.3	0	—17.8	84	SE	12	5.4			10s			Inap.	Inap.	Threatening	
Boston, Mass.			29.92	760.0	11	—11.7	79	SW	4	1.8		0	Haze			1.21	30.7	Dense haze	
Breckenridge, Minn.			30.36	771.1	—14	—25.6	73	N	4	1.8			10s			0	0	Cloudy	
Buffalo, N. Y.			29.91	759.7	16	— 8.9	83	W	28	12.5			10s		W	0.15	3.8	Cloudy	
Burlington, Vt.			29.76	755.9	8	—13.3	78	S	12	5.4		0	8s			0.19	4.8	Cloudy	
Cairo, Ill.			30.32	770.1	14	—10.0	63	S	8	3.6		0	Fog			0	0	Clear	
Cape Hatteras, N. C.			30.26	768.6	27	— 2.8	77	N	12	5.4			10s		N	0.59	15.0	Cloudy	
Cape Henry, Va.			30.30	769.6	23	— 5.0	60	NW				0	0			0.29	7.4	Clear	
Cape Lookout, N. C.			30.35	770.9	25	— 3.9	74	NE	20	8.9		0	0			0.05	1.3	Clear	
Cape May, N. J.			30.19	766.8	19	— 7.2	54	W	24	10.7		0	0			0.52	13.2	Clear	
Charleston, S. C.			30.38	771.6	30	— 1.1	48	N	8	3.6		0	0			Inap.	Inap.	Clear	
Cheyenne, Wyoming	23.96	608.6	29.90	759.4	26	— 3.3	48	SW	8	3.6		0	2s			0	0	Fair	
Chicago, Ill.			30.13	765.3	12	—11.1	61	SW	5	2.2		0	0			0	0	Clear	
Cincinnati, Ohio			30.17	766.3	16	— 8.9	83	SW	6	2.7		0	0			Inap.	Inap.	Clear	
Cleveland, Ohio			30.09	764.3	14.5	— 9.7	73	S	20	8.9			10s		SW	0.01	0.3	Cloudy	
Corsicana, Tex.			30.41	772.4	20	— 6.7	70	NW	3	1.3		0	0			0	0	Clear	
Davenport, Iowa			30.16	766.1	10	—12.2	78	N	7	3.1		0	0			0	0	Clear	
Denison, Tex.			30.36	771.1	22	— 5.6	72	SW	8	3.6		0	0			0	0	Clear	
Denver, Col.	24.74	628.4	29.96	761.0	21	— 6.1	85	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			30.04	763.0	12	—11.1	80	SW	12	5.4			10s		SW	0	0	Cloudy	
Dodge City, Kan.	27.45	697.2	29.91	759.7	17	— 8.3	67	SW	18	8.0		2c	0			0	0	Clear	
Dubuque, Iowa			30.22	767.6	3	—16.1	73	N	1	0.4		2cs	Haze			0	0	Fair	
Duluth, Minn.			30.36	771.1	—11	—23.9	76	Calm	0	0		0	0			0	0	Clear	
Eastport, Me.			29.53	750.0	7	—13.9	53	W	22	9.8		0	0			1.26	32.0	Clear	
Erie, Pa.			30.00	762.0	13	—10.6	90	SW	24	10.7			10n			0.01	0.3	Light snow	
Escanaba, Mich.			30.11	764.8	— 1	—18.3	84	W	15	6.7		0	1s			Inap.	Inap.	Clear	
Fort Gibson, Indian Ter.			30.25	768.3	20	— 6.7	55	SE	8	3.6		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.95	735.3	30.15	765.8	20	— 6.7	27	SW	4	1.8		0	0			0	0	Clear	
Fort Sully, Dakota	28.33	719.6	30.18	766.6	1	—17.2	85	SE	12	5.4		0	2s			0	0	Fair	
Florence, Arizona	28.57	725.7	30.11	764.8	52	11.1		NE				0	0			0	0	Clear	
Galveston, Tex.			30.43	772.9	37	2.8	62	NE	10	4.5		0	0			0	0	Clear	
Grand Haven, Mich.			30.07	763.8	17	— 8.3	83	N	15	6.7			10s		NW	0.02	0.5	Cloudy	
Indianapolis, Ind.			30.18	766.6	16	— 8.9	66	SW	6	2.7		0	Sm'e			0	0	Clear	
Indianola, Tex.			30.43	772.9	35	1.7	56	N	15	6.7		2c	0			0	0	Fair	
Jacksonville, Fla.			30.30	769.6	35	1.7	69	NW	4	1.8		0	0			0.09	2.3	Clear	
Keokuk, Iowa			30.08	764.0	18	— 7.8	68	W	7	3.1		0	0			0	0	Clear	
Key West, Fla.			30.06	763.5	67	19.4	94	NE	12	5.4			10ks			0	0	Cloudy	
Kittyhawk, N. C.			30.34	770.6	21	— 6.1	71	NW	9	4.0		2k	2s	NE		0.17	4.3	Fair	
Knoxville, Tenn.			30.42	772.7	11	—11.7	79	N	4	1.8		0	0			0.02	0.5	Clear	
La Crosse, Wis.			30.29	769.4	— 1	—18.3	68	N	6	2.7		0	0			0	0	Clear	
Leavenworth, Kan.			30.15	765.8	22	— 5.6	72	Calm	0	0		0	0			0	0	Clear	
Louisville, Ky.			30.25	768.3	15	— 9.4	47	S	12	5.4		0	0			Inap.	Inap.	Clear	
Lynchburg, Va.			30.28	769.1	16	— 8.9	66	SW	3	1.3		0	0			0.06	1.5	Clear	
Malone, N. Y.			29.61	752.1	18	— 7.8	68	SW	20	8.9			10n		SW	0.26	6.6	Light snow	
Marquette, Mich.			30.08	764.0	5	—15.0	75	W	20	8.9			10s			0	0	Cloudy	
Memphis, Tenn.			30.42	772.7	18	— 7.8	67	Calm	0	0		0	Fog			0	0	Clear	
Milwaukee, Wis.			30.20	767.1	3	—16.1	73	N	12	5.4		0	0			0	0	Clear	
Mobile, Ala.			30.40	772.1	24	— 4.4	75	N	8	3.6		0	0			0	0	Clear	
Montgomery, Ala.			30.44	773.2	22	— 5.6	78	N	3	1.3		0	Sm'e			0	0	Clear	
Morgantown, W. Va.	29.09	738.9	30.25	768.3	13	—10.6	62	SW	12	5.4		0	0			0.05	1.3	Clear	
Mt. Washington, N. H.	22.97	583.4	29.33	745.0	—12	—24.4	100	NW	60	26.8			Fog			1.21	30.7	Foggy	
Nashville, Tenn.			30.36	771.1	13	—10.6	81	SE	2	0.9		0	Fog			0	0	Clear	
New Haven, Conn.			30.01	762.2	13	—10.6	80	NW	5	2.2		Haze	0			1.00	25.4	Clear	
New London, Conn.			30.00	762.0	14	—10.0	64	W	4	1.8		0	0			0.83	21.1	Clear	
New Orleans, La.			30.40	772.1	30	— 1.1	60	NE	8	3.6		0	Sm'e		NE	Inap.	Inap.	Clear	
Newport, R. I.			30.00	762.0	15	— 9.4	67	W	14	6.3		0	0			1.04	26.4	Clear	
New York, N. Y.			30.08	764.0	14	—10.0	65	W	12	5.4		1ck	Sm'e	W		1.08	27.4	Clear	
Norfolk, Va.			30.32	770.1	19.5	— 6.9	69	SW	6	2.7		0	0			0.22	5.6	Clear	
North Platte, Neb.	27.09	688.1	29.85	758.2	13	—10.6	81	NW	8	3.6		0	5s		NW	0	0	Fair	
Omaha, Neb.	29.03	737.3	30.22	767.6	9	—12.8	89	N	10	4.5		0	0			0	0	Clear	
Oswego, N. Y.			29.83	757.7	22.5	— 5.3	78	SW	12	5.4			10s		W	0.10	2.5	Threatening	
Pembina, Dakota			30.45	773.4	—25	—31.7	53	NE	2	0.9			10s			Inap.	Inap.	Cloudy	
Philadelphia, Pa.			30.15	765.8	12	—11.1	70	W	10	4.5		1c	Haze	W		0.60	15.2	Clear	
Pike's Peak, Col.	17.70	449.6	29.92	760.0	9	—12.8	57	W	26	11.6		0	0			0	0	Clear	
Pittsburgh, Pa.			30.17	766.3	13	—10.6	81	W	11	4.9		2k	0	W		0.03	0.8	Fair	
Port Huron, Mich.			30.09	762.0	10	—12.2	79	SW	11	4.9		2cs	8n		W	0.02	0.5	Light snow	
Portland, Me.			29.81	757.2	6	—14.4	76	SW	8	3.6		0	Haze			0.56	14.2	Clear	
Portland, Oregon			30.18	766.6	32	0.0	89	NW	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.20	767.1	56.5	13.6	68	N	12	5.4		8ck	0	SW		Inap.	Inap.	Fair	
Rochester, N. Y.			29.83	757.7	14	—10.0	82	W	24	10.7			10n			0.15	3.8	Light snow	
Salt Lake City, Utah	25.75	654.0	30.08	764.0	17	— 8.3	100	S	2	0.9			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.05	763.3	16	— 8.9	67	SW	25	11.2		0	0			1.10	27.9	Clear	
San Diego, Cal.			30.09	764.3	49	9.4	48	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.10	764.5	48	8.9	77	NW	4	1.8		0	0			0	0	Clear	
Santa Fé, N. M.	23.31	592.1	29.85	758.2	17	— 8.3	67	N	6	2.7		0	0			0	0	Clear	
Savannah, Ga.			30.39	771.9	28	— 2.2	77	N	11	4.9		0	0			0.01	0.3	Clear	
Shreveport, La.			30.46	773.7	24	— 4.4	74	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			30.35	770.9	20	— 6.7	72	N	7	3.1		0	0			0.04	1.0	Clear	
Springfield, Mass.			29.95	760.7	10	—12.2	68	S	4	1.8		0	0			0.94	23.9	Clear	
St. Louis, Mo.			30.16	766.1	20	— 6.7	85	SW	8	3.6			Sm'e			0	0	Smoky	
St. Marks, Fla.			30.36	771.1	28	— 2.2	67	N	6	2.7		0	0			0.02	0.5	Clear	
St. Paul, Minn.			30.30	769.6	— 1	—18.3	68	NW	4	1.8		5c	2s	NW	NW	0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.91	759.7	11	—11.7	60	W	16	7.2		0	0			0.70	17.8	Clear	
Toledo, Ohio			30.06	763.5	17	— 8.3	67	SW	14	6.3			10s		SW	0	0	Cloudy	
Tucson, Arizona	27.64	702.0	30.20	767.1	35	1.7		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.37	771.4	33	0.6	61	N	18	8.0		0	0			0	0	Clear	
Vicksburg, Miss.			30.48	774.2	20	— 6.7	77	SE	7	3.1		0	Sm'e			0	0	Clear	
Virginia City, M. T.	24.18	614.2	29.66	753.4	17	— 8.3	67	Calm	0	0		2k	0	W		0	0	Fair	
Washington, D. C.			30.22	767.6	11	—11.7	79	S	4	1.8		5ck	2s	W	W	0.29	7.4	Fair	
Wilmington, N. C.			30.35	770.9	21	— 6.1	58	N	9	4.0		0	0			0.03	0.8	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.01	762.2	18	— 7.8	68	NW	18	8.0		0	0			1.85	47.0	Clear	
Yankton, Dakota	28.92	734.6	30.37	771.4	1	—17.2	71	NE	3	1.3		2cs	0	NW		0	0	Fair	
Yuma, Arizona			30.13	765.3	49	9.4		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.19	766.8	78	25.6	82	N	6	2.7		8c	2s		E	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.21	691.1	30.01	762.2	66	18.9	83	NE	2.0	0.9		8c	0	NE		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.96	761.0	81	27.2	78	SE			1	3c	3c ?	E		0.390	9.91		C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			79.9	26.6		E								1.299	33.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3			64.8	18.2	83	Calm			0	10cs	0			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			30.45	773.4	—37.0	—38.3		S	12	5.4		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	73	22.8		Calm			0					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.03	762.7	66	18.9	68	Calm			0	0	3k			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, Boston Light.					29.86	758.4	17	— 8.3	67	NW	7	3.1		0	0					Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 35°, 47′, W. 64°, 18′.	W	6			29.94	760.5	61.2	16.2		NW			6					High swells.		Clearing	Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto. pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't. Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 20, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.69	754.1	71.2	21.8	33	SW			4		5			0	0	Fair	Charnot.
Algiers			29.57	751.1	63.3	17.4	67	WSW			1		10			Inap.	Inap.	Hidden	Peter.
La Calle			29.64	752.8	66.9	19.4	60	W			2		5			0	0	Fair	Didier.
Tunis			29.72	754.9	60.8	16.0		W			2		0			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			29.78	756.4	52.9	11.6	69	S			5		6			0	0	Fair	Millot.
Tebessa			29.76	756.0	50.0	10.0		S			1		3			0	0	Fair	Bourgeois.
Geriville			29.92	759.9	59.0	15.0	70	SW			1		4			0.079	2.0	Fair	Lemaillot.
Laghouat			29.87	758.6	60.4	15.8	45	SW			5		6			0	0	Fair	Guyot.
Biskra			29.81	757.1	59 2	15.1	55	SE			2		10			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.47	748.5	52.5	11.4	67	SW			3		3			0.370	9.4		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.46	748.2	39.9	4.4	71	W			1		3			0	0		Dr. Wierzbiski.
Eperies			29.47	748.4	40.6	4.8	87	S			2		6cks		N	0.018	0.45		Julius Mikolik.
Gratz	28.19	715.9	29.45	748.0	38.3	3.5	91	WSW			2		2			0	0		Andreas Rospini.
Hermannstadt	28.14	714.7	29.57	751.0	43.9	6.6	72	NW			4		1			0	0		Prof. Reissenberger.
Kremsmünster	27.97	710.4	29.34	745.2	32.0	0 0	96	Calm			0		2			0	0		Prof. C. Wagner.
Lemberg			29.39	746.5	36.5	2.5	84	NW			2		7			0.035	0.9		Dr. T. Stanécki.
Nyiregyhaza																			Habasuda Daniel.
Pola			29.53	750.0	57.2	14.0	68	S			3		8cs			0	0		I.R. Hydrographic Office.
Szegedin			29.52	749.9	46.8	8.2	70	W			3		6			0	0		Karl Stancel.
Trieste			29.51	749.5	55.9	13.3	77	SW			1		10			0.374	9.5	Rain and fog	Prof. V. Farolfi.
Vienna			29.38	746.3	36.0	2.2	65	Calm			0		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			28.98	736.0	45.3	7.4	79	SSW			3		10n		SW	0.087	2.20	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.21	741.9	37.6	3.1		E	60	26.8			10			0.400	10.16	Raining	William Boswell.
Ardrossan			28.90	734.0	43	6.1		ENE			6		8					Overcast	William McNeil.
Armagh, Observatory			28.77	730.7	40.7	4.8		NE	21	9.4			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.72	729.5	42.6	5.9		NNE			1-2		10					Overcast	J. Dreyer.
Bradford			28.76	730.5	42.7	5.9		SE			4		10			0.75	19.1	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.91	759.7	83.2	28.4		SE			2		6					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			28.80	731.5	43.0	6.1		S			2		10					Raining	H. Todd, [H.C.
Cardington			28.80	731.5	44.0	6.7		S			1		9					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			28.84	732.5	42.5	5.8		SW			1		10			Blank	Blank	Gloomy	Capt. Fellowes, R. E.
Dartmoor	27.30	6934.	28.79	731.3	38.4	3.6		E			2		6					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.18	614.2			32.4	0.2	79	SW			1		10			0.095	2.41	Overcast	Francis Redford, M. A.
Donaghadee			28.74	730.0	44	6.7		E			8		10					Overcast	J. Mac Gowan.
Dover			28.86	733.0	47	8.3		SW			5		9					Squally	J. Costello.
Eccles, (near Manchester)			28.72	729.5	41.6	5.3		E	2.0	0.9			10					Raining	Thomas Mackereth.
Falmouth, Observatory			28.62	726.9	45.8	7.7		SE			3		9					Overcast	The Staff.
Fort Napier, (Natal)	27.46	697.5	29.69	754.1	87.3	30.7		E			1		1					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.95	760.7	87.0	30.6		Calm			0		3					*D. clouds	
Galway, Queen's College			28.80	731.5	43	6.1		N			3		7					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.50	749.3	56.5	13.6		NW			6		10			lank	Blank	Thunder	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			28.92	734.6	39.8	4.3		NE			8		10					Raining	Lewis Stuart.
Great Yarmouth			28.82	732.0	43	6.1		S			4		8					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			28.84	732.5	42.5	5.8		SW			1		10					Raining	The Staff, for G. B. Airy.
Guernsey			28.74	730.0	46	7.8		SSE			6		10					Squally	Dr. S. E. Hoskins.
Helston			28.60	726.4	50	10.0		E			4		6k			0.90	22.9	Showery	M. P. Moyle.
Holyhead			28.64	727.4	42	5.6		E			3		10					Raining	John Tilston.
Kew, Observatory			28.83	732.3	43.7	6.5		WSW	11	4.9			10					Hazy	The Staff.
Kingstown			28.67	728.2	45	7.2		N			5		10					Overcast	George Mitchell.
Leicester Museum			28.74	730.0	46.2	7.9		SE			1		7					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.83	757.7	67.2	19.6		SW			2		2k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.22	742.2	36	2.2		ESE			6		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.16	766.1	74.5	23.6		NE			6		5k						Surg. Maj. Henry.
Nottingham, Observatory			28.76	730.5	44.2	6.8		SE			2		10d		SE	0.565	14.35	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			28.72	729.5	44.6	7.0		SSE			3		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			28.77	730.7	45	7.2		S			1		10					Overcast	J. Lucas.
Plymouth			28.63	727.2	44.4	6.9		SE			2		10					Gloomy	John Merrifield.
Roche's Point			28.58	725.9	45	7.2		NE			5		5					Showery	W. Kennedy.
Saint Ann's Head			28.62	726.9	49	9.4		S			4		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			28.77	730.7	46.5	8.1		S			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.43	747.5	33	0.6		E	43	19.2			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.69	754.1	55.6	13.1		SW			1		1			Blank	Blank	Blue sky	Sergt. W. H. Lyne.
Sheffield			28.73	729.7	42.2	5.7		SE			2		10			0.363	9.22	Raining	W. F. Cooper.
Silloth Rectory			28.75	730.2	39.5	4.2	94	E			6		8			0.050	1.27	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			28.73	729.7	41.2	5.1		SE			1		10n					Drizzling	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.27	743.4	37	2.8		ENE			7		5					*D. clouds	John Smith.
Strathfield Turgiss			28.80	731.5	43.8	6.6		S			1		10					Raining	Rev. Charles H. Griffith.
Thurso			29.38	746.2	34	1.1		E			6		9					Snowing	John Trotter.
Truro, Royal Institution			28.64	727.4	49	9.4		NE			2		10					Raining	W. Newcombe.
Valencia, Observatory			28.72	729.5	43.9	6.6		NE	24	10.7			10					Overcast	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					42	5.6		E			6		10			0.20	5.1		Henry Mercer.
Cape Good Hope, Obs'y			29.94	760.5	68.0	20.0	73	NW	17	7.6		10	9						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.72	754.9	72.0	22.2	83	NW		4	3		4k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.01	736.8	39.9	4.4		E			8		10n			0.31	7.9	Stormy	Andrew Gibb.
Mauritius, Observatory			29.99	761.7				ESE	18.4	8.2						0	0		C. Meldrum.
Melbourne, Observatory			30.00	762.0	60.0	15.6	87	SE	4	1.8			1			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.13	739.9	39	3.9		E			7		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.63	752.6	33	0.6		E			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read on and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m.; local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.6? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.83	757.7	22.5	— 5.3	85	E			8		10						
Faröe			29.39	746.5	28.0	— 2.2	98	E			7		0						
Godthaab, (Greenland)			29.84	758.0	26.4	— 3.1	68	ESE			2		2						
Stykkisholm, (Iceland)			30.04	762.9	27.9	— 2.3	94	E			4		0						
Thorshavn, (Faröe)			29.63	752.6	35.2	1.8	91	ESE			4		7					Snowing	
Vestervig			29.55	750.6	21.9	— 5.6	90	ENE			8		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.03	737.3	44.6	7	91	SW.			4		10			0.31	8.	Covered	Normal School.
Amiens			28.95	735.4	45.0	7.2	97	W			6		5		W	0	0	Cloudy	Normal School.
Avignon			29.30	744.2	56.5	13.6	62	SW			3		5		WSW	0	0	Cloudy	Normal School.
Bar-sur-Seine			29.13	740.0	45.5	7.5	73	WSW			1		10		SW	0.130	3.3	Covered	C. Saillard.
Beaumette, (near Angers)			28.95	735.4	45.7	7.6	80	SSW	15.7	7.0			10		SW	0.209	5.3	Raining	Beaumette Observ'tory.
Beauvais			29.02	737.2	46.8	8.2	74	S			4		8		SW	0.128	3.25	Very cloudy	Normal School.
Besançon			29.26	743.3	41.0	5	88	S			2		8		W	0.024	0.6	Very cloudy	Normal School.
Bourg en Bresse			29.28	743.6	49.8	9.9	60	SE			6		10n		N	0.036	0.9	Raining	Normal School.
Bourges			29.17	740.8	46.4	8	77	SW			6		5		S	0.059	1.5	Cloudy	Normal School.
Brest			28.61	726.7	45.1	7.3	85	SW			7		10		SW	0.354	9.00	Raining	Naval Observatory.
Carcassonne			29.30	744.1	53.6	12	61	N			1		2		S	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.02	737.1	44.1	6.7	97	SSW			8		5		NE	0.24	6.	Cloudy	Normal School.
Châlons-sur-Marne			29.17	740.8	45.0	7.2	77	SW			6		10n		NE	0.260	6.6	Covered	Normal School.
Clermont			29.21	742.0	45.5	7.5	57	SW			4		10		SW	0.047	1.2	Covered	Puy de Dome Obs'y.
Commercy			29.19	741.5	44.1	6.7	82	SW			2		8		E	0.28	7.	Very cloudy	Normal School.
Commune de Gréasque*			29.35	745.6	54.1	12.3	61	SE			6		8		SW	0.157	4.0		M. Kina.
Grenoble			29.19	741.3	51.1	10.6	94	SSE			8		10n		SE			Thunderstorm.	Normal School.
La Roche-sur-Yon			29.03	737.4	45.7	7.6	80	S			2		10			0.083	2.1	Covered	Normal School.
Le Mans			28.99	736.3	43.9	6.6	79	SW			4		10			0.39	10.	Covered	Normal School.
Lons-Le-Saulnier			29.30	744.1	40.8	4.9	96	SE			1		5		E	1.087	27.60	Cloudy	Normal School.
Lorient			28.84	732.4	49.6	9.8	54	SW			6		10			0.157	4.0	Raining	Naval Observatory.
Mâcon			29.32	744.7	46.4	8	80	Calm			0		10			0.110	2.8	Covered	Normal School.
Metz			29.24	742.7	43.9	6.6	85	S					10			0.311	7.9	Covered	M. Schuster.
Mirecourt			29.16	740.7	43.3	6.3	91	SSW			4		8		NNE	0.177	4.5	Very cloudy	Normal School.
Nismes			29.25	742.9	55.0	12.8	67	N			2		5		NE	0	0	Cloudy	Normal School.
Orleans			29.06	738.0	44.6	7	94	S			6		8		W	0.63	16.	Very cloudy	Normal School.
Paris, Observatory			29.05	737.8	46.2	7.9	75	SW			3	..c	..k	NE	SW	0.202	5.14	Very cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.29	744.0	48.6	9.2		E			2		5		E	0.134	3.4	Cloudy	Normal School.
Rochefort, Observatory			29.12	739.7	48.6	9.2	88	SW			7		8		NE	0.335	8.5	¾ covered	Naval Observatory.
Rouen			28.96	735.6	47.8	8.8	58	S			2		2		S	0.322	8.2	Slightly cl'dy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.23	742.5	46.4	8	82	SE			3		10		S	0	0	Covered	Normal School.
SUB-SERIES.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.30	744.3	58.6	14.8	60	W			2		10			0.039	1.00	Covered	Marseilles Observatory.
Mont-Louis	24.20	614.6	29.53	750.1	30.6	— 0.8	79	SSW	28.0	12.50			5		SW	0.106	2.7		—. Falguère.
Montsouris, Paris			29.04	737.7	45.7	7.6	76	SSW			4		7		SSW	0.213	5.4		Montsouris Observatory
Perpignan			29.28	743.8	54.0	12.2	63	SE	5.6	2.50			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.49	520.4			14.0	—10.0		NW			8		5			Blank	Blank	Fair	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.78	553.2			19.4	— 7.0		NW			8		5			0.130	3.3	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.06	738.0	46.9	8.3	71	SSW			3		8			0.197	5.0	Very cloudy	E. Renou.
Toulouse			29.32	744.7	47.1	8.4	78	SE			1		1			0.071	1.8		Toulouse Observatory.
Tours			29.08	738.5	45.7	7.6	75	SW			4		7		W	0.697	17.7		C. Marquet.
Versailles, (near Paris)			29.04	737.7	46.4	8.0	75	SW			3		10			0.206	5.24	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.49	774.5	38.8	3.8	70	Calm	0	0			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.26	743.1	44.6	7.0	62	SW			2		3	SW		0	0		Prof. T. Hoh.
Berlin			29.41	747.1	29.5	— 1.4	89	E			3		10			0.209	5.3		Prof. Arndt.
Breslau			29.45	748.1	32.5	0.3	98	ENE			2		10			0.311	7.9	Foggy	Royal University Obs'y.
Carlsruhe			29.15	740.4	44.2	6.8	90	N			1		10			0.130	3.3	Raining	A. Senz.
Cassel			29.20	741.6	45.7	7.6	79	SE			3		7	SE		0.091	2.3		Dr. H. Möhl.
Crefeld			29.03	737.4	47.3	8.5	88	SE			5		10			0.20	5.		Director Lose.
Emden			29.18	741.1	33.6	0.9	100	E			1		10			0.315	8.0		Prof. Prestel.
Frankfort on the Main			29.19	741.3	44.2	6.8	64	SE			1		8			0.157	4.0		Physical Society.
Friedrichshafen	27.76	705.2	29.39	746.4	43.9	6.6	72	SW			3		6			0.118	3.0		M. Wilhelm.
Hamburg			29.30	744.3	28.2	— 2.1	98	E			7		10			0.067	1.7	Snow & fog	Captain F. Hegemann.
Kiel			29.37	746.0	30.0	— 1.1	78	E			6		10			0.059	1.5	Snowing	Prof. G. Karsten.
Königsberg, (Prussia.)			29.70	754.3	9.0	—12.8	81	NE			5		0?			0.059	1.5	Snowing?	Prof. E. Luther.
Köslin			29.60	751.8	19.8	— 6.8		E			4		1			0	0		H. Müller.
Leipsic			29.30	744.3	39.9	4.4	84	ESE			2		9	WSW		0.012	0.3		Prof. Bruhns.
Memel			29.76	755.8	1.6	—16.9	75	ENE			5		0			0	0	Clear	Reinbrecht & Skalweit.
Münster			29.09	738.8	44.2	6.8	97	SE			2		10			0.150	3.8		Prof. E. Heis.
Neufahrwasser			29.70	754.4	18.9	— 7.3	81	E			4		10			0.150	3.8	Light snow	A Lothe.
Posen			29.55	750.6	19.2	— 7.1	90	E			5		9			0.165	4.2		Dr. Magener.
Strassburg, (in Alsace)			29.18	741.1	46.2	7.9	75	NW			2		10			0.024	0.6		Dr. Schur.
Stuttgart			29.13	739.9	47.8	8.8	54	N			1		5			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.07	738.4	46.9	8.3	80	SW			7		10			0.016	0.4		Prof. Flesch.
Weissenburg, (Bavaria,)	27.74	704.5	29.23	742.5	42.1	5.6	63	S			1		7	SW		0.004	0.1		Dr. von Bebber.
Wustrow, Naval School			29.52	749.7	26.1	— 3.3	100	E			3		10			0.114	2.9		E. F. Schütz.
GERMAN NAVAL SERIES.																			
"H. M. S. Elisabeth," S. 34°, 52', W. 110, 3'.			30.28	769.1	67.3	19.6	66	S			1		10	S					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.84	758.0	62.6	17.0		W										Clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			29.49	749.0	46.4	8.0	83	NE	3.1	1.4			10			0.118	3.0	Raining	Prof. Giovanni Clodig.
Padua			29.47	748.4	46.6	8.1	90	NNE	8.7	3.9			10			0.043	1.1	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.50	749.2	44.6	7.0	87	NW	0.7	0.3			9	E		0.157	4.0	Raining	Alm. Da Schio.
Verona																			Dott. B. Bertone-B.
Bergamo	28.07	712.9	29.42	747.2	41.4	5.2	84	NE			4		10			0.559	14.2	Raining	Prof. Trionfini Carlo.
Domodossola			29.48	748.9	35.8	2.1	89	Calm			0		10			0.189	4.8	Rain & snow	Prof. Giuseppe Colza.
Milan			29.43	747.6	41.5	5.3	98	ENE			1		10			0.591	15.0	Raining	Ab. Gio. Capelli.
Pavia			29.43	747.4	41.0	5.0	92	S			1		10			0.579	14.7	Raining	Prof. Gio. Cantoni.
Moncalieri			29.46	748.2	39.6	4.2	88	NNW	0.7	0.3			10	N		0.169	4.3	Raining	Prof. P. F. Denza.
Mondovi	27.50	698.4	29.46	748.2	35.2	1.8	91	SSW			2		8			0.339	8.6	Raining	Prof. C. Bruno.
Porto Maurizio			29.39	746.6	57.6	14.2	55	SW			6		9			0.291	7.4	Raining	Prof. L. Vassallo
Genoa																			Prof. Garibaldi.
Piacenza			29.41	747.0	41.7	5.4	95	ESE	8.7	3.9			10			0.398	10.1	Raining	Dott. G. Manzi.
Parma			29.43	747.5	41.9	5.5	94	SE			4		10			0.051	1.3	Raining	Prof. P. Pigorini.
Bologna			29.52	749.7	53.2	11.8	34	SW			6		5	E		0	0		Prof. A. Palagi.
Florence			29.52	749.8	56.7	13.7	70	S			2		10	S		0.087	2.2	Raining	Cav. F. Meucci.
Leghorn			29.48	748.8	56.3	13.5	88	S	13.4	5.8			10	SSW		0	0		Prof. P. Monte.
Siena	28.32	719.2	29.54	750.3	53.1	11.7	75	S	4.9	2.2			10	S		0.024	0.6	Light rain	Prof. L. Toscani.
Urbino																			Prof. P. Serpieri.
Pesaro			29.52	749.7	55.9	13.3	63	S	26.2	11.7			10	SW		0	0		Prof. Luigi Guidi.
Ancona			29.54	750.2	56.7	13.7	63	SE			4		4			0	0		Prof. F. De— Bosis.
Grosseto			29.54	750.2	58.3	14.6	81	SSE			4		8	S		0.134	3.4	Raining	Avv. P. Ponticelli.
Rome			29.64	752.9	60.4	15.8	70	SSE	16.1	7.2			8	SW		0.756	19.2	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.69	754.1	61.0	16.1	80	SSW			2		10	SW		0.118	3.0	Raining	Prof. L. Palmieri.
Lecce			29.79	756.7	60.4	15.8	69	WSW	9.8	4.4			2			0	0		Prof. C. De—Giorgi.
Cosenza			29.83	757.7	58.6	14.8	76	SW	3.1	1.4			6			0.331	8.4	Raining	Prof. F. D. Conti.
Utiposto, (Sicily)			29.76	755.9	59.2	15.1	74	NNE			2		1	S		0	0		Prof. F. Cafiero.
Palermo			29.69	754.2	66.0	18.9	47	SW	16.1	7.2			1			0	0		Prof. G. Cacciatore.
Caltanissetta	27.86	707.5	29.83	757.7	54.1	12.3	72	SSW			4		3	N		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.72	754.9	55.4	13.0	92	WSW	3.1	1.4			10	W		0.122	3.1		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			28.96	735.6	46.2	7.9		SSW			4					0.020	0.5		
Groningen			29.02	737.0	36.7	2.6		E			5					0.213	5.4		
Helder			28.96	735.6	43.9	6.6		SE			2					0.209	5.3		
Utrecht			28.95	735.4	45.3	7.4	89	SSE			3		8			0.161	4.1	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			29.73	755.2	21.2	— 6.0	69	NE	13	6			5			0	0		
Bróno			30.10	764.4	15.8	— 9.0	51	NE	4	2			8			0	0		
Christiania			30.08	764.0	7.2	—13.8	58	NE	4.3	1.9			8			0	0		
Tromsö			30.00	762.0	22.6	— 5.2	80	SW	4	2			10			0.079	2.0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.97	761.3	57.2	14.0	74	W	18.6	8.3			7			0	0		Dr. J. A. Sampaio.
Campo Major			29.47	748.5	45.5	7.5	86	SSW	18.1	8.1			10	SSW		0.303	7.7		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.98	761.5	67.1	19.5	43	WSW	8.1	3 6			2			0	0		Capt. D. A. de Cunha.
Lisbon			29.40	746.8	51.3	10.7	79	SSW	29.8	13.3			10			0.287	7.3		The Observatory.
Ponta Delgada, (Azores)			30.01	762.3	60.8	16.0	62	NW	13.7	6.1			3			0	0		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.54	750.3	14.0	—10.0	90	N	11	5			1						Astronomical Obs.
Wilna			29.60	751.9	7.0	—13.9	75	NNE	4	2			10						Astronomical Obs.
Dorpat			30.03	762.7	—16.4	—26.9	86	NE	7	3			0						Physical Cabinet.
St. Petersburg			30.02	762.6	—22 7	—30.4	85	WNW	0	0			2						Central Physical Obs.
Kuopio			30.09	764.2	—32.8	—36.0		Calm	0	0			10						Ch. Forsten.
Kieff			29.28	743.7	33.1	0.6	100	W	4	2			10					Light rain	Physical Cabinet.
Nikolaiev			29.45	747.9	35.4	1.9	98	SSW	7	3			10					Foggy	Kurdakof.
Kertch			29.58	751.4	44.6	7.0	100	Calm	0	0			10						Lagorio.
Moscow			29.77	756.2	4.3	—15.4	86	NE	9	4			10						Meteorological Obs.
Lugan			29.50	749.2	30.7	— 0.7	92	Calm	0	0			10						Meteorological Obs.
Archangel			30.02	762.5	—42.2	—41.2	78	Calm	0	0			0					Smoke-haze	Ogorodnikof.
Tiflis	28.47	723.1	29.91	759.6	50.2	10.1	72	Calm	0	0			9						Physical Observatory.
Astrakhan			29.88	758.9	32.9	0.5	96	E	9	4			10						Sebastianof.
Kasan			29.82	757.4	1.4	—17.0	95	WSW	2	1			10						Physical Cabinet.
Orenburg			30.14	765.6	— 1.3	—18.5	72	E	13	6			10						Tschernischef.
Ekaterinburg	28.88	733.5	29.94	760.4	— 6.0	—21.1	82	SE	2	1			10					Snowing	Meteorogical Obs.
Nukuss			30.08	764.0	33.1	0.6	85	ENE	4	2			8						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.52	775.2	—23.8	—31.0	81	Calm	0	0			0						Meteorological Obs.
Yeniseisk			29.94	760.5	—13.0	—25.0	78	SW	4	2			0						Marks.
Irkutsk																			Usolzof.
Oorga																			Mossin.
Peking, (China)			30.50	774.6	25.3	— 3.7	60	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					0.1	—17.7		W	13	6			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.50	749.2	41.5	5.3	80	SW	18.6	8.33		0	8			0.189	4.8	Cloudy	Royal Observatory.
San Fernando			29.61	752.1	52.3	11.3	96	SSE	6.5	2.9			10		SW	1.634	41.5	Raining	Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.09	764.2	—13.0	—25.0	100	E			2		5			0	0		
Umea			30.09	764.3	8.6	—13.0	100	N			2		10			0	0		
Hernosand			30.11	764.7	— 4.4	—20.2	93	NE			4		8			0.067	1.7		
Stockholm			29.96	760.9	6.4	—14.2	92	NNE			4		9			0.059	1.5		
Wisby			29.89	759.3	10.0	—12.2	93	ENE			6		5			0.055	1.4		
SUB-SERIES.																			
Upsala			30.02	762.4	5.5	—14.7	100	NNW	5.6	2.5			10			0.002	0.05		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	27.82	706.7	29.30	744.3	36.7	2.6	100	NNE			2		10					Raining	The Observatory.
Zurich	27.57	700.2	29.25	743.0	40.5	4.7	78	NW			1		8					Raining	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —20.9 mm; Thermometer, +0.6 cent.; Relative Humidity, +20 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.72	754.9	58.3	14.6	77	NNW	8	3.5			4		SSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.78	756.3	66.6	19.2		SE			1		0						
Valona			29.80	756.8	60.5	16.0		S			3		5						
Varna			29.53	750.0	53.6	12.0		E			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.97	761.3	63.5	17.5	86	WSW			3		9n		SW	0.28	7.1	Overcast	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B.			29.60	751.8	2.8	—16.2	81	NW	6	2.7			5						Hon. J. Ferguson.
Brockville, Ontario			30.55	776.0	—12	—24.4		Calm	0	0		0	0			0	0	Clear	W. R. Bigg.
*Chatham, N. B.			29.72	754.9	—1	—18.3	100	SW	16	7.2		5c	2ks	W	W	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.78	756.4	2	—16.7	83	W	10	4.5		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			30.53	775.4	—10.4	—23.6	100	W			1	0	0			0	0	Bright	James Smith, M. A.
Dalhousie, N. B.			29.67	753.6	— 0.9	—18.3	100	W			5					0.30	7.6	Overcast	H. A. Johnson.
Esquimault, B. C.			30.40	772.1	36.1	2.3	91	Calm					10n			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.03	762.7	— 2.9	—19.4	63	W	12	5.4		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.25	768.3	—6	—21.1	96	SE	4	1.8			10n			0.080	2.03	Cloudy	James Stewart.
Goderich, Ontario			30.50	774.7	9.1	—12.7	80	SE			1	4c	2s	N		0.05	1.3	Fine	H. J. Strang, M. A.
Granton, Ontario	29.28	743.7	30.52	775.2	5.6	—14.7		E			1		10n					Cloudy	James Grant.
*Halifax, N. S.			29.92	760.0	12	—11.1	94	W	16	7.2		0	2ks		W	0.030	0.76	Fair	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.56	776.2	—8	—22.2	79	Calm	0	0		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S.			29.70	754.4	15.0	— 9.4		NW	12	5.4		5k	0	NW		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.44	773.2	—11	—23.9	91	W	21	9.4		0	0			0.05	1.3	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.55	776.0	—15	—26.1	72	W	4	1.8		0	0			0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.64	778.2	—23	—30.6	65	NE	4	1.8		2cs	2ks	W	W	0.01	0.3	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.51	774.9	14	—10.0	95	NE	8	3.6		10k	0	NE		0	0	Fair	H. Morgan.
Port Hastings, N. S.			29.78	756.4	11.0	—11.7		NW	8	3.6						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.48	774.2	10	—12.2	92	NE	6	2.7			10ks		W	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.27	768.8	—9	—22.8	79	SW	28	12.5		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.10	764.5	—1	—18.3	100	SW	14	6.3		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.49	774.4	7	—13.9	57	SE	5	2.2			10ks			0.10	2.5	Cloudy	K. Stewart.
Stayner, Ontario			30.53	775.4	—6	—21.1	96	Calm	0	0		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	29.05	738.9	30.53	775.4	3.6	—15.8	90	Calm	0	0			10s			0.10	2.5	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.70	754.4	15	— 9.4	77	SW	17	7.6		0	5ks		W	0.06	1.5	Fair	T. C. Hill.
*Toronto, Ontario			30.58	776.7	—2	—18.9	85	N	7	3.1		5ck	5n	NW	N	0.02	0.5	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.56	776.2	2.0	—16.7	100	E	1	0.4			8s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.73	755.1	28.0	— 2.2	77	S					10n			0.30	7.6	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.47	773.9	3	—16.1	78	Calm	0	0		1k	0	W		0.03	0.8	Clear	
Alpena, Mich.			30.47	773.9	3	—16.1	78	NW	4	1.8			10s			0.01	0.3	Cloudy	
Atlantic City, N. J.			30.47	773.9	12	—11.1	63	NW	8	3.6		1c	0	W		0	0	Clear	
Augusta, Ga.			30.38	771.6	22	— 5.6	86	Calm	0	0		0	Haze			0	0	Clear	
Baltimore, Md.			30.50	774.7	18	— 7.8	68	Calm	0	0		2c	Sm'e	W		0	0	Smoky	
Barnegat, N. J.			30.46	773.7	14	—10.0	82	NW	10	4.5		5cs	0	NW		0	0	Fair	
Bismarck, Dakota	28.32	719.3	30.12	765.0	8	—13.3	78	SE	8	3.6			10s			0	0	Threatening	
Boston, Mass.			30.36	771.1	6	—14.4	76	W	8	3.6		0	1s		W	0	0	Clear	
Breckenridge, Minn.			30.26	768.6	0	—17.8	85	SE	12	5.4			10s		SE	0.01	0.3	Cloudy	
Buffalo, N. Y.			30.52	775.2	10	—12.2	79	NE	6	2.7			10s			0	0	Cloudy	
Burlington, Vt.			30.48	774.2	1	—17.2	72	N	2	0.9		2k	0	W		0	0	Fair	
Cairo, Ill.			30.26	768.6	22	— 5.6	74	SE	4	1.8		5cs	Sm'e	W	SE	0	0	Fair	
Cape Hatteras, N. C.			30.31	769.9	35	1.7	70	N	7	3.1		0	0			0	0	Clear	
Cape Henry, Va.			30.45	773.4	27	— 2.8	88	N				0	0			0	0	Clear	
Cape Lookout, N. C.			30.39	771.9	32	0.0	79	N	7	3.1		0	0			0	0	Clear	
Cape May, N. J.			30.47	773.9	19	— 7.2	69	NE	12	5.4		0	0			0	0	Clear	
Charleston, S. C.			30.35	770.9	35	1.7	52	N	10	4.5		0	0			0	0	Clear	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	17	— 8.3	75	NW	8	3.6		0	1s			0	0	Clear	
Chicago, Ill.			30.31	769.9	22	— 5.6	72	SE	8	3.6			10s			0.01	0.3	Cloudy	
Cincinnati, Ohio			30.31	769.9	17	— 8.3	83	E	4	1.8		1c	Fog			0	0	Clear	
Cleveland, Ohio			30.49	774.4	7	—13.9	100	SE	4	1.8		2c	5s		W	Inap.	Inap.	Fair	
Corsicana, Tex.			30.13	765.3	47	8.3	48	S	8	3.6			10s			0	0	Cloudy	
Davenport, Iowa			30.28	769.1	13	—10.6	80	E	7	3.1		1cs	Sm'e			0	0	Fair	
Denison, Tex.			30.07	763.8	40	4.4	47	S	14	6.3		0	0			0	0	Clear	
Denver, Col.	24.80	629.9	30.03	762.7	25	— 3.9	63	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			30.44	773.2	10	—12.2	79	NE	1	0.4			10s			0	0	Cloudy	
Dodge City, Kan.	27.39	695.7	29.82	757.4	22	— 5.6	78	N	10	4.5		0	0			0	0	Clear	
Dubuque, Iowa			30.30	769.6	11	—11.7	79	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			30.30	769.6	7	—13.9	77	Calm	0	0			10s			0	0	Cloudy	
Eastport, Me.			30.08	764.0	— 3	—19.4	49	W	22	9.8		0	0			0	0	Clear	
Erie, Pa.			30.47	773.9	17	— 8.3	67	SE	8	3.6			10s			0.01	0.3	Cloudy	
Escanaba, Mich.			30.37	771.4	17	— 8.3	67	SE	10	4.5			10s			0.07	1.8	Cloudy	
Fort Gibson, Indian Ter.			30.01	762.2	37	2.8	29	SE	8	3.6		0	0			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.78	731.0	29.93	760.2	30	— 1.1	41	S	2	0.9		0	0			0	0	Clear	
Fort Sully, Dakota	28.42	721.9	30.24	768.1	12	—11.1	80	Calm	0	0			10s			0	0	Cloudy	
Florence, Arizona	28.51	724.1	30.03	762.7	56	13.3		NE				0	0			0	0	Hazy	
Galveston, Tex.			30.23	767.8	54	12.2	73	E	8	3.6			10s			0	0	Cloudy	
Grand Haven, Mich.			30.41	772.4	12	—11.1	80	E	9	4.0			10s			0	0	Cloudy	
Indianapolis, Ind.			30.33	770.4	16	— 8.9	83	Calm	0	0		2cs	Sm'e			0	0	Clear	
Indianola, Tex.			30.21	767.3	50	10.0	85	NE	12	5.4			10s			0	0	Cloudy	
Jacksonville, Fla.			30.29	769.4	41	5.0	83	N	4	1.8		5k	0	SW		0	0	Fair	
Keokuk, Iowa			30.21	767.3	7	—13.9	77	NE	8	3.6			10s		NE	0	0	Cloudy	
Key West, Fla.			30.32	770.1	67	19.4	90	NE	12	5.4		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.40	772.1	39	3.9	72	NE	16	7.2		2k	0	NE		0	0	Fair	
Knoxville, Tenn.			30.40	772.1	18	— 7.8	68	E	3	1.3		1c	Sm'e	NW		0	0	Fair	
La Crosse, Wis.			30.29	769.4	10	—12.2	78	Calm	0	0			10s			0	0	Cloudy	
Leavenworth, Kan.			30.14	765.5	17	— 8.3	83	Calm	0	0			10s			0	0	Cloudy	
Louisville, Ky.			30.32	770.1	21	— 6.1	71	SW	4	1.8		0	0			0	0	Clear	
Lynchburg, Va.			30.51	774.9	20	— 6.7	77	E	2	0.9		0	0			0	0	Clear	
Malone, N. Y.			30.51	774.9	— 5	—20.6	82	SW	6	2.7		0	0			Inap.	Inap.	Clear	
Marquette, Mich.			30.33	770.4	15	— 9.4	82	SE	8	3.6			10s			0.05	1.3	Cloudy	
Memphis, Tenn.			30.30	769.6	26	— 3.3	77	SE	4	1.8		0	2s, fg			0	0	Fair	
Milwaukee, Wis.			30.35	770.9	15	— 9.4	83	Calm	0	0		10n	Fog			0.13	3.3	Light snow	
Mobile, Ala.			30.33	770.4	32	0.0	79	N	4	1.8		5k	2s	NW		0	0	Cloudy	
Montgomery, Ala.			30.39	771.9	24.5	— 4.2	87	Calm	0	0		0	Fog			0	0	Foggy	
Morgantown, W. Va.	29.28	743.7	30.46	773.7	9	—12.8	67	N	2	0.9		0	Haze			0	0	Clear	
Mt. Washington, N. H.	23.30	591.8	29.66	753.4	—23	—30.6	100	NW	72	32.2			Fog			0	0	Foggy	
Nashville, Tenn.			30.34	770.6	19	— 7.2	69	Calm	0	0		5c	Fog	SW		0	0	Fair	
New Haven, Conn.			30.44	773.2	10	—12.2	65	N	5	2.2		5ck	0	W		0	0	Fair	
New London, Conn.			30.42	772.7	12	—11.1	61	NW	8	3.6		0	0			0	0	Clear	
New Orleans, La.			30.30	769.6	44	6.7	75	NE	2	0.9		5k	5s	W	SW	0.01	0.3	Cloudy	
Newport, R. I.			30.39	771.9	12	—11.1	79	NW	13	5.8		0	0			0	0	Clear	
New York, N. Y.			30.46	773.7	16	— 8.9	65	N	5	2.2		5ck	Sm'e	W		0	0	Fair	
Norfolk, Va.			30.46	773.7	24	— 4.4	74	NE	8	3.6		0	0			0	0	Clear	
North Platte, Neb.	27.11	688.6	29.84	757.9	20	— 6.7	84	W	12	5.4			10s			0	0	Cloudy	
Omaha, Neb.	28.97	735.8	30.14	765.5	15	— 9.4	91	SE	1	0.4		5cs	0			0	0	Fair	
Oswego, N. Y.			30.53	775.4	10	—12.2	78	E	6	2.7			10s			Inap.	Inap.	Cloudy	
Pembina, Dakota			30.16	766.1	— 4	—20.0	82	S	2	0.9			10s			0.01	0.3	Cloudy	
Philadelphia, Pa.			30.48	774.2	14	—10.0	64	N	11	4.9		2cs	Haze	NW		0	0	Fair	
Pike's Peak, Col.	17.61	447.3	29.82	757.4	2	—16.7	70	NW	36	16.1		0	1s			0	0	Clear	
Pittsburgh, Pa.			30.48	774.2	8	—13.3	100	N	3	1.3			Fog			Inap.	Inap.	Foggy	
Port Huron, Mich.			30.48	774.2	5	—15.0	75	SW	3	1.3		10cs	0	S		Inap.	Inap.	Cloudy	
Portland, Me.			30.30	769.6	2	—16.7	86	W	6	2.7		0	Haze			0	0	Clear	
Portland, Oregon			30.32	770.1	34	1.1	90	NE	2	0.9			10s			0.01	0.3	Cloudy	
Punta Rassa, Fla.			30.20	767.1	60.0	15.6	90	NE	12	5.4		0	Haze			0	0	Clear	
Rochester, N. Y.			30.52	775.2	8	—13.3	89	Calm	0	0			10s		NW	0.01	0.3	Cloudy	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	20	— 6.7	100	SE	1	0.4			Fog			0	0	Foggy	
Sandy Hook, N. J.			30.41	772.4	16	— 8.9	83	N	12	5.4		5c	0	W		0	0	Fair	
San Diego, Cal.			30.00	762.0	52	11.1	73	NE	4	1.8		0	5s		NE	0	0	Fair	
San Francisco, Cal.			29.92	760.0	50	10.0	82	SE	1	0.4			10s			0	0	Cloudy	
Santa Fé, N. M.	23.26	590.8	29.80	756.9	23	— 5.0	60	E	3	1.3		0	0			0	0	Clear	
Savannah, Ga.			30.36	771.1	32	0.0	69	NE	4	1.8		0	0			0	0	Clear	
Shreveport, La.			30.27	768.8	41	5.0	57	SE	3	1.3			10s		S	0	0	Cloudy	
Smithville, N. C.			30.38	771.6	28	— 2.2	67	N	8	3.6		0	0			0	0	Clear	
Springfield, Mass.			30.42	772.7	11	—11.7	48	NW	8	3.6		0	0			0	0	Clear	
St. Louis, Mo.			30.19	766.8	24	— 4.4	74	S	4	1.8			10s			0	0	Cloudy	
St. Marks, Fla.			30.31	769.9	26	— 3.3	88	NE	3	1.3		0	0			0	0	Clear	
St. Paul, Minn.			30.24	768.1	9	—12.8	78	E	6	2.7			10s			0.05	1.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.33	770.4	7	—13.9	54	NW	12	5.4		0	0			0	0	Clear	
Toledo, Ohio			30.43	772.9	10	—12.2	58	NE	3	1.3		5ck	Haze	N		0	0	Fair	
Tucson, Arizona	27.61	701.3	30.16	766.1	35	1.7		SE				0	0			0	0	Clear	
Tybee Island, Ga.			30.30	769.6	40	4.4	71	NE	14	6.3		0	0			0	0	Clear	
Vicksburg, Miss.			30.32	770.1	35	1.7	65	SE	10	4.5		8k	0	SW		0	0	Cloudy	
Virginia City, M. T.	24.32	617.7	29.80	756.9	18	— 7.8	84	Calm	0	0			10k			0.07	1.8	Cloudy	
Washington, D. C.			30.32	770.1	12	—11.1	70	NW				1c	Sm'e	W		0	0	Dense smoke	
Wilmington, N. C.			30.38	771.6	27	— 2.8	88	NE	4	1.8		0	Fog			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.38	771.6	15	— 9.4	65	N	14	6.3		0	0			0	0	Clear	
Yankton, Dakota	28.80	731.5	30.20	767.1	11	—11.7	80	NE	4	1.8			10s			0	0	Cloudy	
Yuma, Arizona			30.02	762.5	47	8.3		NE				2c	0	NW		0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	76	24.4	82	Calm	0	0		2c	2s	E	E	0.41	10.4		James Gall.
Navassa, W. I.					79	26.1		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.04	763.0	65	18.3	89									0	0		C. Partridge.
Paramaribo, D. Guiana, S.A			29.97	761.2	81	27.2	79	E			2	6k	5k	E		0.060	1.52	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			82.4	28.0		E								0.541	13.74		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			64.0	17.8	81	Calm			0	2s,k	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.31	769.9	—33.5	—36.4		W	13	5.8		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.07	763.8	73	22.8		NE			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.02	762.5	65	18.3	73	Calm			0	2c	0	S		0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, Boston Light.					30.27	768.8	11	—11.7	80	NW	10	4.5		0	0					Clear	Capt. James Jorgensen.
Steamer Leipzig, N. 35°, 59′, W. 68°, 6′.	W½N	9.5			30.25	768.3	55.6	13.1		WNW			4				WNW	Trang'l			Capt. R. Hoffmann.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't. Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 21, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.78	756.5	57.9	14.4	50	SW			1		9			0.417	10.6	Hidden	Charnot.
Algiers			29.61	752.0	61.5	16.4	75	WSW			1		9			0	0	Hidden	Peter.
La Calle			29.57	751.0	63.7	17.6	82	NNW			2		2			0	0	Clear	Didier.
Tunis			29.62	752.3	66.2	19.0		W			3		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			29.83	757.6	47.8	8.8	89	W			5		7			0.185	4.7	Cloudy	Millot.
Tebessa			29.72	754.9	51.8	11.0		W			4		2			0	0	Clear	Bourgeois.
Geriville			29.93	760.3	56.3	13.5	100	WSW			1		3			0	0	Fair	Lemaillot.
Laghouat			29.84	758.0	58.6	14.8	44	SW			6		2			0	0	Clear	Guyot.
Biskra			29.75	755.6	54.3	12.4	67	NW			2		10			0	0	Hidden	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.26	743.2	48.2	9.0	93	Calm			0		10			0.543	13.8	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.35	745.5	31.6	— 0.2	94	NE			1		10			0.366	9.3		Dr. Wierzbiski.
Eperies			29.37	746.0	44.6	7.0	88	S			2		10			0.004	0.10		Julius Mikolik.
Gratz	28.06	712.7	29.32	744.7	41.0	5.0	97	NW			2		10			0	0		Andreas Rospini.
Hermannstadt	28.10	713.7	29.51	749.5	49.6	9.8	69	SE			1		7			0.138	3.50		Prof. Reissenberger.
Kremsmünster	27.89	708.4	29.24	742.8	36.3	2.4	93	NE			2		10			0	0		Prof. C. Wagner.
Lemberg			29.37	746.0	33.3	0.7	90	E			3		7			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.24	742.6	56.5	13.6	88	SSE			3		10s			0.377	9.57		I.R. Hydrographic Office.
Szegedin			29.38	746.3	54.0	12.2	72	S			3		8			0	0		Karl Stancel.
Trieste			29.22	742.2	53.4	11.9	86	ESE			1		10			1.937	49.2	Rain and fog	Prof. V. Farolfi.
Vienna			29.27	743.4	37.4	3.0	93	Calm			0		10			0.106	2.7	Raining	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.02	737.1	44.2	6.8	76	S			4		2cs,ks			0	0		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.21	741.9	33.0	0.6		ENE	54	24.1			10			0.559	13.97	Snowing	William Boswell.
Ardrossan			29.00	736.6	36	2.2		ENE			7		7					Squally	William McNeil.
Armagh, Observatory			29.00	736.6	33.1	0.6		N	12	5.4			10					Snowing	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.01	736.8	36.5	2.5		NNW			2		10					Overcast	J. Dreyer.
Bradford			28.71	729.2	42.9	6.1		NE			2		10			0.48	12.2	Drizzling	J. McLandsborough.
Bridgetown, (Barbados)			29.96	761.0	85.0	29.4		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			28.80	731.5	42.0	5.6		SW			1		10					Overcast	H. Todd. [H.C.
Cardington			28.81	731.8	42.6	5.9		W			1		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			28.84	732.5	42.2	5.7		SW			2		1					Hazy	Capt. Fellowes, R. E.
Dartmoor	27.49	698.2	28.98	736.1	43.4	6.3		W			1		5					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.10	612.1			28.2	— 2.1	73	E			1		10			0.121	3.08	Overcast	Francis Redford, M. A.
Donaghadee			28.94	735.1	41	5.0		NE			8		8					*D. clouds	J. Mac Gowan.
Dover			28.87	733.3	45	7.2		SW			4		8					Showery	J. Costello.
Eccles, (near Manchester)			28.74	730.0	41.5	5.3		E	0.8	0.4			10					Threatening	Thomas Mackereth.
Falmouth, Observatory			28.88	733.5	44.5	6.9		WNW			1		9					Overcast	The Staff.
Fort Napier, (Natal)	27.45	697.2	29.69	754.1	75.2	24.0		E			2		10					Overcast	Pvt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	86.0	30.0		N			0		2					*D. clouds	
Galway, Queen's College			28.82	732.0	38	3.3		NE			4		3					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.55	750.6	56.2	13.4		W			5		9					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.04	737.6	34.7	1.5		NNE			7		10					Snowing	Lewis Stuart.
Great Yarmouth			28.83	732.3	44	6.7		SW			3		4					Hazy	G. T. Watson.
Greenwich, Royal Obs'y			28.86	733.0	42.5	5.8		WSW			1		9			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			28.87	733.3	46	7.8		WSW			1		4			Blank	Blank	*D. clouds	Dr. S. E. Hoskins.
Helston			28.56	725.4	44	6.7		SW			4		10n			0.6	15.2	Raining	M. P. Moyle.
Holyhead			28.84	732.5	45	7.2		NNE			4		4					*D. clouds	John Tilston.
Kew, Observatory			28.85	733.8	43.5	6.4		SW	10	4.5			9					Threatening	The Staff.
Kingstown			28.91	734.3	39	3.9		WNW			5		10					Overcast	George Mitchell.
Leicester Museum			28.75	730.2	40.2	4.6		SW			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.71	754.6	67.8	19.9		SE			2		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.24	742.7	34	1.1		E			6		10					Snowing	W. D. Penny.
Nassau, (Bahamas)			30.11	764.8	72.5	22.5		NE			4		3						Surg. Maj. Henry.
Nottingham, Observatory			28.75	730.2	40.1	4.5		SSW			3		10d		SSW	0.130	3.30	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			28.77	730.7	38.7	3.7		W			3		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			28.83	732.3	43	6.1		W			1		8					Overcast	J. Lucas.
Plymouth			28.85	732.8	41.1	5.1		N			1		2					Hazy	John Merrifield.
Roche's Point			28.95	735.3	42	5.6		NNE			4		10					Overcast	W. Kennedy.
Saint Ann's Head			28.85	732.8	45	7.2		ENE			1		5					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			28.87	733.3	48.2	9.0		W			5		5					⅜ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.44	747.8	28.1	— 2.2		E	27	12.1			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.79	756.7	57.0	13.9		SW			2		6					*D. clouds	Sergt. W. H. Lyne.
Sheffield			28.70	729.0	41.1	5.1		E			1		10			0.079	2.01	Overcast	W. F. Cooper.
Shiloh Rectory			28.86	733.0	40.8	4.9	84	E			5		7			0.110	2.79	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			28.74	730.0	39.0	3.9		N			2		6ks					Gloomy	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.36	745.7	33	0.6		ENE			6		8					Threatening	John Smith.
Strathfield Turgiss			28.85	732.8	44.0	6.7		SW			1		4					Blue sky	Rev. Charles H. Griffith.
Thurso			29.40	746.7	30	— 1.1		E			4		8					Snowing	John Trotter.
Truro, Royal Institution			28.91	734.3	45	7.2		SW			1		8					Gloomy	W. Newcombe.
Valencia, Observatory			29.06	738.1	39.4	4.1		NE	30	13.4			10					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					42	5.6		E			4		10			0.60	15.2		Henry Mercer.
Cape Good Hope, Obs'y			30.08	764.0	67.4	19.7	61	WSW	7	3.1		10	9						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.60	751.8	69.0	20.6	83	W			3		4k			0	0		Francis Abbott, F.R.A.S.
Leith, Restaurig Park			29.05	737.9	37.5	3.1		NE			8		10n			1.34	34.0	Very stormy	Andrew Gibb.
Mauritius, Observatory			30.07	763.8				ENE	14.9	6.7						0.095	2.41		C. Meldrum.
Melbourne, Observatory			30.00	762.0	61.7	16.5	55	WSW	14	6.3			8			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.32	744.7	34	1.1		NE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.57	751.1	28	— 2.2		E			6		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.46	748.2	23.9	— 4.5	93	ENE			8		10					Snowing	
Fanöe			29.32	744.7	26.1	— 3.3	94	E			6		9						
Godthaab, (Greenland)			29.59	751.6	18.5	— 7.5	95	Calm			0		2						
Stykkisholm, (Iceland)			30.08	764.1	25.3	— 3.7	93	E			4		0						
Thorshavn, (Faröe)			29.68	753.8	33.3	0.7	70	ENE			5		5					Snowing	
Vestervig			29.44	747.8	19.0	— 7.2	90	ENE			8		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather	Observer.
Alençon			29.02	737.1	44.6	7	97	SW			2		2kn		SW	0	0	Slightly cl'dy	Normal School.
Amiens			29.02	737.0	46.0	7.8	77	W			3		0			0	0	Clear	Normal School.
Avignon			29.04	737.5	52.9	11.6	97	N			1		10		S	0.366	9.3	Raining	Normal School.
Bar-sur-Seine			29.13	739.8	46.0	7.8	61	SW			2	2c		SW		0.004	0.1	Slightly cl'dy	C. Saillard.
Beaumette, (near Angers)			28.98	736.2	48.0	8.9	78	S	8.1	3.6					SW	0.106	2.7		Beaumette Observ'tory.
Beauvais			28.96	735.6	43.7	6.5	74	S			2		5			0	0	Cloudy	Normal School.
Besançon			29.17	740.8	39.6	4.2	74	E			2		2		SW	0.898	22.8	Slightly cl'dy	Normal School.
Bourg en Bresse			29.17	740.8	44.8	7.1	91	SE			2		2ks			0.47	12.	Slightly cl'dy	Normal School.
Bourges			29.22	742.2	41.0	5	84	E			2		2		NE	0	0	Slightly cl'dy	Normal School.
Brest			28.87	733.2	49.8	9.9	84	W			4		9		W	0.610	15.50	Squally	Naval Observatory.
Carcassonne			29.28	743.6	53.6	12	65	E			2		1		W	0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			29.02	737.2	47.5	8.6	85	S			3		5		S	0.008	0.2	Cloudy	Normal School.
Châlons-sur-Marne			29.11	739.4	46.8	8.2	59	S			3	2c		N		0	0	Slightly cl'dy	Normal School.
Clermont			29.14	740.2	36.7	2.6	86	E			1		10			0	0	Covered	Puy de Dome Obs'y.
Commercy			29.19	741.5	40.8	4.9	77	S			2		2		E	0	0	Slightly cl'dy	Normal School.
Commune de Gréasque*			29.06	738.0	48.0	8.9	84	NW			4		8		SW	0.169	4.3	Raining	M. Kina.
Grenoble			29.17	741.0	34.2	1.2	88	ENE			1		10n			0.12	3.	Snowing	Normal School.
La Roche-sur-Yon			29.04	737.7	49.3	9.6	93	ESE			2		2		NW	0.276	7.0	Slightly cl'dy	Normal School.
Le Mans			29.00	736.5	45.9	7.7	69	SSW			4		2		SW	0.047	1.2	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.12	739.7	41.9	5.5	66	SW			1		5		S	0	0	Cloudy	Normal School.
Lorient			28.97	735.9	51.8	11.0	59	WSW			2		2		SW	0.150	3.8	Slightly cl'dy	Naval Observatory.
Mâcon			29.22	742.1	38.1	3.4	97	Calm			0		5		W	0	0	Cloudy	Normal School.
Metz			29.23	742.5	41.0	5.0	79	SE			2		0			0.008	0.2	Clear	M. Schuster.
Mirecourt			29.19	741.3	37.8	3.2	83	N			1		5		S	0	0	Partly cov'd	Normal School.
Nismes			29.15	740.4	44.6	7	78	NE			2		10		E	0.335	8.5	Covered	Normal School.
Orleans			28.74	730.1	43.5	6.4	91	SSW			2		0			0	0	Clear	Normal School.
Paris, Observatory			29.06	738.1	45.7	7.6	64	S			2	3c				0	0	Slightly cl'dy	National Observatory.
Parthenay																			Normal School.
Privas			29.12	739.6	41.0	5		SW			2		10		SW	0	0	Covered	Normal School.
Rochefort, Observatory			29.08	738.6	46.6	8.1	85	S			3		2		N	0.394	10.0	¾ covered	Naval Observatory.
Rouen			29.00	736.5	45.5	7.5	73	S			2		5		S	0	0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.23	742.4	45.5	7.5	81	NE			1		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.02	737.1	55.4	13.0	85	SSW			3		9			0.087	2.2	Rainy	Marseilles Observatory.
Mont-Louis	23.98	609.0	29.27	743.4	30.2	— 1.0	94	SSW	22.4	10.00			8		SSW	0.008	0.2		—. Falguère.
Montsouris, Paris			29.05	737.8	46.0	7.8	63	S			3		2			0	0		Montsouris Observatory
Perpignan			29.10	739.1	47.7	8.7	76	NE	3.7	1.67			6		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.38	517.7			16.0	— 8.9		W			1		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.63	549.4			18.9	— 7.3		NW			1		10			0.224	5.7	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.06	738.1	47.7	8.7	57	S			1		0			0	0	Clear	E. Renou.
Toulouse			29.14	740.2	43.2	6.2	85	NW			1		9			0	0		Toulouse Observatory.
Tours			29.07	738.4	46.4	8.0	70	SW			3		2		W	0.063	1.6		C. Marquet.
Versailles, (near Paris)			29.04	737.7	46.4	8.0	67	SW			2		3			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.41	772.5	43.2	6.2	94	NNE	1.1	0.50			10			0.051	1.3		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

Bamberg			29.21	742.0	41.0	5.0	69	Calm			0		3			0	0		Prof. T. Hoh.
Berlin			29.29	743.9	21.4	— 5.9	88	E			2		10			0	0		Prof. Arndt.
Breslau			29.30	744.1	37.9	3.3	86	S			2		10			0.150	3.8		Royal University Obs'y
Carlsruhe			29.17	740.9	43.5	6.4	70	SSE			1		2			0.051	1.3		A. Senz.
Cassel			29.23	742.4	43.3	6.3	81	S			3		3	SSW		0.055	1.4		Dr. H. Möhl.
Crefeld			29.10	739.2	45.5	7.5	72	SE			4		5			0.04	1.		Director Lose.
Emden			29.24	742.7	33.3	0.7	98	E			1		10			0.134	3.4		Prof. Prestel.
Frankfort on the Main			29.25	742.9	45.0	7.2	53	SSE			1		1			0.130	3.3		Physical Society.
Friedrichshafen	27.76	705.1	29.21	741.9	36.3	2.4	89	E			4		10			0.091	2.3		M. Wilhelm.
Hamburg			29.25	743.0	18.7	— 7.4	92	ESE			3		10ks			0.398	10.1		Captain F. Hegemann.
Kiel			29.32	744.6	23.0	— 5.0	69	ESE			2		10			0.130	3.3	Snowing	Prof. G. Karsten.
Königsberg, (Prussia.)			29.65	753.2	— 5.8	—21.0	62	NE			7		10			0	0		Prof. E. Luther.
Köslin			29.47	748.5	8.6	—13.0		E			5		6			0	0		H. Müller.
Leipsic			29.23	742.4	42.8	6.0	76	SW			2		2	WSW		0.048	1.1		Prof. Bruhns.
Memel			29.82	757.3	— 4.4	—20.2	68	ENE			6		10c,s			0.028	0.7		Reinbrecht & Skalweit.
Münster			29.11	739.3	46.6	8.1	72	SE			2		10			0.130	3.3		Prof. E. Heis.
Neufahrwasser			29.54	750.2	9.0	—12.8	88	ESE			6		10			0.051	1.3	Snowing	A Lothe.
Posen			29.36	745.8	15.6	— 9.1	88	N			6		10			0.220	5.6		Dr. Magener.
Strassburg, (in Alsace)			29.21	741.9	39.7	4.3	79	Calm			0		9			0.087	2.2		Dr. Schur.
Stuttgart			29.21	741.9	40.3	4.6	82	W			1		8			0.024	0.6		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.09	738.8	43.5	6.4	70	WSW			2		1			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	27.73	704.3	29.25	742.9	37.0	2.8	88	W			1		9			0	0	Light fog	Dr. von Bebber.
Wustrow, Naval School			29.42	747.3	18.5	— 7.5	96	SE			3		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 34°, 56′, W. 8°, 40′.			30.24	768.1	66.0	18.9	71	N			3		10	N					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.89	759.1	62.6	17.0		S										Cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.23	742.4	43.7	6.5	87	N	4.3	1.9			10			1.480	37.6	Raining	Prof. Giovanni Clodig
Padua			29.18	741.2	45.1	7.3	93	NNE	13.6	5.8			10	NE		0.941	23.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.18	741.2	44.4	6.9	93	N	1.3	0.6			10	E		0.555	14.1	Raining	Alm. Da Schio.
Verona			29.19	741.4	46.9	8.3	89	E			4		10			0.094	2.4	Raining	Dott. B. Bertone li.
Bergamo	27.87	707.9	29.24	742.7	39.6	4.2	83	NW			2		10			0.567	14.4	Raining	Prof. Trionfini Carlo.
Domodossola			29.24	742.8	37.0	2.8	97	Calm			0		10			0.669	17.0	Raining	Prof. Giuseppe Colza.
Milan			29.20	741.7	40.3	4.6	100	NNW			1		10	NE		0.197	5.0	Raining	Ab. Gio. Capelli.
Pavia			29.24	742.6	40.6	4.8	89	NE			1		10			0.224	5.7	Raining	Prof. Gio. Cantoni.
Moncalieri			29.28	743.7	36.5	2.5	96	NNW	0	0			10	SE		0.339	8.6	Raining	Prof. P. F. Denza.
Mondovi	27.27	692.6	29.26	743.1	33.4	0.8	94	WNW			2		10			0.791	20.1	Snowing	Prof. C. Bruno.
Porto Maurizio			29.15	740.5	47.5	8.6	79	N			2		10			0.705	17.9	Raining	Prof. L. Vassallo
Genoa			29.15	740.3	46.2	7.9	68	NE	6.9	3.1			10	SE		0.945	24.0	Raining	Prof. Garibaldi.
Piacenza			29.22	742.2	38.8	3.8	97	NW	3.1	1.4			10			0.787	20.0	Raining	Dott. G. Manzi.
Parma			29.18	741.2	41.0	5.0	93	W			4		10			0.843	21.4	Raining	Prof. P. Pigorini.
Bologna			29.32	744.8	44.6	7.0	58	W			1		10			0.705	18.0	Raining	Prof. A. Palagi.
Florence			29.20	741.6	51.8	11.0	92	S			2		10	S		2.085	52.9	Raining	Cav. F. Meucci.
Leghorn			29.17	740.9	53.1	11.7	84	WSW	13.7	6.1			10	S		1.245	31.6	Showery	Prof. P. Monte.
Siena	28.00	611.2	29.24	742.6	54.5	12.5	78	SW	6.9	3.1			10	S		1.74[illegible]	44.3	Showery	Prof. L. Toscani.
Urbino	27.71	703.9	29.31	744.5	51.4	10.8	81	SSW			6		10			1.307	33.2	Raining	Prof. P. Serpieri.
Pesaro			29.19	741.3	58.1	14.5	65	S	19.2	8.6			10	SW		0.29[illegible]	7.5	Raining	Prof. Luigi Guidi.
Ancona			29.25	743.0	60.4	15.8	57	S			6		10			0.031	0.8	Light rain	Prof. F. De—Bosis.
Grosseto			29.24	742.7	60.1	15.6	72	SE			6		8	S		0.799	20.3	Rain & hail	Avv. P. Ponticelli.
Rome			29.39	746.4	60.1	15.6	84	S	25.5	11.4			10	SW		0.075	1.9	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U			29.47	748.5	63.3	17.4	72	SE			6		9	SW		0.079	2.0	Raining	Prof. L. Palmieri.
Lecce			29.65	753.1	61.7	16.5	77	SSW	15.4	6.9			5	S		0	0		Prof. C. De—Giorgi.
Cosenza			29.72	754.8	61.7	16.5	65	SW	1.3	0.6			7			0	0		Prof. F. D. Conti.
Hiposto. (Sicily)																			Prof. F. Cafiero.
Palermo			29.52	749.8	65.3	18.5	56	SW	14.3	6.4			5			0	0		Prof. G. Cacciatore.
Caltanissetta	27.70	703.7	29.70	754.3	55.4	13.0	82	SSW			6		7	N		0.161	4.1	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.58	751.3	59.2	15.1	76	SW	5.6	2.5			8	NW		0.087	2.2		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet: Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Observer.
Mexico	Mariano Barcena.
	Vicente Reyes.
	Miguel Perez.
	(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Flushing			29.00	736.6	44.2	6.8		S			5					0.031	0.8	
Groningen			29.03	737.4	39.7	4.3		ESE			2					0.134	3.4	
Helder			29.00	736.6	42.6	5.9		S			4					0	0	
Utrecht			29.01	736.9	44.1	6.7	76	SSE			4		2			0.004	0.1	Light cloudy

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.
Bergen			29.66	753.4	19.8	— 6.8	46	NE	18	8			10			0	0	
Brönö			30.23	767.7	9.0	—12.8	65	S	18	8			2			0	0	
Christiania			29.99	761.7	7.7	—13.5	71	NE	9.6	4.3			10			0	0	
Tromsö			30.31	769.8	16.2	— 8.8	75	SW	7	3			0			0	0	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.03	762.8	55.0	12.8	90	SSW	1.8	0.8			10			0.874	22.2	Raining	Dr. J. A. Sampaio.
Campo Major			29.50	749.3	48.4	9.1	78	WNW	18.6	8.3			7	WNW		0.209	7.6		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.93	760.1	64.4	18.0	86	E	4.9	2.2			6			0.201	5.1	Raining	Capt. D. A. de Cunha.
Lisbon			29.60	751.9	54.7	12.6	55	WNW	23.7	10.6			7	NW		0.524	13.3		The Observatory.
Ponta Delgada, (Azores)			30.06	763.5	57.2	14.0	84	S	1.8	0.8			10			0.551	14.0		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.42	747.2	13.5	—10.3	90	E	18	8			10						Astronomical Obs.
Wilna			29.91	759.6	—11.0	—23.9	70	NE	11	5			8						Astronomical Obs.
Dorpat			30.27	768.8	—24.0	—31.1	86	ENE	7	3			0						Physical Cabinet.
St. Petersburg			30.32	770.0	—26.3	—32.4	86	NNW	4	2			3						Central Physical Obs.
Kuopio			30.39	771.8	—39.1	—39.5		Calm	0	0			0						Ch. Forsten.
Kieff			29.79	756.6	5.5	—14.7	87	E	9	4			10						Physical Cabinet.
Nikolaiev			29.80	756.8	28.6	— 1.9	84	NE	9	4			6						Kurdakof.
Kertch			29.88	758.9	43.3	6.3	90	Calm	0	0			10						Lagorio.
Moscow			30.13	765.2	—33.9	—36.6	76	N	9	4			0						Meteorological Obs.
Lugan			29.72	754.8	22.6	— 5.2	78	NW	7	3			9						Meteorological Obs.
Archangel			30.29	769.4	—44.0	—42.2	78	Calm	0	0			0						Ogorodnikof.
Tiflis	28.56	725.3	29.99	761.8	48.9	9.4	56	NW	22	10			1						Physical Observatory.
Astrakhan			29.74	755.4	37.8	3.2	93	WSW	11	5			10						Sebastianof.
Kasan			29.33	745.0	—12.6	—24.8	92	N	27	12			10						Physical Cabinet.
Orenburg			29.83	757.7	32.7	0.4	96	SE	18	8			10						Tschernischef.
Ekaterinburg	28.78	730.9	29.86	758.5	—16.4	—26.9	78	NE	2	1			10					Snowing	Meteorogical Obs.
Nukuss			29.80	756.9	44.6	7.0	75	SE	2	1			7						
Kusaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.39	772.0	— 6.7	—21.5	91	SE	2	1			10						Meteorological Obs.
Yeniseisk			30.16	766.0	—17.3	—27.4	80	Calm	0	0			0						Marks.
Irkutsk																			Usolxef.
Oorga																			Mossin.
Peking, (China)			30.32	770.0	25.2	— 3.8	58	Calm	0	0			9						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 0.4	—18.0		W	9	4			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.35	745.6	41.4	5.2	82	SW	20.1	9.00		0	7			0.157	4.0	Cloudy	Royal Observatory.
San Fernando			29.56	750.9	55.2	12.9	66	NW	28.9	12.9		0	9		NW	0.283	7.2		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.48	774.2	—27.8	—33.2		N			2		10			0	0	Foggy	
Umea			30.46	773.7	—16.2	—26.8	79	E			1		0			0	0		
Hernosand			30.34	770.7	— 4.0	—20.0	93	ENE			6		10			0.118	3.0	Snowing	
Stockholm			30.02	762.4	7.5	—13.6	100	ENE			6		10			0.039	1.0	Snowing	
Wisby			29.90	759.5	11.1	—11.6	93	E			7		10			0.122	3.1	Snowing	
Sub-Series.																			
Upsala			30.08	764.1	3.4	—15.9	96	NE	13.4	6.0			5	W	ESE	0.017	0.43		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	27.73	704.4	29.22	742.2	34.9	1.6	93	S			1		10			0.630	16.0	Foggy	The Observatory.
Zurich	27.57	700.3	29.28	743.6	34.7	1.5	90	NE			2		10			0.106	2.7	Foggy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —23.2 mm; Thermometer, —0.4 cent.; Relative Humidity, +13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.84	758.0	58.5	14.7	71	SW	13	6.0			6		WSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.78	756.3	63.0	17.2		SE			1		2						
Valona			29.69	754.2	62.2	16.8		S			8		10			Blank	Blank		
Varna			29.65	753.0	55.4	13.0		SE			2		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.08	764.1	66.7	19.3	81	SW			1		1ks		SW	0.56	14.2	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. *Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			30.02	762.5	— 0.7	—18.2	59	NW	4	1.8			0						Hon. J. Ferguson.
Brockville, Ontario			30.14	765.5	0	—17.8		NE	6	2.7			10s		NE	0.10	2.5	Light snow	W. R. Bigg.
*Chatham, N. B.			30.01	762.2	—13	—25.0	100	SW	2	0.9		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island			30.10	764.5	3	—16.1	94	W	5	2.2		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			30.14	765.5	— 1.8	—18.8	94	W			1		10n			Inap.	Inap.	Snowing	James Smith, M. A.
Dalhousie, N. B.			30.03	762.7	— 3.5	—19.7	100	W			3					0	0	Clear	H. A. Johnson.
Esquimault, B. C.			30.24	768.1	39.6	4.2	96	N					10n			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B.			30.23	767.8	—15.9	—26.6	100	Calm	0	0		1c	0			0	0	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.12	765.0	—30	—34.4	100	Calm	0	0		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.98	761.5	11.6	—11.3	92	SE			1	10k	0	N		0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.76	730.5	29.98	761.5	7.6	—13.6		E			1		10n					Cloudy	James Grant.
*Halifax, N. S.			30.12	765.0	10	—12.2	75	W	10	4.5		0	2ks		W	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.12	765.0	4	—15.6	80	NE	4	1.8			10n		NE	0.02	0.5	Light snow	S. Woods, M. A.
Little Glace Bay, N. S.			30.00	762.0	17.0	— 8.3		W	8	3.6		0	0			0	0	Clear	C. H. Rigby.
*Montreal, Quebec			30.20	767.1	— 5	—20.6	78	E	8	3.6			10n			0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.12	765.0	— 7	—21.7	80	NE	4	1.8			10n		NE	0	0	Threatening	J. B. Haney.
*Parry Sound, Ontario			30.00	762.0	5	—15.0	75	E	7	3.1		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			29.98	761.5	12	—11.1	88	N	8	3.6			10n		N	Inap.	Inap.	Cloudy	H. Morgan.
Port Hastings, N. S.			30.12	765.0	12.8	—10.7		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.99	761.7	10	—12.2	94	E	8	3.6			10n		E	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec			30.27	768.8	—15	—26.1	100	NW	4	1.8		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.23	767.8	— 3	—19.4	100	Calm	0	0		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.94	760.5	9	—12.8	59	SE	3	1.3		2cs	0			0.01	0.3	Clear	K. Stewart.
Stayner, Ontario			30.02	762.5	— 1	—18.3	90	SE	1	0.4		2c	0			0.20	5.1	Fair	R. J. Gole.
Stratford, Ontario	28.60	7 6.4	30.01	762.2	6.7	—14.1	90	SE	2	0.9		0	3s			0	0	Fine	C. J. MacGregor, M. A.
*Sydney, C. B.			30.06	763.5	15	— 9.4	80	SW	15	6.7		0	0			0	0	Clear	T. C. Hill.
*Toronto, Ontario			30.00	762.0	13	—10.6	90	NE	5	2.2			10n		NW	0.15	3.8	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.02	762.5	8.0	—13.3	95	E	1	0.4			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.99	761.7	23.0	— 5.0	86	SW				5k	5s			0.03	0.8	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, N. Y.			30.14	765.5	1	—17.2	85	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			29.88	758.9	14	—10.0	81	S	8	3.6			10s			0.05	1.3	Cloudy	
Atlantic City, N. J.			30.10	764.5	21	— 6.1	85	NW	4	1.8			10s			0	0	Threatening	
Augusta, Ga.			30.14	765.5	35	1.7	80	Calm	0	0		0	5ks		NW	0	0	Fair	
Baltimore, Md.			30.12	765.0	20	— 6.7	70	Calm	0	0		8c	Sm'e	W		0	0	Cloudy	
Barnegat, N. J.			30.09	764.3	22	— 5.6	96	N	3	1.3		10k	0	W		0	0	Cloudy	
Bismarck, Dakota	28.06	712.7	29.84	757.9	6	—14.4	76	SE	2	0.9			10s			0.04	1.0	Threatening	
Boston, Mass.			30.20	767.1	7	—13.9	77	N	4	1.8			10s		W	0	0	Cloudy	
Breckenridge, Minn.			29.77	756.1	13	—10.6	90	SE	12	5.4			10n		SE	0.02	0.5	Light snow	
Buffalo, N. Y.			29.94	760.5	17	— 8.3	83	S	1	0.4			10n			0.01	0.3	Light snow	
Burlington, Vt.			30.21	767.3	4	—15.6	74	E	2	0.9			10s			0	0	Cloudy	
Cairo, Ill.			30.00	762.0	29	— 1.7	67	Calm	0	0		2cs	Fog			0	0	Fair	
Cape Hatteras, N. C.			30.01	762.2	38	3.3	90	N	12	5.4			10s			0.06	1.5	Cloudy	
Cape Henry, Va.			30.08	764.0	33	0.6	89	N					10s			0	0	Cloudy	
Cape Lookout, N. C.			30.10	764.5	38	3.3	80	N	7	3.1		5ck	5s	W		0	0	Cloudy	
Cape May, N. J.			30.09	764.3	24	— 4.4	74	N	8	3.6			10s			0	0	Cloudy	
Charleston, S. C.			30.13	765.3	41	5.0	65	NW	4	1.8		0	Haze			0	0	Clear	
Cheyenne, Wyoming	23.80	604.5	29.74	755.4	29	— 1.7	67	NW	28	12.5		0	1s			0	0	Clear	
Chicago, Ill.			29.89	759.2	17	— 8.3	67	NW	2	0.9		0	0			0	0	Clear	
Cincinnati, Ohio			29.88	758.9	30	— 1.1	78	SE	2	0.9		0	Fog			0.03	0.8	Clear	
Cleveland, Ohio			29.93	760.2	20.5	— 6.4	92	SE	3	1.3			10s			0.02	0.5	Cloudy	
Corsicana, Tex.			29.95	760.7	44	6.7	84	NW	1	0.4			10s			0	0	Cloudy	
Davenport, Iowa			29.96	761.0	10	—12.2	89	Calm	0	0			Fog			0	0	Foggy	
Denison, Tex.			29.94	760.5	40	4.4	81	S	2	0.9		8cs	Sm'e			0	0	Cloudy	
Denver, Col.	24.58	624.3	29.80	756.9	41	5.0	48	NW	10	4.5		0	0			0	0	Clear	
Detroit, Mich.			29.91	759.7	17	— 8.3	83	Calm	0	0		10k	Sm'e	W		0	0	Cloudy	
Dodge City, Kan.	27.26	692.4	29.68	753.9	18	— 7.8	68	N	2	0.9		2c	0	SW		0	0	Clear	
Dubuque, Iowa			29.93	760.2	5	—15.0	75	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			29.87	758.7	12	—11.1	80	Calm	0	0			10s			0.01	0.3	Cloudy	
Eastport, Me.			30.23	767.8	— 1	—18.3	68	W	9	4.0		Haze	Haze		SW	0	0	Fair	
Erie, Pa.			29.92	760.0	22	— 5.6	85	S	8	3.6			10n			0.02	0.5	Light snow	
Escanaba, Mich.			29.84	757.9	17.5	— 8.1	84	W	3	1.3			10s			0.08	2.0	Cloudy	
Fort Gibson, Indian Ter'y			29.92	760.0	22	— 5.6	72	E	2	0.9		2c	Sm'e			0	0	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.67	728.2	29.78	756.4	28	— 2.2	48	Calm	0	0		8cs	0			0	0	Cloudy	
Fort Sully, Dakota	28.00	711.2	29.68	753.9	33	0.6	79	W	16	7.2			10s		W	0	0	Cloudy	
Florence, Arizona	28.49	723.6	30.02	762.5	55	12.8		E				5k	0	E		0	0	Fair	
Galveston, Tex.			30.01	762.2	59	15.0	94	SW	6	2.7			Fog			0	0	Foggy	
Grand Haven, Mich.			29.86	758.4	18	— 7.8	84	SE	8	3.6			10s			0	0	Cloudy	
Indianapolis, Ind.			29.91	759.7	27	— 2.8	88	SW	2	0.9		0	Sm'e			Inap.	Inap.	Clear	
Indianola, Tex.			30.02	762.5	53	11.7	100	SW	9	4.0			Fog			0.05	1.3	Foggy	
Jacksonville, Fla.			30.13	765.3	49	9.4	85	NE	2	0.9		0	8ks		SW	0	0	Fair	
Keokuk, Iowa			29.94	760.5	16	— 8.9	66	Calm	0	0		5c	0	NW		0	0	Fair	
Key West, Fla.			30.13	765.3	64	17.8	94	NE	8	3.6		5cs	0			0	0	Fair	
Kittyhawk, N. C.			30.10	764.5	34	1.1	90	NW	9	4.0			10s		W	0	0	Cloudy	
Knoxville, Tenn.			30.04	763.0	35	1.7	61	Calm	0	0			10ks		SW	Inap.	Inap.	Cloudy	
La Crosse, Wis.			29.90	759.4	12	—11.1	100	S	2	0.9			Fog			0	0	Foggy	
Leavenworth, Kan.			29.91	759.7	15	— 9.4	83	Calm	0	0		0	0			0	0	Clear	
Louisville, Ky.			29.95	760.7	36	2.2	55	SW	8	3.6		0	Sm'e			Inap.	Inap.	Clear	
Lynchburg, Va.			30.10	764.5	24	— 4.4	81	Calm	0	0			10s		W	0	0	Cloudy	
Malone, N. Y.			30.12	765.0	4	—15.6	100	Calm	0	0			10n			Inap.	Inap.	Light snow	
Marquette, Mich.			29.82	757.4	20	— 6.7	70	SW	4	1.8			10s			0.11	2.8	Cloudy	
Memphis, Tenn.			29.99	761.7	35	1.7	69	SW	4	1.8		0	2s, fg			0	0	Fair	
Milwaukee, Wis.			29.91	759.7	10	—12.2	79	Calm	0	0		0	Fog			0.11	2.8	Clear	
Mobile, Ala.			30.07	763.8	48	8.9	96	NE	4	1.8			10n			0.01	0.3	Light rain	
Montgomery, Ala.			30.09	764.3	43.5	6.4	71	S	2	0.9		10cs	Sm'e	W		0	0	Cloudy	
Morgantown, W. Va.	28.86	733.0	29.96	761.0	27	— 2.8	88	SW	5	2.2			10n		SW	Inap.	Inap.	Light snow	
Mt. Washington, N. H.	23.42	594.9	29.78	756.4	— 3	—19.4	100	NW	10	4.5			Fog			0	0	Foggy	
Nashville, Tenn.			29.99	761.7	38	3.3	54	Calm	0	0		2c	Fog			0	0	Fair	
New Haven, Conn.			30.16	766.1	9	—12.8	60	NE	12	5.4			10s			0	0	Cloudy	
New London, Conn.			30.19	766.8	14	—10.0	63	N	6	2.7			10s			0	0	Cloudy	
New Orleans, La.			30.03	762.7	60	15.6	91	S	7	3.1			10n			0.05	1.3	Light rain	
Newport, R. I.			30.18	766.6	14	—10.0	61	NE	5	2.2			10ks		W	0	0	Cloudy	
New York, N. Y.			30.13	765.3	20	— 6.7	85	NE	8	3.6			10s, fg			0	0	Cloudy	
Norfolk, Va.			30.09	764.3	30	— 1.1	89	NE	4	1.8		10s	Haze			0	0	Cloudy	
North Platte, Neb.	26.84	681.7	29.48	748.8	26	— 3.3	88	W	8	3.6			10ks		W	0	0	Cloudy	
Omaha, Neb.	28.72	729.5	29.86	758.4	17	— 8.3	92	S	6	2.7		10cs	0			0	0	Cloudy	
Oswego, N. Y.			30.03	762.7	11.5	—11.4	100	SE	3	1.3			10n			Inap.	Inap.	Light snow	
Pembina, Dakota			30.02	762.5	—21	—29.4	62	N	2	0.9			10s			0	0	Cloudy	
Philadelphia, Pa.			30.11	764.8	17	— 8.3	83	E	10	4.5			10s			0	0	Cloudy	
Pike's Peak, Col.	17.38	441.4	29.58	751.3	— 1	—18.3	68	W	48	21.5		5ks	0			0	0	Fair	
Pittsburgh, Pa.			29.92	760.0	25	— 3.9	87	SE	1	0.4			10n		SE	0.07	1.8	Light snow	
Port Huron, Mich.			29.92	760.0	11	—11.7	89	Calm	0	0			10s		W	0.05	1.3	Threatening	
Portland, Me.			30.21	767.3	9	—12.8	67	Calm	0	0			10s			0	0	Cloudy	
Portland, Oregon			30.30	769.6	31	— 0.6	100	N	1	0.4			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.15	765.8	63.5	17.5	97	Calm	0	0			Fog			0	0	Foggy	
Rochester, N. Y.			29.95	760.7	14	—10.0	82	SE	2	0.9			10n		S	Inap.	Inap.	Light snow	
*Salt Lake City, Utah																			
Sandy Hook, N. J.			30.08	764.0	21	— 6.1	85	NE	17	7.6			10s			0	0	Cloudy	
San Diego, Cal.			30.08	764.0	55	12.8	93	Calm	0	0			10s			0.25	6.3	Cloudy	
San Francisco, Cal.			30.11	764.8	48	8.9	77	NW	2	0.9		0	0			0	0	Clear	
Santa Fé, N. M.	23.09	586.5	29.63	752.6	24	— 4.4	61	E	7	3.1		0	5s			0	0	Fair	
Savannah, Ga.			30.16	766.1	43	6.1	75	NE	4	1.8		2c	1s	S		0	0	Fair	
Shreveport, La.			30.00	762.0	49	9.4	93	Calm	0	0			Fog			0	0	Foggy	
Smithville, N. C.			30.11	764.8	39	3.9	80	Calm	0	0		5k	0	SW		0	0	Fair	
Springfield, Mass.			30.19	766.8	7.5	—13.6	64	N	8	3.6			10s			0	0	Cloudy	
St. Louis, Mo.			29.97	761.2	24	— 4.4	74	NW	4	1.8			10s			0	0	Cloudy	
St. Marks, Fla.			30.14	765.5	39	3.9	91	Calm	0	0		2c	0	W		0	0	Clear	
St. Paul, Minn.			29.86	758.4	11	—11.7	79	Calm	0	0			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.19	766.8	15	— 9.4	64	Calm	0	0			10s		NE	0	0	Cloudy	
Toledo, Ohio			29.89	759.2	23	— 5.0	86	SE	1	0.4			10s			0	0	Cloudy	
Tucson, Arizona	27.59	700.8	30.14	765.5	36	2.2		S				0	8ks		W	0	0	Cloudy	
Tybee Island, Ga.			30.11	764.8	43	6.1	91	N	4	1.8		5k	0			0	0	Fair	
Vicksburg, Miss.			30.03	762.7	45.0	7.2	100	NE	4	1.8			10n.sm		NE	0.53	13.5	Light rain	
Virginia City, M. T.	24.17	613.9	29.65	753.1	24	— 4.4	80	Calm	0	0			10ks		W	0	0	Cloudy	
Washington, D. C.			30.10	764.5	18	— 7.8	75	NE	4	1.8		2c	8s	W	SW	0	0	Cloudy	
Wilmington, N. C.			30.11	764.8	35	1.7	80	N	5	2.2		0	8ks		SW	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.20	767.1	16	— 8.9	83	N	3	1.3			10s			0	0	Cloudy	
Yankton, Dakota	28.42	721.9	29.77	756.1	17	— 8.3	75	SW	4	1.8		0	1s		W	0	0	Clear	
Yuma, Arizona			30.09	764.3	47	8.3		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.15	765.8	76	24.4	82	Calm	0	0		8c	2s			0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.25	692.1	30.05	763.3	65	18.3	89									0	0		C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	80	26.7	82	E			2	10n	7ks	E		0.220	5.59	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.7			82.4	28.0		N								0.256	6.50		Dr. H. Groot.
Medellin, Colombia, S. A.	25.20	640.1			66.0	18.9	80	Calm			0	5k	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.21	767.3	—33.0	—36.1		NW	5	2.2		2c	2s	NW		0	0	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.07	763.8	73	22.8		NE			4					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.08	764.0	64	17.8	78	NE			1	0	2k			0.10	2.5		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, Boston Light.					30.15	765.8	12	—11.1	90	NW	7	3.1			10s					Overcast	Capt. James Jorgensen.
Steamer Leipzig, N. 36°, 29′, W. 73°, 23′.	W by N	10			30.01	762.2	53.4	11.9		WSW			4					Tranq't		Squally	Capt. R. Hoffmann.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,486 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level. * Observation not simultaneous.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't. Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 22, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.95	760.8	58.8	14.9	50	WSW			1		8			0.213	5.4	Cloudy	Charnot.
Algiers			29.79	756.6	53.2	11.8	83	W			4		10			1.319	33.5	Hidden	Peter.
La Calle			29.70	754.3	56.1	13.4	67	W			4		6			0.197	5.0	Fair	Didier.
Tunis			29.73	755.2	62.6	17.0		WSW			4		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.00	761.9	47.1	8.4	92	W			4		7			0.157	4.0	Cloudy	Millot.
Tebessa			29.78	756.4	42.8	6.0		W			4		2			0	0	Clear	Bourgeois.
Geriville			30.04	762.9	58.1	14.5	70	NW			1		1			0	0	Clear	Lemaillot.
Laghouat			29.95	760.6	52.5	11.4	52	W			6		1			0	0	Clear	Guyot.
Biskra			29.87	758.8	59.7	15.4	55	NW			5		10			0	0	Hidden	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.23	742.5	47.7	8.7	81	Calm			0		10			0.059	1.5		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.26	743.1	30.2	— 1.0	98	NE			1		10			0.370	9.4		Dr. Wierzbiski.
Eperies			29.16	740.6	48.2	9 0	84	SE			3		10k		NW	0.285	7.25		Julius Mikolik.
Gratz	28.01	711.5	29.27	743.5	41.7	5.4	91	ENE			2		10			0	0		Andreas Rospini.
Hermannstadt	27.91	709.0	29.30	744.3	53.6	12.0	55	S			4		8			0.012	0.30		Prof. Reissenberger.
Kremsmünster	27.97	710.4	29.33	745.0	35.2	1.8	91	W			2		10			0.287	7.3		Prof. C. Wagner.
Lemberg			29.11	739.4	46.4	8.0	73	SW			3		9			0.421	10.7		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.27	743.5	52.0	11.1	72	WNW			1		6cs			0.064	1.62		I.R.Hydrographic Of'ce.
Szegedin			29.21	742.0	45.5	7.5	82	Calm			0		10			0.657	16.70		Karl Stancel.
Trieste			29.27	743.5	53.1	11.7	85	SW			1		10			0	0	Cloudy	Prof. V. Farolfi.
Vienna			29.27	743.5	39.4	4.1	84	WNW			3		10			0.185	4.7	Raining	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.23	742.4	41.0	5.0	85	S			2		10ks		SSW	0	0		Royal Observatory.

NOTE.—In the originals, the wea her is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.06	738.1	39.6	4.2		SE	67	30.0			10			0.900	22.86	Raining	William Boswell.
Ardrossan			28.99	736.3	39	3.9		S			3		7					Showery	William McNeil.
Armagh, Observatory			29.05	737.9	45.0	7.2		SW	12	5.4			7					*D. clouds	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.18	741.2	36.7	2.6		W			1		1					Blue sky	J. Dreyer.
Bradford			29.06	738.1	38.9	3.8		W			2		10			0.05	1.3	Overcast	J. McLandsborongh.
Bridgetown, (Barbados)			29.95	760.7	84.5	29.2		NE			1		7					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.17	740.9	41.5	5.3		WSW			3		7					Raining	H. Todd. [H. C.
Dardington			29.17	740.9	40.0	4.4		W			1		6			Blank	Blank	*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.19	741.4	41.2	5.1		Calm			0		2					Hazy	Capt. Fellowes, R. E.
Dartmoor	27.81	706.4	29.33	745.0	36.4	2.4		NW			4		4					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.18	614.2			27.4	— 2.6	79	NE			1		7			0.004	0.10	Snowing	Francis Redford, M. A.
Donaghadee			29.00	736.6	35	1.7		W			4		8					*D. clouds	J. Mac Gowan.
Dover			29.17	740.9	43	6.1		WSW			1		5					½ clouded	J. Costello.
Eccles, (near Manchester)			29.11	739.4	39.8	4.3		NW	2.8	1.3			7					Hazy	Thomas Mackereth.
Falmouth, Observatory			29.31	744.5	42.7	5.9		WNW			3		1					*D. clouds	The Staff.
Fort Napier, (Natal)	27.55	699.8	29.79	756.7	63.6	17.6		E			3		10					Overcast	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	86.0	30.0		N			0		2					*D. clouds	
Galway, Queen's College			29.23	742.4	29	— 1.7		NW			2		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.00	762.0	58.7	14.8		NW			4		4					*D. clouds	Corpl. C. Aitken, A. H. C.
Glasgow, Observatory			28.99	736.3	37.0	2.8		S			1		9					*D. clouds	Lewis Stuart.
Great Yarmouth			29.15	740.4	36	2.2		WSW			2		8					Foggy	G. T. Watson.
Greenwich, Royal Obs'y			29.19	741.4	39.1	3.9		SW			1		0					Blue sky	The Staff, for G. B. Airy.
Guernsey			29.29	744.0	45	7.2		WNW			3		9					*D. clouds	Dr. S. E. Hoskins.
Helston			29.31	744.5	44	6.7		NW			4		2k			0.26	6.6	Fine	M. P. Moyle.
Holyhead			29.10	739.1	40	4.4		WSW			4		4					*D. clouds	John Tilston.
Kew, Observatory			29.20	741.7	40.1	4.5		SW	5	2.2			1					Hazy	The Staff.
Kingstown			29.12	739.6	37	2.8		W			4		4					*D. clouds	George Mitchell.
Leicester Museum			29.15	740.4	41.0	5.0		W			1		9					*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.62	752.3	65.2	18.4		W			4		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.01	736.8	37	2.8		E			6		10					Snowing	W. D. Penny.
Nassau, (Bahamas)			30.05	763.3	72.0	22.2		NE			1		0						Surg. Maj. Henry.
Nottingham, Observatory			29.16	740.7	40.7	4.8		WSW			2		7ck,k		WSW	0.020	0.51	*D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.15	740.4	35.6	2.0		W			2		9					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.20	741.7	37	2.8		W			1		10					Gloomy	J. Lucas.
Plymouth			29.26	743.2	42	5.6		W			3		2					*D. clouds	John Merrifield.
Roche's Point			29.23	742.4	38	3.3		NNW			4		2					Fine	W. Kennedy.
Saint Ann's Head			29.20	741.7	42	5.6		WNW			5		5					D. Clouds	John C. Walker.
Saint Helier, (Jersey)			29.27	743.4	47.5	8.6		NW			5		2					¼ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			29.25	742.9	30.6	— 0.8		E	56	25.0			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.69	754.1	58.5	14.7		SW			4		9					Hazy	Sergt. W. H. Lyne.
Sheffield			29.13	739.9	40.4	4.7		W			2		7			0	0	*D. clouds	W. F. Cooper.
Silloth Rectory			29.05	737.9	41.2	5.1	79	E			1		3			0.095	2.41	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.12	739.6	36.3	2.4		W			0		10n					Snowing	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			28.99	736.3	37	2.8		E			8		10					Raining	John Smith.
Stratfield Turgiss			29.19	741.4	37.7	3.2		W			2		6					*D. clouds	Rev. Charles H. Griffith
Thurso			29.18	741.2	34	1.1		E			6		10					Snowing	John Trotter.
Truro, Royal Institution			29.31	744.5	47	8.3		W			2		6					Gloomy	W. Newcombe.
Valencia, Observatory			29.26	743.2	38.7	3.7		N	6	2.7			8					Showery	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					38	3.3		NE			4		0			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.15	765.8	79.8	26.6	50	SSW	8	3.6		2	4						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	64.0	17.8	88	W			3		3k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.05	737.9	37.2	2.9		SW			1		6k			0.84	21.3	Fine, cloudy	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				ENE	17.8	8.0						0.16	4.1		C. Meldrum.
Melbourne, Observatory			30.13	765.3	57.4	14.1	93	Calm	0	0			10			0.26	6.6	Showery	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.94	735.1	40	4.4		SE			4		10			0.1	2.5		J. Youngclause.
North Unst, (Shetland Is.)			29.60	751.8	30	1.1		SE			7		10			Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.63	752.6	20.3	— 6.5	76	ENE			7		2						
Fanöe			29.61	752.0	21.0	— 6.1	79	E			6		1						
Godthaab, (Greenland)			29.58	751.4	30.2	— 1.0	74	Calm			0		2						
Stykkisholm, (Iceland)			29.97	761.2	28.9	— 1.7	84	E			2		0						
Thorshavn, (Faröe)			29.60	751.8	32.5	0.3	85	E			4		10						
Vestervig			29.68	753.9	17.2	— 8.2	88	ENE			7		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.28	743.8	44.6	7	94	W			2		2kn		W	0	0	Slightly cl'dy	Normal School.
Amiens			29.29	743.9	44.2	6.8	97	W			6		5		W	0	0	Cloudy	Normal School.
Avignon			29.43	747.5	44.6	7	77	NNW			1		10			0.102	2.6	Covered	Normal School.
Bar-sur-Seine			29.32	744.7	36.9	2.7	93	SW			1		10		SW			Raining	C. Saillard.
Beaumette, (near Angers)			29.34	745.2	45.7	7.6	77	W	4.0	1.8					W	0	0		Beaumette Observ'tory.
Beauvais			29.28	743.7	42.1	5.6	85	SW			2		10			0.024	0.60	Covered	Normal School.
Besançon			29.39	746.6	38.5	3.6	80	E			2		8		S	0	0	Very cloudy	Normal School.
Bourg en Bresse			29.41	747.0	44.8	7.1	71	S			6		2ck		N	0	0	Slightly cl'dy	Normal School.
Bourges			29.42	747.2	42.8	6	88	S			2		5		SW	0.059	1.5	Cloudy	Normal School.
Brest			29.30	744.1	47.7	8.7	81	NW			1		1k		WNW	0.069	1.75		Naval Observatory.
Carcassonne			29.52	749.8	51.3	10.7	77	W			1		10		E	0.134	3.4	Covered	Normal School.
Caen																			Normal School.
Chartres			29.27	743.5	44.2	6.8	97	W			2		2		E	0.012	0.3		Normal School.
Châlons-sur-Marne			29.31	744.4	38.8	3.8	73	S			3		10n			0	0	Covered	Normal School.
Clermont			29.34	745.1	46.9	8.3	57	S			3		10		S	0	0	Covered	Puy de Dome Obs'y.
Commercy			29.36	745.8	35.6	2	89	ESE			2		5		E	0	0	Cloudy	Normal School.
Commune de Gréasque*			29.45	748.0	44.8	7.1	71	NE			2		2		NW	0.322	8.2		M. Kina.
Grenoble			29.45	748.0	35.8	2.1	84	SSE			2		5ks		NE	0.16	4.	Cloudy	Normal School.
La Roche-sur-Yon			29.38	746.3	45.7	7.6	83	W			2		2		E	0.276	7.0	Slightly cl'dy	Normal School.
Le Mans			29.32	744.7	43.3	6.3	91	W			2		5		W	0.134	3.4	Cloudy	Normal School.
Lons-Le-Saulnier			29.37	746.0	42.3	5.7	81	SW			1		2		E	0.173	4.40	Raining	Normal School.
Lorient			29.40	746.8	49.3	9.6	42	WNW			3		2		NW	0.256	6.5	Slightly cl'dy	Naval Observatory.
Mâcon			29.45	747.9	37.0	2.8	93	S			2		10			0	0	Covered	Normal School.
Metz			29.43	747.4	35.6	2.0	75	NE			2		10			0	0	Covered	M. Schuster.
Mirecourt			29.45	748.0	33.8	1	89	NNE			4		5		SSW	0	0	Partly cov'd	Normal School.
Nismes			29.40	749.0	49.3	9.6	59	W			2		2		W	0	0	Slightly cl'dy	Normal School.
Orleans			29.35	745.4	42.4	5.8	91	SSE			2		10			0	0	Covered	Normal School.
Paris, Observatory			29.28	743.6	42.1	5.6	93	S			1		10			0.003	0.08	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			29.43	747.4	42.4	5.8		NW			2		5		NW	0.467	11.8	Cloudy	Normal School.
Rochefort, Observatory			29.42	747.3	50.5	10.3	79	NW			3		0			0.768	19.5	Blue sky	Naval Observatory.
Rouen			29.27	743.4	44.6	7.0	80	SE			2		10			0.020	0.5	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.21	741.8	44.6	7	87	SW			2		2		NE	0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.47	748.5	49.8	9.9	65	WNW			3		7			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.31	617.5	29.67	753.6	30.2	— 1.0	89	SW	18.6	8.33			7		W	0.028	0.7		—. Falguère.
Montsouris, Paris			29.26	743.3	41.9	5.5	97	S			2		10			Inap.	Inap		Montsouris Observatory
Perpignan			29.48	748.8	54.7	12.6	41	NW	3.7	1.67			8		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.65	524.6			13.6	—10.2		NW			6		10					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.91	556.5			17.2	— 8.2		NW			6		10			0.862	21.9	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.28	743.7	41.7	5.4	98	S			1		10			Inap.	Inap.	Covered	E. Renou.
Toulouse			29.50	749.3	41.9	5.5	90	W			4		10			0.098	2.5		Toulouse Observatory.
Tours			29.29	744.0	43.9	6.6	88	W			2		10		WNW	0.197	5.0		C. Marquet.
Versailles, (near Paris)			29.28	743.6	44.2	6.8	83	W			1		10			0.002	0.06	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.41	772.4	45.1	7.3	95	NE	1.1	0.50			10			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.26	743.2	32.0	0.0	90	S			1		10			0	0		Prof. T. Hoh.
Berlin			29.47	748.6	17.6	— 8.0	78	N			3		5			0	0		Prof. Arndt.
Breslau			29.37	746.1	20.5	— 6.4	94	NNW			3		10			0.024	0.6		Royal University Obs'y
Carlsruhe			29.37	746.1	35.2	1.8	86	SE			1		10			0	0	Foggy	A. Senz.
Cassel			29.45	748.1	33.1	0.6	88	NE			2		10			0	0		Dr. H. Möhl.
Crefeld			29.28	743.7	39.2	4.0	76	SE			1		2			0	0		Director Lose.
Emden			29.54	750.2	25.2	— 3.8	75	E			6		10			0	0		Prof. Prestel.
Frankfort on the Main			29.41	746.9	34.0	1.1	63	SSW			1		10			0	0	Foggy	Physical Society.
Friedrichshafen	27.96	710.1	29.40	746.8	38.8	3.8	80	S			2		3			0	0		M. Wilhelm.
Hamburg			29.52	749.8	23.4	— 4.8	90	E			2		8k,s			0.024	0.6		Captain F. Hegemann.
Kiel			29.54	750.3	25.2	— 3.8	89	NE			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.61	752.0	1.8	—16.8	74	E			5		10			0.031	0.8	Snowing	Prof. E. Luther.
Köslin			29.48	748.9	10.8	—11.8		E			4		4			0	0		H. Müller.
Leipsic			29.10	739.0	21.9	— 5.6	90	NNE			2		10			0	0		Prof. Bruhns.
Memel			29.71	754.6	— 1.1	—18.4	66	ENE			7		10ks			0.028	0.7		Reinbrecht & Skalweit.
Münster			29.22	742.3	35.4	1.9	73	NE			1		6			0	0		Prof. E. Heis.
Neufahrwasser			29.58	751.4	9.9	—12.3	81	E			5		10			0.106	2.7	Snowing	A Lothe.
Posen			29.45	748.0	15.3	— 9.3	85	N			3		10			0.008	0.2		Dr. Magener.
Strassburg, (in Alsace)			29.38	746.3	36.1	2.3	93	NE			1		2			0	0		Dr. Schur.
Stuttgart			29.39	746.5	33.3	0.7	89	W			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.30	744.1	33.6	0.9	86	W			1		10			0.016	0.4		Prof. Flesch.
Weissenburg, (Bavaria,)	27.84	707.1	29.37	746.0	34.9	1.6	87	NW			1		10			0	0	Dense fog	Dr. von Bebber.
Wustrow, Naval School			29.55	750.6	23.2	— 4.9	87	NE			3		10			0.150	3.8		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 35°, 6′, W. 5°, 31′.			30.23	767.9	68.5	20.3	79	NNE			4		1	NNE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.77	756.1	63.0	17.2		S										Smoky	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.26	743.1	48.7	9.3	79	SW	1.3	0.6			5			0.193	4.9		Prof. Giovanni Clodig.
Padua			29.26	743.2	42.3	5.7	95	NW	8.1	3.6			10			0.028	0.7	Light rain	Prof. Dott. Lorenzoni.
Vicenza			29.27	743.5	44.1	6.7	94	SW	1.8	0.8			9	W		0.055	1.4	Raining	Alm. Da Schio.
Verona			29.26	743.3	46.4	8.0	93	E			2		10			0.709	18.0	Raining	Dott. B. Bertoncelli.
Bergamo	27.96	710.1	29.33	744.9	37.8	3.2	93	NW			2		10			0.433	11.0	Raining	Prof. Trionfini Carlo.
Domodossola			29.34	745.1	40.5	4.7	90	Calm			0		1			0.091	2.3		Prof. Giuseppe Colza.
Milan			29.37	745.9	37.6	3.1	98	N			1		10			0	0		Ab. Gio. Capelli.
Pavia			29.35	745.4	38.5	3.6	82	W			4		10			0.295	7.5	Raining	Prof. Gio. Cantoni.
Moncalieri			29.39	746.4	36.5	2.5	94	ESE	0.7	0.3			10			0	0		Prof. P. F. Denza.
Mondovi	27.36	695.0	29.35	745.5	36.1	2.3	72	SSE			2		1	NW		0	0		Prof. C. Bruno.
Porto Maurizio			29.34	745.1	51.6	10.9	69	E			2		7	W		0	0		Prof. L. Vassallo
Genoa			29.29	743.9	54.1	12.3	51	NE	0	0			0			0.012	0.3		Prof. Garibaldi.
Piacenza			29.34	745.2	37.2	2.9	91	WNW	15.4	6.9			10			0	0		Dott. G. Manzi.
Parma			29.35	745.4	38.5	3.6	91	W			2		10			0	0		Prof. P. Pigorini.
Bologna			29.45	747.9	43.5	6.4	52	W			1		7	E		0.551	14.0	Raining	Prof. A. Palagi.
Florence			29.33	744.9	50.0	10.0	81	SW			2		10	SW		0.248	6.3	Raining	Cav. F. Meucci.
Leghorn			29.31	744.5	54.1	12.3	55	W	19.5	8.9			4	W		0.236	6.0		Prof. P. Monte.
Siena	28.12	714.2	29.35	745.6	46.0	7.8	74	W	9.5	4.2			8	W		0.283	7.2	Raining	Prof. L. Toscani.
Urbino	27.76	705.0	29.35	745.6	47.1	8.4	75	SW			4		7			0.157	4.0		Prof. P. Serpieri.
Pesaro			29.30	744.1	52.7	11.5	67	S	9.5	4.4			10	SW		0.012	0.3	Light rain	Prof. Luigi Guidi.
Ancona			29.34	745.2	52.9	11.6	66	SW			4		4			0.232	5.9		Prof. F. De—Bosis.
Grosseto			29.35	745.4	55.6	13.1	64	SW			2		5	NW		0.252	6.4		Avv. P. Ponticelli.
Rome			29.39	746.6	55.8	13.2	61	W	9.8	4.4			7	WSW		0.205	5.2	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.44	747.7	58.3	14.6	60	SW			4		6	SW		1.661	42.2	Showery	Prof. L. Palmieri.
Lecce			29.43	747.5	62.1	16.7	83	SW	33.6	15.0			10	SW		0.012	0.3	Light rain	Prof. C. De—Giorgi.
Cosenza			29.56	750.9	58.6	14.8	76	NE	5.6	2.5			10			0.772	19.6	Raining	Prof. F. D. Conti.
Utiposto, (Sicily)																			Prof. F. Caffèro.
Palermo			29.50	749.4	61.0	16.1	51	WSW	6.5	2.8			9	WNW		0.035	0.9	Light rain	Prof. G. Cacciatore.
Caltanissetta	27.67	702.9	29.67	753.5	54.0	12.2	77	W			4		5			0.18	4.7	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.47	748.4	53.4	11.9	66	WNW	8.1	3.6			10	W		1.197	30.4		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet: Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Velocity.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Tokei																			

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Velocity.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena.
																			Vicente Reyes.
																			Miguel Perez.
																			(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Velocity.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			29.23	742.4	42.1	5.6		S			4					0.012	0.3		
Groningen			29.34	745.1	25.0	— 3.9		E			6					0	0		
Helder			29.28	743.7	31.1	— 0.5		E			5					0.272	6.9		
Utrecht			29.23	742.5	33.3	0.7	90	ESE			4		10			0.051	1.3	Overcast	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity.	Wind. Velocity.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			29.74	755.3	19.6	— 6.9	36	NE	11	5			0			0	0		
Brönö			30.16	766.1	5.0	—15.0	46	NE	9	4			1			0	0		
Christiania			30.11	764.9	5.2	—14.9	73	NNE	7.6	3.4			10			0	0		
Tromsö			30.08	764.1	19.4	— 7.0	78	SSW	9	4			10			0.020	0.5		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.22	767.6	57.2	14.0	74	N	9.4	4.2			5			0.205	5.2		Dr. J. A. Sampaio.
Campo Major			29.91	759.8	52.2	11.2	71	WSW	10.5	4.7			8	WSW		0.157	4.0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.15	765.9	64.6	18.1	61	SW	6.9	3.1			6			0	0		Capt. D. A. de Cunha.
Lisbon			29.97	761.1	54.0	12.2	83	W	16.1	7.2			5	W		0.173	4.4		The Observatory.
Ponta Delgada, (Azores)			30.21	767.3	63.0	17.2	72	NNE	4.9	2.2			4			0.016	0.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.41	747.1	7.0	—13.9	91	NNE	16	7			10					Snowing	Astronomical Obs.
Wilna			29.68	753.9	— 4.7	—20.4	75	ENE	11	5			10					Snowing	Astronomical Obs.
Dorpat			30.23	767 8	—24.2	—31.2	86	ENE	9	4			3						Physical Cabinet.
St. Petersburg			30.30	769.7	—30.1	—34.5	85	NW	0	0			0						Central Physical Obs.
Kuopio			30.30	769.6	—33.7	—36.5		Calm	0	0			10						Ch. Forsten.
Kieff			29.41	747.1	14.0	—10.0	100	ENE	9	4			10					Dense fog	Physical Cabinet.
Nikolaiev			29.47	748.6	38.3	3.5	100	SSW	13	6			10					Foggy	Kurdakof.
Kertch			29.72	755.0	52.5	11.4	83	S	9	4			3						Lagorio.
Moscow			30.25	768.3	—29.0	—33.9	77	NNW	9	4			10						Meteorological Obs.
Lugan			29.60	751.9	22.5	— 5.3	96	ESE	7	3			10			Blank	Blank		Meteorological Obs.
Archangel			29.82	757.3	1.0	—17.2	91	Calm	0	0			10						Ogorodnikof.
Tiflis	28.72	729.6	30.17	766.4	48.2	9.0	57	S	4	2			5						Physical Observatory.
Astrakhan			30.04	763.1	28.0	— 2.2	92	SE	4	2			9						Sebastianof.
Kasan			29.88	758.9	—36.4	—38.0	87	W	22	10			10						Physical Cabinet.
Orenburg			29.69	754.0	33.3	0.7	90	SW	16	7			10						Tschernischef.
Ekaterinburg	28.17	715.5	29.20	741.6	0.5	—17.5	74	SW	31	14			10						Meteorogical Obs.
Nukuss			30.16	766.0	38.8	3.8	90	NW	4	2			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.98	761.5	11.5	—11.4	75	Calm	0	0			10						Meteorological Obs.
Yeniseisk			30.14	765.6	—27.0	—32.8	75	Calm	0	0			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.41	772.3	31.1	— 0.5	48	NW	9	4			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 1.3	—18.5		W	2	1			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306. 4 ? m., or 1,005.2 ? ft.; Tashkend, 494.2 ? m., or 1,621.3 ? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0 ? m., or 1,942.2 ? ft.; Oorga, 1,281.0 ? m., or 4,202.6 ? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.79	756.6	45.5	7.5	74	SW	24.6	11.00		0	6			0	0	Cloudy	Royal Observatory.
San Fernando			30.03	762.8	58.6	14.8	61	WNW	15.9	7.1		0	5		WNW	0.787	20.0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.28	769.1	—30.3	—34.6	100	N			2		0			0	0		
Umea			30.38	771.6	—22.4	—30.2		N			2		0			0	0		
Hernosand			30.33	770.4	— 8.3	—22.4	84	NE			2		10			0.154	3.9	Snowing	
Stockholm			30.03	762.7	10.0	—12.2	85	ENE			6		10			0.047	1 2		
Wisby			29.89	759.3	12.2	—11.0	93	E			8		10			0.059	1.5		
SUB-SERIES.																			
Upsala			30.12	765.0	1.4	—17.0	100	NE	12.3	5.5			0			0.007	0.19		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	27.98	710.8	29.47	748.6	33.8	1.0	85	NNE			1		10			0	0	Covered	The Observatory.
Zurich	27.76	705.1	29.46	748.2	37.0	2.8	80	W			1		5			0.118	3.0	Bright	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —16.8 mm; Thermometer, —0.9 cent.; Relative Humidity, +5 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.75	755.7	60.8	16.0	55	SW	22	10.0			10		WSW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.64	752.8	70.5	21.4		SE			6		0						
Valona			29.50	749.2	63.5	17.5		S			8		10			Blank	Blank		
Varna			29.45	748.0	57.2	14.0		N			2		10						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.18	766.5	68.9	20.5	73	SW			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.98	761.5	— 9.5	—23.1	77	SW	2	0.9			5						Hon. J. Ferguson.
Brockville, Ontario			29.86	758.4	6	—14.4		NE	1	0.4			10s		NE	0.15	3.8	Light snow	W. R. Bigg.
*Chatham, N. B			30.01	762.2	—13	—25.0	100	SW	1	0.4		8c	2ks			0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.98	761.5	4	—15.6	87	W	3	1.3		0	5ks			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			29.85	758.2	5.2	—14.9	95	W			1		10n			0.02	0.5	Snowing	James Smith, M. A.
Dalhousie, N. B			30.03	762.7	4.0	—15.6	86	W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C			30.24	768.1	41.1	5.1	92	NE					10n			0.05	1.3	Cloudy	W. H. Bevis.
Fredericton, N. B			30.05	763.3	2.9	—16.2	84	Calm	0	0			10s			0	0	Cloudy	Prof. Harrison.
*Fort Garry, Manitoba			30.34	770.6	—26	—32.2	90	N	5	2.2		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.77	756.1	21.6	— 5.8	89	Calm			0		10n			0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.60	726.4	29.78	756.4	16.4	— 8.7		Calm			0		10n					Snowing	James Grant.
*Halifax, N. S			30.00	762.0	10	—12.2	70	N	10	4.5		0	2s			0.051	1.30	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.87	758.7	8	—13.3	94	NE	4	1.8			10n		NE	0.03	0.8	Light snow	S. Woods, M. A.
Little Glace Bay, N. S			29.88	758.9	23.0	— 5.0		E	5	2.2			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			29.90	759.4	3	—16.1	86	NE	6	2.7			10n			Inap.	Inap.	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.87	758.7	2	—16.7	69	NE	4	1.8			10n		NE	0	0	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.75	755.6	16	— 8.9	92	E	2	0.9			10n		E	0.08	2.0	Light snow	Rev. R. Mosley.
Port Dover, Ontario			29.77	756.1	20	— 6.7	100	Calm	0	0			10n			0.07	1.8	Light snow	H. Morgan.
Port Hastings, N. S			29.92	760.0	20.7	— 6.3		NE	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.79	756.7	21	— 6.1	90	E	2	0.9			10n		W	Inap.	Inap.	Hazy	M. Payne.
*Quebec, Quebec			29.96	761.0	8	—13.3	78	Calm	0	0			10n			0.10	2.5	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.04	763.0	6	—14.4	76	N	1	0.4			10n			0.045	1.14	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario			29.72	754.9	21	— 6.1	85	S	4	1.8			10s			0.07	1.8	Light snow	K. Stewart.
Stayner, Ontario			29.65	753.1	17	— 8.3	90	SE	3	1.3			10n		NW	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.43	722.1	29.79	756.7	15.7	— 9.1	97	Calm	0	0			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.92	760.0	20	— 6.7	85	NW	4	1.8		10k	2s			0.02	0.5	Cloudy	T. C. Hill.
*Toronto, Ontario			29.78	756.4	19	— 7.2	92	N	5	2.2			8n			0.03	0.8	Light snow	Magnetic Observatory.
Woodstock, Ontario			29.78	756.4	17.5	— 8.1	98	Calm	0	0			10s			0.040	1.02	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			30.08	764.0	27.0	— 2.8		Calm					10n			Inap.	Inap.	Snowing	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.88	758.9	14	—10.0	81	S	1	0.4			10s		S	0.03	0.8	Cloudy	
Alpena, Mich.			29.78	756.4	13	—10.6	81	NW	6	2.7			10s		NW	0.03	0.8	Cloudy	
Atlantic City, N. J.			29.90	759.4	31	— 0.6	100	E	4	1.8			10s			0.01	0.3	Cloudy	
Augusta, Ga.			29.76	755.9	50	10.0	93	SE	3	1.3			10n			0.86	21.8	Light rain	
Baltimore, Md.			29.87	758.7	23	— 5.0	73	NE	2	0.9		Haze	Sm'e			0.06	1.5	Smoky	
Barnegat, N. J.			29.91	759.7	29	— 1.7	95	E	5	2.2			10s			0.02	0.5	Cloudy	
Bismarck, Dakota	28.90	718.8	30.15	765.8	— 3	—19.4	82	NE	8	3.6			10n			0.08	2.0	Light snow	
Boston, Mass.			29.95	760.7	14	—10.0	91	NW	3	1.3			10s			0.05	1.3	Cloudy	
Breckenridge, Minn.			30.12	765.0	1	—17.2	86	NW	10	4.5			10s		N	0.01	0.3	Cloudy	
Buffalo, N. Y.			29.71	754.6	27	— 2.8	77	Calm	0	0			10n			0.03	0.8	Light snow	
Burlington, Vt.			29.92	760.0	13	—10.6	100	S	3	1.3			10n			0.03	0.8	Light snow	
Cairo, Ill.			29.69	754.1	33	0.6	69	W	2	0.9		Haze	Fog			0	0	Foggy	
Cape Hatteras, N. C.			29.82	757.4	50	10.0	86	E	4	1.8			10n			0.04	1.0	Light rain	
Cape Henry, Va.			29.87	758.7	39	3.9	100	SE					10n			0.15	3.8	Light rain	
Cape Lookout, N. C.			29.88	758.9	49	9.4	100	SW	10	4.5			10n		SW	0.30	7.6	Light rain	
Cape May, N. J.			29.86	758.4	35	1.7	80	SE	12	5.4			10s			Inap.	Inap.	Threatening	
Charleston, S. C.			29.86	758.4	56	13.3	93	S	10	4.5			10n		S	0.23	5.8	Light rain	
Cheyenne, Wyoming	23.74	603.0	29.68	753.9	23	— 5.0	72	NW	16	7.2		0	2s			0	0	Fair	
Chicago, Ill.			29.75	755.6	23	— 5.0	86	NW	7	3.1			10n			Inap.	Inap.	Light snow	
Cincinnati, Ohio			29.57	751.1	35	1.7	70	SE	1	0.4			10s			Inap.	Inap.	Threatening	
Cleveland, Ohio			29.72	754.9	24	— 4.4	87	SE	2	0.9			10s		E	0	0	Cloudy	
Corsicana, Tex.			29.82	757.4	41	5.0	65	N	12	5.4		Haze	8s			0	0	Cloudy	
Davenport, Iowa			29.86	758.4	17	— 8.3	83	NE	12	5.4			10n			Inap.	Inap.	Light snow	
Denison, Tex.			29.90	759.4	32	0.0	60	NW	6	2.7		0	0			0	0	Clear	
Denver, Col.	24.56	623.8	29.78	756.4	21	— 6.1	71	S	8	3.6			8s			0	0	Cloudy	
Detroit, Mich.			29.70	754.4	23	— 5.0	73	Calm	0	0			10s			0.02	0.5	Cloudy	
Dodge City, Kan.	27.24	691.9	29.65	753.1	18	— 7.8	68	W	4	1.8		0	2s		W	0	0	Clear	
Dubuque, Iowa			29.92	760.0	11	—11.7	79	NW	1	0.4		5cs	0			0.08	2.0	Fair	
Duluth, Minn.			30.06	763.5	— 5	—20.6	63	NW	20	8.9		0	0			0	0	Clear	
Eastport, Me.			29.98	761.5	12	—11.1	100	N	8	3.6			10n			Inap.	Inap.	Light snow	
Erie, Pa.			29.71	754.6	29	— 1.7	89	SE	6	2.7			10s			Inap.	Inap.	Cloudy	
Escanaba, Mich.			29.87	758.7	14	—10.0	81	NW	7	3.1			10s		NW	0	0	Cloudy	
Fort Gibson, Indian Ter.			29.83	757.7	27	— 2.8	77	SW	1	0.4		2c	Sm'e	W		0	0	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.69	728.7	29.85	758.2	31	— 0.6	32	N	4	1.8		0	0			0	0	Clear	
Fort Sully, Dakota	28.25	717.5	30.04	763.0	10	—12.2	89	NE	4	1.8			10s			0.03	0.8	Cloudy	
Florence, Arizona	28.35	720.1	29.86	758.4	53	11.7		NE				0	0			0	0	Clear	
Galveston, Tex.			29.81	757.2	60	15.6	94	W	10	4.5		5ck	0	W		0	0	Fair	
Grand Haven, Mich.			29.78	756.4	22	— 5.6	85	NE	13	5.8			10s		NE	0.04	1.0	Cloudy	
Indianapolis, Ind.			29.65	753.1	25	— 3.9	88	N	6	2.7			10s,sm'			0	0	Cloudy	
Indianola, Tex.			29.85	758.2	58	14.4	87	W	8	3.6		0	2s			0	0	Fair	
Jacksonville, Fla.			29.90	759.4	58	14.4	87	S	13	5.8		Haze	0	S		0	0	Hazy	
Keokuk, Iowa			29.80	756.9	23	— 5.0	75	N	8	3.6			10s		N	0	0	Cloudy	
Key West, Fla.			30.02	762.5	66	18.9	100	NE	6	2.7		0	0			0	0	Clear	
Kittyhawk, N. C.			29.87	758.7	42	5.6	91	SE	5	2.2			10s		SE	0.20	5.1	Cloudy	
Knoxville, Tenn.			29.70	754.4	38	3.3	90	N	4	1.8			10n		W	0.30	7.6	Misting	
La Crosse, Wis.			29.95	760.7	9	—12.8	78	N	12	5.4			10s		N	0.12	3.0	Cloudy	
Leavenworth, Kan.			29.82	757.4	27	— 2.8	77	NW	8	3.6			10s		NW	0	0	Cloudy	
Louisville, Ky.			29.62	752.3	33	0.6	89	NW	4	1.8			10n			0.04	1.0	Light rain	
Lynchburg, Va.			29.75	755.6	32	0.0	95	Calm	0	0			10s			0.15	3.8	Cloudy	
Malone, N. Y.			29.83	757.7	8	—13.3	89	N	1	0.4			10n			0.07	1.8	Light snow	
Marquette, Mich.			29.83	757.7	20	— 6.7	70	NW	10	4.5			10s			0	0	Cloudy	
Memphis, Tenn.			29.73	755.1	44	6.7	92	NW	2	0.9			10s			0.08	2.0	Cloudy	
Milwaukee, Wis.			29.84	757.9	13	—10.6	80	N	16	7.2			10s			0.15	3.8	Cloudy	
Mobile, Ala.			29.76	755.9	63	17.2	100	W	6	2.7			10n		W	2.71	68.8	Light rain	
Montgomery, Ala.			29.71	754.6	61	16.1	97	S	6	2.7			10s		W	1.87	47.5	Cloudy	
Morgantown, W. Va.	28.59	726.2	29.67	753.6	27	— 2.8	88	SW	2	0.9			10s			Inap.	Inap.	Threatening	
Mt. Washington, N. H.	23.31	592.1	29.67	753.6	5	—15.0	100	NW	36	16.1		0	10s		NW	0.52	13.2	Fair	
Nashville, Tenn.			29.64	752.8	42	5.6	91	Calm	0	0			Fog			0	0	Foggy	
New Haven, Conn.			29.95	760.7	14	—10.0	80	N	5	2.2		Haze	Sm'e			0.03	0.5	Fair	
New London, Conn.			29.94	760.5	18	— 7.8	84	N	1	0.4		0	2s			0.03	0.5	Fair	
New Orleans, La.			29.74	755.4	66	18.9	92	W	8	3.6			10ks		W	2.68	68.1	Cloudy	
Newport, R. I.			29.96	761.0	22	— 5.6	72	N	4	1.8			10s		N	Inap.	Inap.	Threatening	
New York, N. Y.			29.95	760.7	23	— 5.0	86	Calm	0	0			Fog			0.02	0.5	Foggy	
Norfolk, Va.			29.85	758.2	40	4.4	82	SE	5	2.2			10n			0.05	1.3	Heavy rain	
North Platte, Neb.	26.91	683.5	29.56	750.8	25	— 3.9	100	N	4	1.8			10s			0.02	0.5	Threatening	
Omaha, Neb.	28.77	730.7	29.91	759.7	18	— 7.8	84	N	8	3.6			10s			Inap.	Inap.	Cloudy	
Oswego, N. Y.			29.79	756.7	23.5	— 4.7	93	SE	4	1.8			10s			0	0	Threatening	
Pembina, Dakota			30.31	769.9	—25	—31.7	53	N	8	3.6		0	0			Inap.	Inap.	Clear	
Philadelphia, Pa.			29.92	760.0	16.5	— 8.6	92	E	6	2.7			Fog			0.02	0.5	Foggy	
Pike's Peak, Col.	17.33	440.2	29.54	750.3	— 1	—18.3	22	NW	17	7.6		2s	0			0.01	0.3	Fair	
Pittsburgh, Pa.			29.69	754.1	20	— 6.7	100	N	4	1.8			Fog			Inap.	Inap.	Foggy	
Port Huron, Mich.			29.71	754.6	22	— 5.6	85	W	2	0.9			10n			0.09	2.3	Light snow	
Portland, Me.			29.96	761.0	12	—11.1	79	Calm	0	0			10s			0.01	0.3	Cloudy	
Portland, Oregon			30.20	767.1	37	2.8	90	Calm	0	0			10s			0.02	0.5	Cloudy	
Punta Rassa, Fla.			30.00	762.0	62.0	16.7	97	E	4	1.8			Fog			Inap.	Inap.	Foggy	
Rochester, N. Y.			29.73	755.1	24	— 4.4	87	SW	4	1.8			10n			Inap.	Inap.	Light snow	
Salt Lake City, Utah	25.43	645.9	29.76	755.9	30	— 1.1	100	SE	4	1.8			10n			0.06	1.5	Light snow	
Sandy Hook, N. J.			29.91	759.7	24	— 4.4	87	Calm	0	0			10s			0.06	1.5	Cloudy	
San Diego, Cal.			29.95	760.7	47	— 8.3	85	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.00	762.0	47	— 8.3	92	Calm	0	0			Fog			0	0	Dense fog	
Santa Fé, N. M.	23.03	585.0	29.57	751.1	18	— 7.8	42	S	3	1.3		0	5s			0	0	Fair	
Savannah, Ga.			29.86	758.4	57	13.9	87	SW	8	3.6			10n		SW	0.02	0.5	Light rain	
Shreveport, La.			29.80	756.9	52	11.1	93	N	5	2.2			10s			0	0	Cloudy	
Smithville, N. C.			29.84	757.9	49	— 9.4	93	SE	4	1.8			10n		W	0.35	8.9	Light rain	
Springfield, Mass.			29.95	760.7	12	—11.1	79	Calm	0	0			10s, fg			0.03	0.8	Cloudy	
St. Louis, Mo.			29.76	755.9	27	— 2.8	76	N	4	1.8			10s			0	0	Cloudy	
St. Marks, Fla.			29.83	757.7	60	15.6	94	S	12	5.4			10s		S	0	0	Cloudy	
St. Paul, Minn.			29.99	761.7	5	—15.0	75	NW	6	2.7			10s			0.01	0.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.95	760.7	25	— 3.9	75	NW	8	3.6			10s		NW	0.07	1.8	Cloudy	
Toledo, Ohio			29.70	754.4	27	— 2.8	77	Calm	0	0			10s			0.01	0.3	Cloudy	
Tucson, Arizona	27.47	697.7	30.02	762.5	32	0.0		SE				0	5ks		SW	0	0	Fair	
Tybee Island, Ga.			29.84	757.9	54	12.2	93	S	12	5.4			10n			0.05	1.3	Light rain	
Vicksburg, Miss.			29.77	756.1	55	12.8	100	SW	3	1.3			10s, fg		SW	0.08	2.0	Cloudy	
Virginia City, M. T.	23.97	608.8	29.45	748.0	23	— 5.0	93	Calm	0	0			10n			0.08	2.0	Light snow	
Washington, D. C.			29.85	758.2	21.5	— 5.8	92	E	4	1.8			Fog			0.03	0.8	Foggy	
Wilmington, N. C.			29.84	757.9	49	9.4	93	SE	6	2.7			10n		W	0.36	9.1	Light rain	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.96	761.0	22	— 5.6	72	NW	8	3.6			10s			0.18	4.6	Cloudy	
Yankton, Dakota	28.66	728.0	30.05	763.3	13	—10.6	81	NE	6	2.7			10n			0.02	2.5	Light snow	
Yuma, Arizona			29.92	760.0	45	7.2		NE				0	2s		N	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.13	765.3	76	24.4	86	Calm	0	0		2k	2s			0	0		James Gall.
Navassa, W. I.					78	25.6		E			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.04	763.0	64	17.8	83									0	0		C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	80	26.7	78	SE			2	5ks?	5ks	E		0.270	6.86	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.04	762.9			79.7	26.5		N								0.197	5.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639 8			66.5	19.2	80	W			1	7cs	2s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			30.15	765.8	— 1.5	—18.6	84	N	16	7.2			10n			0.02	0.5	Snowing	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.07	763.8	74	23.3		NE			3					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.97	761.2	63	17.2	74	Calm			0	0	0			0.05	1.3		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	State of ocean.	Direction of swell from—	Weather.	Observer.
Schooner Addie Fuller, Boston Light.			29.92	760.0	19	— 7.2	92	NNW	4	1.8		Haze	Haze					Hazy	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 23, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.04	763 0	59.9	15.5	48	WSW			3		8			0.165	4.2	Cloudy	Charnot.
Algiers			29.87	758.7	59.7	15.4	68	SW			1		8			0.417	10.6	Cloudy	Peter.
La Calle			29.78	756.4	61.9	16.6	53	W			4		2			0.276	7.0	Clear	Didier.
Tunis			29.82	757.4	59.0	15.0		NW			5		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.05	763.2	51.4	10.8	56	SW			2		6			0.177	4.5	Fair	Millot.
Tebessa			29.85	758.2	45.0	7.2		SSW			3		2			0	0	Clear	Bourgeois.
Geriville			30.07	763.6	56.3	13.5	85	WSW			3		0			0	0	Fair	Lemaillot.
Laghouat			30.05	763.2	56.3	13.5	25	W			2		1			0	0	Clear	Guyot.
Biskra			29 97	761.1	60.6	15.9	89	NW			3		10			0	0	Hidden	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.55	750.5	39.2	4.0	80	NE			2		10			0.327	8.3	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.62	752.4	19.6	— 6.9	92	NE			1		10			0.055	1.4		Dr. Wierzbiski.
Eperies			29.52	749.8	26.6	— 3.0	78	N			2		10s		S	0.181	4.60		Julius Mikolik.
Gratz	28.30	718.8	29.58	751.2	37.6	3.1	88	S			1		10			0	0		Andreas Rospini.
Hermannstadt	28.06	712.6	29.50	749.2	40.6	4.8	79	NNW			3		5			0	0		Prof. Reissenberger.
Kremsmünster	28.17	715.6	29.55	750.5	34.5	1.4	93	E			1		2			0	0		Prof. C. Wagner.
Lemberg			29.61	752.1	7.2	—13.8	92	SE			1		10			0.004	0.1		Dr. T. Stanecki.
Nyiregyhaza																			Habsuda Daniel.
Pola			29.53	750.1	47.1	8.4	82	W			1		10ks			0.016	0.41		I.R. Hydrographic Office.
Szegedin			29.53	750.1	40.6	4.8	74	W			1		5			0	0		Karl Stancel.
Trieste			29.53	750.1	48.2	9.0	80	Calm			0		5			0.067	1.7	Raining	Prof. V. Farolfi.
Vienna			29.56	750.8	35.6	2.0	93	Calm			0		6			0.024	0.6		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.41	746.9	38.1	3.4	91	S			1		10		SSE	0.020	0.50	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.36	745.7	37.4	3.0		SE	44	19.7			10			0.610	15.49	Raining	William Boswell.
Ardrossan			29.24	742.7															William McNeil.
Armagh, Observatory			29.24	742.7	44.5	6.9		S	14	6.3			0					Blue sky	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.31	744.5	34.7	1.5		SW			1		4					*D. clouds	J. Dreyer.
Bradford			29.38	746.2	35.7	2.1		W			1		5			0	0	*D. clouds	J. McLandsborough.
Bridgetown, (Barbados)			29.96	761.0	85.0	29.4		NE			2		4					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.39	746.5	32.0	0.0		N			1		10					Overcast	H. Todd. [H.C.
Cardington			29.39	746.5	34.4	1.3		N			1		10			Blank	Blank	Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.35	745.5	36.7	2.6		SW			1		10					Raining	Capt. Fellowes, R. E.
Dartmoor	27.94	709.7	29.48	748.8	35.6	2.0		N			1		4					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.30	617.2			24.6	— 4.1	50	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.22	742.2	38	3.3		SSW			3		2					Blue sky	J. Mac Gowan.
Dover			29.34	745.2	40	4.4		ESE			4		10					Raining	J. Costello.
Eccles, (near Manchester)			29.36	745.7	36.0	2.2		SSE	1.0	0.4			6					Hazy	Thomas Mackereth.
Falmouth, Observatory			29.42	747.3	42.5	5.8		NW			3		5					Overcast	The Staff.
Fort Napier, (Natal)	27.74	704.6	29.98	761.5	68.4	20.2		E			2		10					Overcast	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.92	760.0	82.0	27.8		NE			1		3					*D. clouds	
Galway, Queen's College			29.29	744.0	29	— 1.7		N			5		7					Snowing	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.98	761.5	58.5	14.7		NW			3		4					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.24	742.7	35.7	2.1		SE			1		10					Snowing	Lewis Stuart.
Great Yarmouth			29.39	746.5	38	3.3		E			4		5					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			29.35	745.5	36.0	2.2		NE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey			29.30	744.2	42	5.6		NW			6		10					Raining	Dr. S. E. Hoskins.
Helston			29.44	747.8	44	6.7		N			4		6			0	0	Fair	M. P. Moyle.
Holyhead			29.30	744.2	40	4.4		SW			2		3					*D. clouds	John Tilston.
Kew, Observatory			29.35	745.5	37.2	2.9		NE	8	3.6			10					Foggy	The Staff.
Kingstown			29.29	744.0	38	3.3		W			4		3					Blue sky	George Mitchell.
Leicester Museum			29.40	746.7	33.7	0.9		SE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.85	758.2	60.2	15.7		W			2		8k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.30	744.2	34	1.1		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	73.0	22.8		SW			1		0					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			29.41	747.0	32.5	0.3		WNW			1		10cs,		W			Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.39	746.5	33.0	0.6		SW			0-1		10					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.34	745.2	34	1.1		Calm			0		10					Gloomy	J. Lucas.
Plymouth			29.38	746.2	40	4.4		NW			1		0					Blue sky	John Merrifield.
Roche's Point			29.35	745.5	39	3.9		NW			3		2					Fine	W. Kennedy.
Saint Ann's Head			29.36	745.7	42	5.6		NW			1		6					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.25	742.9	42.5	5.8		N			4		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.46	748.3	32.6	0.3		E	50	22.4			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.60	751.8	52.8	11.6		SW			4		10					Raining	Sergt. W. H. Lyne.
Sheffield			29.38	746.2	35.7	2.1		SSW			1		4			0	0	Blue sky	W. F. Cooper.
Silloth Rectory			29.30	744.2	37.8	3.2	88	NE			1		2			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.36	745.7	33.7	0.9		S			0		6c,			Blan	Blank	*D. clouds	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.20	741.7	38	3.3		ESE			7		8					Threatening	John Smith.
Stratfield Turgiss			29.36	745.7	33.6	0.9		N			1		10					Snowing	Rev. Charles H. Griffith.
Thurso			29.40	746.7	34	1.1		ESE			7		10					Snowing	John Trotter.
Truro, Royal Institution			29.41	747.0	46	7.8		NW			4		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.37	746.0	42.3	5.7		WNW	17	7.6			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					41	5.0		SE			4		0			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.14	765.5	77.2	25.1	51	S	26	11.6		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	68.0	20.0	88	NW			5		5k			0.01	0.3		Francis Abbott, F. R. A. S.
Leith, Restalrig Park			29.32	744.7	33.5	0.8		SE			2		10cs			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				ENE	15.0	6.7						0	0		C. Meldrum.
Melbourne, Observatory			30.10	764.5	57.8	14.3	78	SE	8	3.6			0			0.01	0.3	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.17	740.9	41	5.0		SE			7		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.77	756.1	28	— 2.2		SE			7		10			Blank	Blank		Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
Minister of Foreign Affairs.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			29.80	756.8	19.0	— 7.2	81	ENE			6		10						
Fanöe			29.71	754.5	21.0	— 6.1	90	E			6		10						
Godthaab, (Greenland)			29.76	756.0	23.0	— 5.0	93	Calm			0		10						
Stykkisholm, (Iceland)			29.90	759.5	19.9	— 6.7	95	E			2		0						
Thorshavn, (Faröe)			29.67	753.7	35.2	1.8	73	E			6		10						
Vestervig			29.82	757.3	15.8	— 9.0	88	ENE			6		10						

Note.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.23	742.5	44.6	7	100	SSW			2		10			0.220	5.6	Covered	Normal School.
Amiens			29.40	746.7	42.4	5.8	88	NW			6		10			0	0	Covered	Normal School.
Avignon			29.42	747.3	44.8	7.1	79	N			1		0			0	0	Clear	Normal School.
Bar-sur-Seine			29.38	746.2	39.7	4.3	86	S			1		10		SSW	0.213	5.4	Light rain	C. Saillard.
Beaumette, (near Angers)			29.19	741.4	44.8	7.1	94	W	4.5	2.0			10		SW	0.374	9.5	Raining	Beaumette Observ'tory.
Beauvais			29.33	745.0	38.7	3.7	93	SE			3		10		SE	0	0	Covered	Normal School.
Besançon			29.46	748.2	42.1	5.6	75	ESE			2		5		S	0.059	1.5	Cloudy	Normal School.
Bourg en Bresse			29.49	749.0	38.3	3.5	93	SE			8		10n		NE			Raining	Normal School.
Bourges			29.32	744.8	44.6	7	86	SE			2		5		S	0.16	4.	Cloudy	Normal School.
Brest			29.35	745.5	46.6	8.1	69	N			4		3		N	0.197	5.00	Squally	Naval Observatory.
Carcassonne			29.43	747.5	50.0	10	81	SW			1		8		NE	0.051	1.3	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.27	743.4	41.4	5.2	97	S			2		10		N	0.161	4.1	Covered	Normal School.
Châlons-sur-Marne			29.39	746.4	40.5	4.7	87	SSE			3		10n			0	0	Covered	Normal School.
Clermont			29.32	744.6	45.0	7.2	55	S			2		10		SW	0.008	0.2	Covered	Puy de Dome Obs'y.
Commercy			29.44	747.8	37.9	3.3	93	E			2		10			0.087	2.2	Covered	Normal School.
Commune de Gréasque*			29.45	747.9	39.6	4.2	90	NW			2		10		SE	Blank	Blank		M. Kina.
Grenoble			29.50	749.2	35.8	2.1	92	SSE			2		10kn		NE	0.43	11.	Covered	Normal School.
La Roche-sur-Yon			29.23	742.4	45.7	7.6	86	E			4		8		N	0.402	10.2	Very cloudy	Normal School.
Le Mans			29.30	744.1	43.9	6.6	88	S			2		2		S	0.20	5.	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			29.38	746.2	41.2	5.1	84	S			1		2		E	0	0	Slightly cl'dy	Normal School.
Lorient			29.35	745.6	44.6	7.0	55	NNW			5		8		NW	0.327	8.3	Very cloudy	Naval Observatory.
Mâcon			29.54	750.2	39.2	4	97	Calm			0		10			0.071	1.8	Covered	Normal School.
Metz			29.51	749.5	38.7	3.7	81	NE			2		10			0.036	0.9	Covered	M. Schuster.
Mirecourt			29.44	747.8	37.4	3	87	NNE			2		10		SSW	0	0	Covered	Normal School.
Nismes			29.45	747.9	44.2	6.8	62	NW			2		10		SW	0.532	13.5	Raining	Normal School.
Orleans			29.32	744.6	43.5	6.4	91	SE			2		10			0.20	5.	Covered	Normal School.
Paris, Observatory			29.32	744.6	40.1	4.5	92	SE			1		10n		SSE	0.041	1.03	Rainy	National Observatory.
Parthenay																			Normal School.
Privas			29.48	748.7	43.9	6.6		NW			2		5		NW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.21	742.0	46.4	8.0	94	SSW			2		10			0.571	14.5	Covered	Naval Observatory.
Rouen			29.28	743.6	42.3	5.7	87	ESE			2		10			0.059	1.5	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.55	750.5	40.1	4.5	90	SE			3		8		S	0	0	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			29.37	745.9	48.7	9.3	76	E			3		8			0.020	0.50	Rainy	Marseilles Observatory.
Mont-Louis	24.27	616.4	29.63	752.6	28.8	— 1.8	88	SW	24.2	10.83			6		SW	0.047	1.2		—. Falguère.
Montsouris, Paris			29.30	744.2	39.6	4.2	97	SE			2-3		10		SE	0.106	2.7	Rainy	Montsouris Observatory
Perpignan			29.48	748.9	50.2	10.1	57	SW	5.6	2.50			8		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.	20.58	522.6			12.2	—11.0		W			4		8					Snowy	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.85	555.0			18.5	— 7.5		W			4		8			0.457	11.6	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.31	744.4	40.5	4.7	90	SE			1		10			0.043	1.1	Covered	E. Renou.
Toulouse			29.43	747.5	44.6	7.0	80	SSE			1		2			0.339	8.6		Toulouse Observatory.
Tours			29.26	743.3	44.8	7.1	80	S			3		10		SSW	0.169	4.3		C. Marquet.
Versailles, (near Paris)			29.30	744.3	40.3	4.6	97	S			3		10			0.147	3.73	Light rain	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.47	773.9	35.6	2.0	93	NNE	2.2	1.00			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.45	747.9	37.4	3.0	74	S			1		10			0	0		Prof. T. Hoh.
Berlin			29.70	754.3	11.3	—11.5	78	E			3		10			0	0		Prof. Arndt.
Breslau			29.67	753.6	9.3	—12.6	82	NE			5		10			0.004	0.1	Light snow	Royal University Obs'y.
Carlsruhe			29.47	748.5	37.2	2.9	87	E			1		7			0	0		A. Senz.
Cassel			29.57	751.1	32.7	0.4	89	ENE			3		10			0	0		Dr. H. Möhl.
Crefeld			29.45	748.0	38.8	3.8	83	SE			2		4			0.08	2.		Director Lose.
Emden			29.71	754.5	17.1	— 8.3	94	E			3		10			0	0		Prof. Prestel.
Frankfort on the Main			29.53	750.0	35.4	1.9	63	SW			1		10			0	0	Foggy	Physical Society.
Friedrichshafen	28.06	712.7	29.51	749.6	39.6	4.2	69	SE			2		8			0	0		M. Wilhelm.
Hamburg			29.68	753.8	10.0	—12.2	85	ENE			3		7k,s			0	0	Fair	Captain F. Hegemann.
Kiel			29.69	754.2	17.8	— 7.9	76	ESE			4		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			29.85	758.3	— 7.6	—22.0	61	NE			2		2			0	0		Prof. E. Luther.
Köslin			29.82	757.3	— 1.8	—18.8		E			2		1			0.189	4.8		H. Müller.
Leipsic			29.61	752.1	22.3	— 5.4	90	ENE			2		10			0	0		Prof. Bruhns.
Memel			29.89	759.2	— 5.1	—20.6	53	ENE			3		0			0	0		Reinbrecht & Skalweit.
Münster			29.48	748.7	34.3	1.3	93	NE			2		10			0.012	0.3	Snowing	Prof. E. Heis.
Neufahrwasser			29.83	757.6	— 4.7	—20.4	86	SSW			2		10			0.154	3.9	Snowing	A Lothe.
Posen			29.80	756.8	— 0.4	—18.0	94	NE			3		0			0.008	0.2		Dr. Magener.
Strassburg, (in Alsace)			29.46	748.3	36.5	2.5	100	Calm			0		10			0	0		Dr. Schur.
Stuttgart			29.48	748.9	38.7	3.7	82	N			1		5			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.41	747.1	37.0	2.8	91	NE			1		10			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	27.98	710.7	29.53	750.0	34.3	1.3	80	SSE			2		9	S		0	0	Light fog	Dr. von Bebber.
Wustrow, Naval School			29.74	755.4	10.2	—12.1	95	SE			2		10			Inap.	Inap.	Snowing	E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 35°, 8′, W. 1°, 57′.			30.28	769.2	68.7	20.4	85	NNE			4		1	NNE					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.74	755.3	60.8	16.0		W										Very cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			29.52	749.7	46.2	7.9	78	S	0.7	0.3			9			0.079	2.0	Raining	Prof. Giovanni Clodig
Padua			29.52	749.9	43.0	6.1	89	WNW	4.9	2.2			8	NE		0	0		Prof. Dott. Lorenzoni.
Vicenza			29.55	750.5	44.2	6.8	87	W	3.1	1.4			5	E		0	0		Alm. Da Schio.
Verona			29.51	749.6	45.0	7.2	74	SW			4		6			0.197	5.0	Raining	Dott. B. Bertone · B.
Bergamo	28.20	716.2	29.57	751.0	34.2	1.2	68	NW			2		8			0.276	7.0	Raining	Prof. Trionfini Carlo.
Domodossola			29.57	751.1	37.0	2.8	76	Calm			0		5			0	0		Prof. Giuseppe Calza.
Milan			29.60	751.7	36.1	2.3	100	N			1		10			0	0		Ab. Gio. Capelli.
Pavia			29.57	751.1	36.0	2.2	84	SSW			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			29.59	751.6	33.6	0.9	92	WNW	0	0			10			0	0		Prof. P. F. Denza.
Mondovi	27.59	700.8	29.58	751.3	29.3	— 1.5	82	ESE			2		8	W		0.079	2.0	Snowing	Prof. C. Bruno.
Porto Maurizio			29.52	749.9	50.2	10.1	57	SW			2		8	SW		1.173	29.8	Showery	Prof. L. Vassallo
Genoa			29.50	749.4	52.5	11.4	54	NE	0	0			8	SW		0.382	9.7	Raining	Prof. Garibaldi.
Piacenza			29.58	751.4	35.6	2.0	93	W	6.9	3.1			10			0	0	Dense fog	Dott. G. Manzi.
Parma			29.57	751.1	37.6	3.1	85	SSW			6		10			0.004	0.1	Light rain	Prof. P. Pigorini.
Bologna			29.61	752.2	41.5	5.3	60	W			1		10			0	0		Prof. A. Palagi.
Florence			29.54	750.3	51.8	11.0	75	E			2		9	SW		0.315	8.0	Raining	Cav. F. Meucci.
Leghorn			29.51	749.5	54.7	12.6	59	W	5.1	2.5			6	W		0.165	4.2		Prof. P. Monte.
Siena	28.30	718.8	29.54	750.2	49.8	9.9	62	WSW	3.1	1.4			6	W		0.122	3.1		Prof. L. Toscani.
Urbino	27.98	710.6	29.58	751.2	46.0	7.8	84	SW			2		9			0.315	8.0		Prof. P. Serpieri.
Pesaro			29.56	750.8	42.3	5.7	92	NW	19.2	8.6			10	NW		0.283	7.2	Raining	Prof. Luigi Guidi.
Ancona			29.53	750.1	47.8	8.8	81	SSE			2		6			0.110	2.8	Raining	Prof. F. De— Bosis.
Grosseto			29.54	750.2	56.5	13.6	48	SSW			2		4	NW		0.126	3.2		Avv. P. Ponticelli.
Rome			29.59	751.5	53.6	12.0	71	E	3.8	1.7			6	WSW		0.071	1.8		Prof's. P. Secchi & L. Respigh
Naples, O. U.			29.65	753.0	55.4	13.0	69	SE			2		9	SW		0.260	6.6	Raining	Prof. L. Palmieri.
Lecce			29.66	753.3	57.6	14.2	66	WNW	15.4	6.9			9			0.382	9.7	Raining	Prof. C. De—Giorgi.
Cosenza			29.76	755.9	49.6	9.8	67	SW	0	0			10			0.980	24.9	Raining	Prof. F. D. Conti.
Hiposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.71	754.5	59.4	15.2	55	WSW	9.8	4.4			6	NNW		0.004	0.1	Light rain	Prof. G. Cacciatore.
Caltanissetta	27.83	706.5	29.82	757.5	50.5	10.3	67	WNW			6		10	NE		0.043	1.1	Light rain	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.66	753.4	51.6	10.9	83	WNW	4.3	1.9			8	N		0.252	6.4		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Tokei																			

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Flushing			29.45	747.9	36.0	2.2		E			4					0	0		
Groningen			29.51	749.5	20.3	— 6.5		ENE			4					0.122	3.1		
Helder			29.50	749.4	29.3	— 1.5		E			3					0	0		
Utrecht			29.43	747.5	37.9	3.3	84	ESE			2		8			0.004	0.1	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Barometer. Reduced to sea-level. Inches.	Millimeters.	Temperature. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Bergen			29.89	759.1	13.6	—10.2	67	Calm	0	0			0			0	0		
Brône			30.00	761.9	8.6	—13.0	52	Calm	0	0			0			0	0		
Christiania			30.15	765.7	4.3	—15.4	77	NE	0.9	0.4			8			0	0		
Tromsö			29.84	757.9	22.6	— 5.2	80	SE	11	5			5			0.150	3.8		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			30.14	765.6	55.8	13.2	80	SE	4.9	2.2			8			0	0		Dr. J. A. Sampaio.
Campo Major			29.93	760.2	50.0	10.0	70	WSW	11.2	5.0			8	WNW		0.193	4.9		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.17	766.3	64.2	17.9	81	Calm	0	0			9			0.197	5.0		Capt. D. A. de Cunha.
Lisbon			30.00	762.1	53.4	11.9	67	WNW	16.1	7 2			7			0.126	3.2		The Observatory.
Ponta Delgada, (Azores)			30.20	767.1	59.0	15.0	76	SSE	8.7	3.9			3			0.016	0.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.74	755.3	— 2.9	—19.4	81	N	7	3			10					Snowing	Astronomical Obs.
Wilna			29.74	755.5	— 4.0	—20.0	70	ENE	11	5			10						Astronomical Obs.
Dorpat			30.10	764.4	—17.5	—27.5	87	NNE	2	1			10						Physical Cabinet.
St. Petersburg			30.04	763.1	—20 9	—29.4	87	WNW	4	2			3						Central Physical Obs.
Kuopio			30.07	763.8	— 9.4	—23.0	100	NW	13	6			10						Ch. Forsten.
Kieff			29.47	748.6	— 0.6	—18.1	100	NW	9	4			10						Physical Cabinet.
Nikolaiev			29.41	746.9	35.8	2.1	94	WNW	13	6			10						Kurdakof.
Kertch			29.58	751.2	52.3	11.3	87	SSE	11	5			7						Lagorio.
Moscow			29.87	758.7	— 8.7	—22.6	84	NNE	13	6			10					Snowing	Meteorological Obs.
Lugan			29.37	745.9	43.2	6.2	76	SSW	27	12			4			Blank	Blank		Meteorological Obs.
Archangel			29.87	758.7	2.8	—16.2	95	WSW	9	4			10						Ogorodnikof.
Tiflis	28.59	726.2	30.03	762.7	50.7	10.4	47	N	4	2			7						Physical Observatory.
Astrakhan			29.87	758.7	39.0	3.9	100	SE	7	3			10						Sebastianof.
Kasan			30.11	764.7	—31.0	—35.0	88	N	4	2			10						Physical Cabinet.
Orenburg			30.15	765.8	— 0.8	—18.1	72	SE	18	8			0						Tschernischef.
Ekaterinburg	28.79	731.2	29.89	759.1	—22.7	—30.4	73	WSW	31	14			0						Meteorological Obs.
Nukuss			30.16	766.1	33.4	0.8	96	E	4	2			1						
Kusaly																			Bebrof.
Tashkend																			Michelson.
Barnaul			29.82	757.3	11.7	—11.3	85	SW	4	2			10					Snowing	Meteorological Obs.
Yeniseisk			29.22	742.2	— 2.4	—19.1	87	E	4	2			6			Blank	Blank		Marks.
Irkutsk																			Uscolzef.
Oorga																			Mossin.
Peking, (China)			30.23	767.7	27.7	— 2.4	61	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 4.4	—20.2		Calm	0	0			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306. 4 ? m., or 1,005.2 ? ft.; Tashkend, 494.2 ? m., or 1,621.3 ? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0 ? m., or 1,942.2 ? ft.; Oorga, 1,281.0 ? m., or 4,202.6 ? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.75	755.7	42.8	6.0	57	SW	16.4	7.33		0	6			0.067	1.7	Cloudy	Royal Observatory.
San Fernando			30.04	763.1	55.2	12.9	67	NW	17.0	7.6		0	10		NW	0.209	5.3		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.08	763.9	— 7.6	—22.0	85	N			2		0			0	0		
Umea			30.19	766.8	—18.4	—28.0	76	Calm			0		0			0	0		
Hernosand			30.20	767.1	— 9.4	—23.0	92	NNE			2		10			0.028	0.7		
Stockholm			30.07	763.7	9.5	—12.5	88	NNE			2		8			0.043	1.1		
Wisby			30.02	762.4	12.2	—11.0	79	E			6		5			0.051	1.3		
SUB-SERIES.																			
Upsala			30.13	765.3	2.7	—16.3	100	N	4.9	2.2			10		ESE	0.001	0.02		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.04	712.3	29.52	749.8	37.4	3.0	85	NNW			1		9			0.110	2.8	Covered	The Observatory.
Zurich	27.84	707.1	29.53	750.0	39.4	4.1	77	E			1		3			0	0	Bright	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —15.3 mm; Thermometer, +1.2 cent.; Relative Humidity, +5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.66	753.3	53.8	12.1	92	WNW	17	7.5			10		SW	0.787	20.0	Raining	
Fao, (Persian Gulf)																			
Salonica			29.62	752.3	64.8	18.2		SE			1		5						
Valona			29.66	753.3	53.6	12.0		S			4		8						
Varna			29.61	752.0	59.0	15.0		NE			2		5						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.14	765.5	66.6	19.2	61	NE			1		0			0	0	Blue sky	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.			29.86	758.4	— 6.5	—21.4	80	Calm	0	0			9						Hon. J. Ferguson.
Brockville, Ontario			29.99	761.7	12	—11.1		NW	1	0.4			10s		NW	0.50	12.7	Light snow	W. R. Bigg.
*Chatham, N. B.			29.84	757.9	8	—13.3	93	N	9	4.0			Haze			0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.77	756.1	18	— 7.8	89	NE	5	2.2			10n			0.025	0.64	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario			29.91	759.7	14.7	— 9.6	87	E			1		10n			Inap	Inap.	Snowing	James Smith, M. A.
Dalhousie, N. B.			29.93	760.2	— 5.9	—21.1	100	W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C.			30.05	763.3	43.3	6.3	100	S					10n			0.19	4.8	Rainy	W. H. Bevis.
Fredericton, N. B.			29.85	758.2	11.4	—11.4	92	E	6	2.7			10n			0.122	3.10	Snowing	Prof. Harrison.
*Fort Garry, Manitoba			30.60	777.2	—10	—23.3	91	NW	7	3.1			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			30.10	764.5	19.9	— 6.7	87	Calm			0		10n			0.10	2.5	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.88	733.5	30.07	763.8	16.4	— 8.7		W			1		10n					Cloudy	James Grant.
*Halifax, N. S.			29.63	752.6	22	— 5.6	84	E	10	4.5			10n			0.420	10.67	Heavy snow	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.02	762.5	14	—10.0	87	NW	3	1.3			10s			0.31	7.9	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.			29.75	755.6	23.0	— 5.0		E	8	3.6			10n			0.05	1.3	Snowing	C. H. Rigby.
*Montreal, Quebec			29.86	758.4	12	—11.1	92	N	11	4.9			10n			0.16	4.1	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.89	759.2	11	—11.7	74	SW	6	2.7			10n		W	0.13	3.3	Threatening	J. B. Haney.
*Parry Sound, Ontario			30.06	763.5	2	—16.7	75	E	4	1.8		0	2ks		E	0.01	0.3	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.07	763.8	19	— 7.2	84	W	6	2.7		10k	0	W		0.13	3.3	Cloudy	H. Morgan.
Port Hastings, N. S.			29.76	755.9	22.9	— 5.1		SE	3	1.3						0.40	10.2	Snowing	Peter Grant.
Port Stanley, Ontario			30.12	765.0	16	— 8.9	76	N	11	4.9			8ks		W	0.03	0.8	Cloudy	M. Payne.
*Quebec, Quebec			29.89	759.2	11	—11.7	100	NE	23	10.3			10n		NE	0	0	Cloudy	Capt. Ashe, R. N.
St. John, N. B.			29.76	755.9	14	—10.0	81	NE	11	4.9			10n			0.360	9.14	Snowing	G. Murdoch, C. E.
*Saugeen, Ontario			30.01	762.2	14	—10.0	82	Calm	0	0			10s			0.10	2.5	Light snow	K. Stewart.
Stayner, Ontario			30.06	763.5	13	—10.6	92	E	1	0.4			10n		E	0.25	6.3	Light snow	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.08	764.0	16.0	— 8.9	90	SW	14	6.3			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.80	756.9	18	— 7.8	92	SE	2	0.9			10n			Inap.	Inap.	Light snow	T. C. Hill.
*Toronto, Ontario			30.08	764.0	11	—11.7	86	N	1	0.4			10s		NW	0.02	0.5	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.07	763.8	17.0	— 8.3	94	W	9	4.0			10s			0.050	1.27	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.91	759.7	16.0	— 8.9	92	Calm				5k	10s			0.60	15.2	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, N. Y.			29.80	756.9	21	— 6.1	85	NW	18	8.0			10s		W	0.71	18.0	Cloudy	
Alpena, Mich.			30.08	764.0	10	—12.2	79	NW	8	3.6			10s		NW	0.04	1.0	Cloudy	
Atlantic City, N. J.			29.91	759.7	30	— 1.1	78	W	16	7.2		0	Haze			0.30	7.6	Clear	
Augusta, Ga.			30.06	763.5	45	7.2	76	NW	2	0.9			10s			0.44	11.2	Cloudy	
Baltimore, Md.			30.01	762.2	32	0.0	69	NW	4	1.8		Haze	2s			0.28	7.1	Fair	
Barnegat, N. J.			29.87	758.7	30	— 1.1	84	NW	20	8.9		Haze	2s			0.45	11.4	Fair	
Bismarck, Dakota	28.73	729.7	30.70	779.8	—16	—26.7	69	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Boston, Mass.			29.70	754.4	20	— 6.7	93	NW	12	5.4			10s		W	0.72	18.3	Cloudy	
Breckenridge, Minn.			30.58	776.7	— 4	—20.0	82	NW	12	5.4			10s		N	0	0	Cloudy	
Buffalo, N. Y.			30.02	762.5	19	7.2	84	Calm	0	0			10s			0.21	5.3	Cloudy	
Burlington, Vt.			29.86	758.4	13	—10.6	100	N	11	4.9			10n			0.21	5.3	Light snow	
Cairo, Ill.			30.32	770.1	19	— 7.2	69	N	11	4.9			10s			0	0	Cloudy	
Cape Hatteras, N. C.			29.94	760.5	45	7.2	76	NW	12	5.4			8s		NW	0.85	21.6	Cloudy	
Cape Henry, Va.			29.98	761.5	36	2.2	80	NW					10s		NW	0.45	11.4	Cloudy	
Cape Lookout, N. C.			30.02	762.5	46	7.8	69	N	10	4.5		5c	Haze			0.40	10.2	Fair	
Cape May, N. J.			29.92	760.0	31	— 0.6	79	NW	36	16.1		0	5s		W	0.37	9.4	Fair	
Charleston, S. C.			30.03	762.7	52	11.1	79	N	6	2.7			10s		W	0.44	11.2	Cloudy	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	— 4	—20.0	100	SE	4	1.8			10n			0.04	1.0	Light snow	
Chicago, Ill.			30.23	767.8	9	—12.8	78	NW	4	1.8		0	0			0.04	1.0	Clear	
Cincinnati, Ohio			30.20	767.1	22	— 5.6	72	NW	3	1.3		0	Fog			0.06	1.5	Clear	
Cleveland, Ohio			30.19	766.8	17	— 8.3	83	SW	8	3.6			10s		W	0.03	0.8	Cloudy	
Corsicana, Tex.			29.98	761.5	45	7.2	60	NE	8	3.6			10n			0.02	0.5	Light rain	
Davenport, Iowa			30.39	771.9	5	—15.0	75	W	4	1.8			10s			Inap.	Inap.	Cloudy	
Denison, Tex.			30.09	764.3	31	— 0.6	68	NE	8	3.6			10s		N	0	0	Cloudy	
Denver, Col.	24.84	630.9	30.06	763.5	1	—17.2	85	Calm	0	0		0	5s			0.50	12.7	Fair	
Detroit, Mich.			30.14	765.5	14	—10.0	81	W	3	1.3			10s			0.06	1.5	Cloudy	
Dodge City, Kan.	27.46	697.5	29.97	761.2	10	—12.2	89	NE	26	11.6			10n		NE	0.04	1.0	Heavy snow	
Dubuque, Iowa			30.39	771.9	— 1	—18.3	68	NW	5	2.2		0	Haze			Inap	Inap.	Clear	
Duluth, Minn.			30.42	772.7	2	—16.7	72	Calm	0	0		0	5s		NW	0	0	Fair	
Eastport, Me.			29.67	753.6	21	— 6.1	100	NE	30	13.4			10n			0.57	14.5	Heavy snow	
Erie, Pa.			30.08	764.0	24	— 3.3	74	W	10	4.5			10n			0.03	0.8	Light snow	
Escanaba, Mich.			30.14	765.5	10	—12.2	79	W	15	6.7			10s		NW	0	0	Cloudy	
Fort Gibson, Indian Ter.			30.18	766.6	26	— 3.3	76	NE	7	3.1		5cs	2s	W	SW	0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.70	729.0	29.87	758.7	24	— 4.4	48	N	24	10.7		5c	0			0	0	Fair	
Fort Sully, Dakota	28.70	729.0	30.64	778.2	— 8	—22.2	79	NW	16	7.2			10s			0.01	0.3	Cloudy	
Florence, Arizona	28.23	717.0	29.76	755.9	45	7.2		SW				0	0			0	0	Clear	
Galveston, Tex.			29.92	760.0	53	11.7	66	NE	18	8.0			10s		S	0	0	Cloudy	
Grand Haven, Mich.			30.14	765.5	25	— 3.9	75	W	15	6.7			10s		W	0	0	Cloudy	
Indianapolis, Ind.			30.26	768.6	19	— 7.2	84	NW	3	1.3			10s		NW	Inap.	Inap.	Cloudy	
Indianola, Tex.			29.86	758.4	55	12.8	73	NE	18	8.0			10s			0	0	Cloudy	
Jacksonville, Fla.			29.99	761.7	67	19.9	93	NE	14	6.3			10s			0.41	10.4	Cloudy	
Keokuk, Iowa			30.36	771.1	6	—14.4	76	N	6	2.7		8c	0	N		0.03	0.8	Fair	
Key West, Fla.			30.01	762.2	70	21.1	90	SE	2	0.9		0	0			0	0	Clear	
Kittyhawk, N. C.			30.02	762.5	40	4.4	91	N	8	3.6		8cs	2s	W		0.33	8.4	Cloudy	
Knoxville, Tenn.			30.19	766.8	30	— 1.1	68	NW	10	4.5		0	0			0.16	4.1	Clear	
La Crosse, Wis.			30.40	772.1	— 2	—18.9	67	N	2	0.9			10s			0.04	1.0	Cloudy	
Leavenworth, Kan.			30.37	771.4	12	—11.1	80	N	12	5.4		0	5s			0	0	Fair	
Louisville, Ky.			30.24	768.1	23	— 5.0	73	N	4	1.8		0	0			0.07	1.8	Clear	
Lynchburg, Va.			30.02	762.5	36	2.2	62	NW	10	4.5		10cs	0	W		0.31	7.9	Cloudy	
Malone, N. Y.			29.88	758.9	14	—10.0	82	Calm	0	0			10n			0.21	5.3	Light snow	
Marquette, Mich.			30.09	764.3	11	—11.7	79	W	18	8.0			10s			0.11	2.8	Cloudy	
Memphis, Tenn.			30.22	767.6	28	— 2.2	77	NE	8	3.6		Haz	Haz			0	0	Hazy	
Milwaukee, Wis.			30.29	769.4	1	—17.2	85	NW	12	5.4			10s			0.01	0.3	Cloudy	
Mobile, Ala.			30.01	762.2	50	10.0	78	NE	9	4.0		5c	5s			0.11	2.8	Cloudy	
Montgomery, Ala.			30.09	764.3	46	7.8	60	NE	3	1.3		8c	2s	W		0	0	Cloudy	
Morgantown, W. Va.	29.02	737.1	30.14	765.5	24	— 4.4	74	W	8	3.6			10s		W	0.34	8.6	Cloudy	
Mt. Washington, N. H.	23.27	591.0	29.63	752.6	9	—12.8	100	Calm	0	0			10n			0.66	16.8	Light snow	
Nashville, Tenn.			30.20	767.1	27	— 2.8	77	N	4	1.8		0	5s			0	0	Fair	
New Haven, Conn.			29.78	756.4	32	0.0	80	N	10	4.5			10s			0.20	5.1	Cloudy	
New London, Conn.			29.74	755.4	27	— 2.8	88	NW	6	2.7			10s		W	0.24	6.1	Cloudy	
New Orleans, La.			29.98	761.5	54	—12.2	61	NE	14	6.3			10s		NE	0.03	0.8	Cloudy	
Newport, R. I.			29.70	754.4	25	— 3.9	88	N	12	5.4			10ks		NE	0.51	13.0	Threatening	
New York, N. Y.			29.82	757.4	30	— 1.1	78	NW	16	7.2		Haz	2s		W	0.31	7.9	Fair	
Norfolk, Va.			29.99	761.7	36	2.2	80	N	6	2.7		10s	Fog			0.39	9.9	Cloudy	
North Platte, Neb.	27.32	693.9	30.22	767.6	0	—17.8	100	N	16	7.2			10n			0.14	3.6	Light snow	
Omaha, Neb.	29.25	742.9	30.46	773.7	7	—13.9	54	N	15	6.7		0	2s			Inap.	Inap.	Clear	
Oswego, N. Y.			29.99	761.7	21.8	— 5.7	85	NW	10	4.5			10s		NW	0.12	3.0	Cloudy	
Pembina, Dakota			30.56	776.2	— 9	—22.8	78	N	11	4.9			10s			0	0	Cloudy	
Philadelphia, Pa.			29.92	760.0	31	— 0.6	73	NW	16	7.2		2c	2ks,hz	N	NW	0.24	6.1	Cloudy	
Pike's Peak, Col.	17.20	436.9	29.41	747.0	—11	—23.9	100	SW	15	6.7			Fog			0.15	3.8	Light snow	
Pittsburgh, Pa.			30.13	765.3	22	— 5.6	86	NW	7	3.1			10n		NW	0.08	2.0	Light snow	
Port Huron, Mich.			30.10	764.5	15	— 9.4	83	W	8	3.6			10s			0.04	1.0	Cloudy	
Portland, Me.			29.72	754.9	18	— 7.8	83	N	20	8.9			10n			0.24	6.1	Light snow	
Portland, Oregon			30.12	765.0	42	5.6	91	S	3	1.3			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.03	762.7	65.0	18.3	97	SE	5	2.2		0	Fog			0	0	Fair	
Rochester, N. Y.			30.01	762.2	19	— 7.2	85	NW	10	4.5		Haz	5n	NW	NW	0.18	4.6	Light snow	
Salt Lake City, Utah	25.56	649.2	29.89	759.2	22	— 5.6	72	N	3	1.3			10s			0.72	18.3	Cloudy	
Sandy Hook, N. J.			29.80	756.9	32	0.0	69	NW	30	13.4		0	Haze			0.63	16.0	Hazy	
San Diego, Cal.			29.88	758.9	45	7.2	85	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			29.96	761.0	58	14.4	31	SW	14	6.3		0	0			0	0	Clear	
Santa Fé, N. M.	22.84	580.1	29.38	746.2	22	— 5.6	72	N	2	0.9			10n			0.19	4.8	Light snow	
Savannah, Ga.			30.05	763.3	52	11.1	72	N	8	3.6			10s		NW	0.58	14.7	Cloudy	
Shreveport, La.			30.13	765.3	41	5.0	57	E	6	2.7			10s			0	0	Cloudy	
Smithville, N. C.			30.03	762.7	46	7.8	77	N	4	1.8		8c	2ks	W		0.10	2.5	Cloudy	
Springfield, Mass.			29.74	755.4	28.5	— 1.9	77	Calm	0	0		1ck	8s		W	0.39	9.9	Cloudy	
St. Louis, Mo.			30.35	770.9	18	—10.6	62	N	8	3.6		0	0			Inap.	Inap.	Clear	
St. Marks, Fla.			29.98	761.5	59	15.0	87	NE	6	2.7			10s		NE	0.86	21.8	Cloudy	
St. Paul, Minn.			30.41	772.4	— 3	—19.4	66	NW	5	2.2		0	2s			0	0	Fair	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.76	755.9	26	— 3.3	76	NE	28	12.5			10s		NW	0.20	5.1	Cloudy	
Toledo, Ohio			30.16	766.1	19	— 7.2	85	SW	7	3.1			10s		SW	0.07	1.8	Cloudy	
Tucson, Arizona	27.32	693.9	29.87	758.7	34	1.1		E				0	0			0	0	Clear	
Tybee Island, Ga.			30.00	762.0	51	10.6	86	NW	8	3.6			10s		W	0.76	19.3	Cloudy	
Vicksburg, Miss.			30.10	764.5	41.5	5.3	65	NE	4	1.8			10s,sm'		NE	0	0	Cloudy	
Virginia City, M. T.	24.22	615.2	29.70	754.4	— 8.5	—22.5	78	SE	5	2.2		0	0			0.13	3.3	Clear	
Washington, D. C.			30.03	762.7	31	— 0.6	69	NW	16	7.2		2c	5s	W	N	0.10	2.5	Fair	
Wilmington, N. C.			30.02	762.5	46	7.8	54	N	9	4.0		10cs	0	W		0.12	3.0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.67	753.6	26	— 3.3	88	NW	12	5.4			10s		NW	0.057	14.5	Cloudy	
Yankton, Dakota	29.19	741.4	30.67	779.0	1	—17.2	71	NW	13	5.8			10s			0.03	0.08	Cloudy	
Yuma, Arizona			29.92	760.0	54	12.2		NW				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.17	766.3	76	24.4	76	Calm	0	0		2ck	2s	SE	SE	0	0		James Gall.
Navassa, W. I.					79	26.1		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	65	18.3	89	E	2.0	0.9		2c	5k	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			29.98	761.5	81	27.2	78	E			2	5ck	5ck?	E		1.110	28.19	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.07	763.8			82.0	27.8		N								1.083	27.50		Dr. H. Groot.
Medellin, Colombia, S. A.	25.19	639.8			65.8	18.8	80	Calm			0	5k	0	E		0	0	Fair	Thomas Herran.
York Factory, B. A.			30.36	771.1	— 7.0	—21.7	80	N	6	2.7		2c	0	SW		0.02	0.5	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.05	763.3	74	23.3		NE			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.99	761.7	66	18.9	68	Calm			0	0	4k			0	0	Misty	F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, Boston Light.			29.66	753.4	27	— 2.8	88	N	16	7.2			10n		N			Overcast	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz.: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 24, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.09	764.2	56.1	13.4	62	SW			2		9			0.173	4.4	Hidden	Charnot.
Algiers			29.97	761.3	57.2	14.0	62	NW			2		7			0	0	Cloudy	Peter.
La Calle			29.87	758.8	64.0	17.8	84	W			4		7			0.591	15.0	Cloudy	Didier.
Tunis			29.91	759.6	60.8	16.0		W			5		2			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.09	764.2	45.0	7.2	80	W			3		7			0.807	20.5	Cloudy	Millot.,
Tebessa			29.92	760.0	39.6	4.2		NNW			4		2			0	0	Clear	Bourgeois.
Geriville			30.10	764.4	54 9	12.7	94	NW			2		0			0	0	Clear	Lemaillot.
Laghouat			30.13	765.2	59.0	15.0	39	W			2		2			0.118	3.0	Clear	Guyot.
Biskra			30.03	762.7	59.5	15.3	50	NW			1		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.56	750.7	36.0	2.2	89	NE			1		10			0.291	7.4	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.89	759.1	14.0	—10.0	97	NNE			3		7			0	0		Dr. Wierzbiski.
Eperies			29.80	756.8	28.8	— 1 8	74	Calm			0		8s			0	0		Julius Mikolik.
Gratz	28.32	719.2	29.60	751.7	35.2	1.8	92	NE			2		10			0	0		Andreas Rospini.
Hermannstadt	28.30	718.9	29.75	755.7	40.8	4.9	76	SE			1		4			0	0		Prof. Reissenberger.
Kremsmünster	28.17	715.6	29.56	750.9	30.2	— 1.0	96	Calm			0		10			0.236	6.0		Prof. C. Wagner.
Lemberg			29.95	760.7	5.9	—14.5	96	E			2		10			0.098	2.5		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			29.48	748.7	51.4	10.8	61	SW			2		6ks			0.222	5.66		I.R. Hydrographic Office.
Szegedin			29.62	752.3	41.4	5.2	94	W			2		10			0.096	2.45		Karl Stancel.
Trieste			29.48	748.7	50.0	10.0	73	Calm			0		9			0.244	6.2	Raining	Prof. V. Farolfi.
Vienna			29.60	751.9	36.7	2.6	91	SE			2		10			0.350	8.9	Raining	I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.51	749.6	37.6	3.1	98	SSE			1		10			0.154	3.90	Raining	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.78	756.4	34.1	1.2		SE	29	13.0			8			1.300	33.02	Squally	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.48	748.8	36.6	2.6		ENE	4	1.8									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.41	747.0	35.1	1.7		SE			1		8					*D. clouds	J. Dreyer.
Bradford																			J. McLandsborough.
Bridgetown, (Barbados)			29.95	760.7	82.8	28.2		NE			1		6			0.06	1.5		Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.51	749.5	38.0	3.3		ENE			1		10					*D. clouds	H. Todd. [H.C.
Cardington			29.52	749.8	36.4	2.4		NE			1		10			Blank	Blank	Raining	John McLaren.
Carlisle																		Overcast	T. Bell, for J. Cartmell.
Chatham, School M. E.			28.49	749.0	37.4	3.0		Calm			0		10					Overcast	Capt. Fellowes, R. E.
Dartmoor	28.07	713.0	29.58	751.3	42.0	5.6		Calm			0		5					*D. clouds	R. E. Power.
Davos Platz, (Switzerland)	24.29	617.0			24.0	— 4.4	83	N			1		10			0.453	11.51	Snowing	Francis Redford, M. A.
Donaghadee			29.51	749.5	40	4.4		ESE			4		10					Overcast	J. Mac Gowan.
Dover			29.46	748.3	42	5.6		WNW			2		10					Gloomy	J. Costello.
Eccles, (near Manchester)			29.55	750.6	36.2	2.3		E	1.6	0.7			9					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.53	750.0	43.8	6.6		WNW			1		3					*D. clouds	The Staff.
Fort Napier, (Natal)	27.82	706.6	30.06	763.5	64.9	18.3		E			1		10					Overcast	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	86.0	30.0		NW			0		3					*D. clouds	
Galway, Queen's College			29.50	749.3	33	0.6		NW			6		10					Snowing	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.14	765.5	59.7	15.4		NW			2		7					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.62	752.3	34.6	1.4		ENE			1		8					*D. clouds	Lewis Stuart.
Great Yarmouth			29.52	749.8	39	3.9		E			6		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y			29.49	749.0	34.8	1.6		SW			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.52	749.8	44.5	6.9		WNW			3		8					*D. clouds	Dr. S. E. Hoskins.
Helston			29.52	749.8	44	6.7		NW			4		2ck			0.12	3.0	Fine	M. P. Moyle.
Holyhead			29.50	749.3	38	3.3		SSE			2		2					Blue sky	John Tilston.
Kew, Observatory			29.51	749.5	35.9	2.2		WNW	5	2.2			10					Overcast	The Staff.
Kingstown			29.46	748.3	40	4.4		SSE			3		5					*D. clouds	George Mitchell.
Leicester Museum			29.54	750.3	34.0	1.1		NE			1		10			lank	Blank	Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.88	758.9	62.6	17.0		NW			2		6					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.77	756.1	36	2.2		Calm			0		7					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	73.0	22.8		SE			0		0					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			29.57	751.1	33.6	0.9		NNE			3		10n		NNE	0.361	9.17	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.54	750.3	33.1	0.6		NNE			2		10					Rain & fog	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.51	749.5	35	1.7		N			1		10					Foggy	J. Lucas.
Plymouth			29.50	749.3	40	4.4		SW			1		2					*D. clouds	John Merrifield.
Roche's Point			29.47	748.5	40	4.4		W			3		5					Cloudy	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.50	749.3	46.8	8.2		W			4		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.84	757.9	33.2	0.7		E	23	10.3			10					Snowing	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.87	758.7	57.2	14.0		SW			1		7			Blank	Blank	Hazy	Sergt. W. H. Lyne.
Sheffield			29.58	751.3	34.4	1.3		E			1		10			0.079	2.01	Snowing	W. F. Cooper.
Silloth Rectory			29.69	754.1	37.6	3.1	79	E			1		3			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.59	751.6	34.5	1.4		NE			1		10s					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.72	754.9	38	3.3		ESE			5		5					*D. clouds	John Smith.
Stratfield Turgiss			29.52	749.8	34.8	1.6		N			1		10					Overcast	Rev. Charles H. Griffith.
Thurso			29.79	756.7	35	1.7		SE			4		8					Gloomy	John Trotter.
Truro, Royal Institution			29.51	749.5	46	7.8		NW			4		5					*D. clouds	W. Newcombe.
Valencia, Observatory			29.49	749.0	47.2	8.4		NW	28	12.5			9					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					40	4.4		SE			4		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			30.05	763.3	77.6	24.3	53	SSE	28	12.5		0	1						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.52	749.8	76.0	25.4	84	S			2		0			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.70	754.4	35.0	1.7		E			4		10k			0	0	Overcast	Andrew Gibb.
Mauritius, Observatory			30.02	762.5				NE	7.5	3.4						0	0		C. Meldrum.
Melbourne, Observatory			29.78	756.4	69.0	20.6	71	E	6	2.7			0			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.68	753.9	41	5.0		ESE			4		10			0.3	7.6		J. Youngclause.
North Unst, (Shetland Is.)			29.97	761.2	32	0.0		S			6	5	7	S		Blank	Blank		Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.03	762.8	18.3	— 7.6	78	ENE			6		8						
Fanöe			29.96	760.9	19.4	— 7.0	86	E			6		8						
Godthaab, (Greenland)			29.18	741.1	32.7	0.4	59	ENE			4		10						
Stykkisholm, (Iceland)			29.81	757.1	27.1	— 2.7	96	Calm			0		8						
Thorshavn, (Faröe)			29.91	759.6	37.8	3.2	68	ESE			4		10						
Vestervig			30.06	763.5	18.3	— 7.6	95	E			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			29.59	751.6	42.8	6	97	W			2		5k		W	0	0	Cloudy	Normal School.
Amiens			29.54	750.4	43.9	6.6	79	NW			3		5		NW	0.079	2.0	Cloudy	Normal School.
Avignon			29.70	754.3	46.4	8	57	NNW			2		0			0.189	4.8	Very clear	Normal School.
Bar-sur-Seine			29.61	752.2	41.4	5.2	73	W			2		5k		NW	0.063	1.6	Cloudy	C. Saillard.
Beaumette, (near Angers)			29.59	751.6	45.0	7.2	77	SW	4.5	2.0					W	0	0		Beaumette Observ'tory.
Beauvais			29.56	750.8	40.5	4.7	84	SSW			1		0			0.285	7.25	Clear	Normal School.
Besançon			29.66	753.4	36.0	2.2	73	SSW			4		10			0.055	1.4	Covered	Normal School.
Bourg en Bresse			29.74	755.3	38.7	3.7	83	W			2		5ks		E	0.126	3.2	Cloudy	Normal School.
Bourges			29.69	754.1	41.0	5	91	S			2		2		SW	0.177	4.5	Slightly cl'dy	Normal School.
Brest			29.52	749 8	45.5	7.5	77	WNW			3		4		WNW	0.108	2.75	Squally	Naval Observatory.
Carcassonne			29.77	756.2	48.2	9	85	W			2		8		E	0.20	5.	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.56	750.9	38.8	3.8	97	SW			2		10		NE	0.024	0.6	Covered	Normal School.
Châlons-sur-Marne			29.60	751.9	41.2	5.1	81	W			4		10n		SE	0.079	2.0	Covered	Normal School.
Clermont			29.66	753.3	42.1	5.6	61	WSW			3		2		NW	0.020	0.5	Slightly cl'dy	Puy de Dome Obs'y.
Commercy			29.57	751.0	37.0	2.8	93	SW			2		10			0.012	0.3	Covered	Normal School.
Commune de Gréasque*			29.66	753.4	41.0	5.0	49	NW			4		2		NW	0.138	3.5		M. Kina.
Grenoble			29.72	754.8	37.2	2.9	68	NNW			4		10k		E	0.55	14.	Raining	Normal School.
La Roche-sur-Yon			29.67	753.6	44.6	7.0	85	S			2		2		E	0.122	3.1	Slightly cl'dy	Normal School.
Le Mans			29.61	752.2	40.8	4.9	87	WSW			2		5		SW	0.402	10.2	Cloudy	Normal School.
Lons-Le-Saulnier			29.68	753.8	38.3	3.5	89	SE			1		2		E	0.126	3.20	Rain & snow	Normal School.
Lorient			29.60	751.8	48.2	9.0	65	W			3		5		W	0.209	5.3	Cloudy	Naval Observatory.
Mâcon			29.68	753.8	41.4	5.2	97	W			4		5		W	0	0	Cloudy	Normal School.
Metz			29.62	752.4	37.6	3.1	92	ENE			2		10			0.024	0.6	Covered	M. Schuster.
Mirecourt			29.56	750.7	36.5	2.5	93	SSW			2		8		NNE	0	0	Very cloudy	Normal School.
Nismes			29.74	755.5	42.4	5.8	57	NE			2		1		E	0	0	Clear	Normal School.
Orleans			29.63	752.7	40.6	4.8	93	SSE			2		10			0.43	11.	Covered	Normal School.
Paris, Observatory			29.58	751.4	43.2	6.2	73	WSW			2		5ck		WSW	0.312	7.92	Cloudy	National Observatory.
Parthenay																			Normal School.
Privas			29.67	753.6	43.5	6.4		NW			2		5		NW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.70	754.3	44.2	6.8	90	SSW			3		10		ENE	0.630	16.0	Raining	Naval Observatory.
Rouen			29.55	750.5	44.6	7.0	73	W			2		5		SW	0.020	0.5	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.55	750.5	41.7	5.4	91	WNW			1		8		E	0	0	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.63	752.7	46.4	8.0	45	NW			4		2			0	0	Partly cl'dy	Marseilles Observatory.
Mont-Louis	24.53	623.1	29.94	760.5	29.3	— 1.5	72	SW	18.6	8.33			5		W	0.055	1.4		—. Falguère.
Montsouris, Paris			29.57	751.0	43.9	6.6	74	SW			2		7		SW	0.275	6.9		Montsouris Observatory
Perpignan			29.78	756.3	50.2	10.1	50	NW	14.9	6.66			6		WNW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.09	561.1			15.8	— 9.0		NW			6-8		10			1.571	39.9	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.58	751.3	43.2	6.2	77	WSW			2		0			0.429	10.9	Clear	E. Renou.
Toulouse			29.81	757.1	42.4	5.8	88	WSW			3		10			0.059	1.5		Toulouse Observatory.
Tours			29.64	752.8	40.6	4.8	90	SW			2		10		W	0.169	4.3		C. Marquet.
Versailles, (near Paris)			29.58	751.4	41.7	5.4	84	W			2		6			0.247	6.27	Cloudy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.34	770.6	38.5	3.6	87	SSE	0	0			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1.010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			29.54	750.4	35.2	1.8	69	W			1		10			0	0		Prof. T. Hoh.
Berlin			29.94	760.4	4.3	—15.4	80	E			6		10			0	0		Prof. Arndt.
Breslau			29.87	758.6	6.3	—14.3	96	ENE			3		10					Snowing	Royal University Obs'y.
Carlsruhe			29.59	751.6	35.4	1.9	89	S			1		10			0	0		A. Sens.
Cassel			29.72	754.8	24.1	— 4.4	81	NE			5		10			0	0		Dr. H. Möhl.
Crefeld			29.57	751.1	34.9	1.6	84	E			2		10			0	0	Light fog	Director Lose.
Emden			29.92	759.9	12.2	—11.0	84	E			7		10			0	0		Prof. Prestel.
Frankfort on the Main			29.63	752.6	36.7	2.6	82	E			1		10			0	0		Physical Society.
Friedrichshafen	28.17	715.5	29.64	752.9	34.7	1.5	87	N			1		10			0.354	9.0		M. Wilhelm.
Hamburg			29.90	759.4	8.2	—13.2	88	E			4		8ks			0	0	Fair	Captain F. Hegemann.
Kiel			29.95	760.6	12.4	—10.9	79	SE			5		3			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.16	766.1	— 9.0	—22.8	63	NE			2		2			0	0		Prof. E. Luther.
Köslin			30.08	764.1	— 1.8	—18.8		E			2		1			0	0		H. Müller.
Leipsic			29.83	757.6	9.3	—12.6	77	NE			3		10			0	0		Prof. Bruhns.
Memel			30.17	766.3	— 4.2	—20.1	61	SE			1		3cs			0	0		Reinbrecht & Skalweit.
Münster			29.74	755.5	31.3	— 0.4	91	NE			1		10			0.004	0.1	Snowing	Prof. E. Heis.
Neufahrwasser			30.15	765.9	— 8.1	—22.3	69	Calm			0		2			0.016	0.4		A Lothe.
Posen			30.00	761.9	— 0.6	—18.1	92	E			5		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.62	752.3	33.8	1.0	100	Calm			0		10			0	0		Dr. Schur.
Stuttgart			29.60	751.7	32.4	0.2	85	N			1		10					Snowing	Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.51	749.5	39.7	4.3	82	SE			2		10			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.05	712.4	29.61	752.0	30.9	— 0.6	86	N			1		10	NE		0	0		Dr. von Bebber.
Wustrow, Naval School			30.02	762.4	3.6	—15.8	100	SE			2		4			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 35°, 9′, E. 1°, 54′.			30.23	767.8	67.6	19.8	74	N			5		7	N					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.90	759.5	61.7	16.5		SW										½ clear	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.47	748.4	42.1	5.6	75	SE	10.7	4.7			10			0.681	17.3	Raining	Prof. Giovanni Clodig.
Padua			29.45	748.0	41.2	5.1	89	NE	6.3	2.8			10	NE		0.783	19.9	Raining	Prof. Dott. Lorenzoni.
Vicenza			29.47	748.6	40.1	4.5	95	NW	0	0			10	E		0.972	24.7	Raining	Alm. Da Schio.
Verona			29.44	747.7	43.2	6.2	89	SW			2		10			0.532	13.5	Raining	Dott. B. Bertoncelli.
Bergamo	28.12	714.2	29.49	749.0	34.2	1.2	92	SW			1		10			0.079	2.0	Raining	Prof. Trionfini Carlo.
Domodossola			29.48	748.7	36.5	2.5	86	Calm			0		10			0	0		Prof. Giuseppe Calza.
Milan			29.48	748.8	36.0	2.2	72	WNW			1		10			0.705	17.9	Rain & snow	Ab. Gio. Capelli.
Pavia			29.49	749.1	35.8	2.1	86	SW			1		10			0.559	14.2	Snowing	Prof. Gio. Cantoni.
Moncalieri			29.51	749.6	37.6	3.1	89	WNW	0	0			10					Snowing	Prof. P. F. Denza.
Mondovi	27.53	699.2	29.52	749.7	36.0	2.2	86	E			2		10			0.354	9.0	Snowing	Prof. C. Bruno.
Porto Maurizio			29.50	749.4	48.0	8.9	65	N			2		10			0.240	6.1	Raining	Prof. L. Vassallo
Genoa			29.46	748.2	42.4	5.8	64	N	1.3	0.6			10	NE		0.630	16.0	Raining	Prof. Garibaldi.
Piacenza			29.51	749.5	33.6	0.9	96	NW	0	0			10			0.815	20.7	Snowing	Dott. G. Manzi.
Parma			29.53	750.1	35.4	1.9	95	W			6		10			0.492	12.5	Raining	Prof. P. Pigorini.
Bologna			29.58	751.3	41.5	5.3	49	W			1		6	N		0.197	5.0	Raining	Prof. A. Palagi.
Florence			29.51	749.5	46.8	8.2	87	S			2		10			0.563	14.3	Raining	Cav. F. Meucci.
Leghorn			29.46	748.3	51.6	10.9	48	WSW	8.1	3.6			6	WSW		0.484	12.3	Rain & hail	Prof. P. Monte.
Siena	28.29	718.6	29.53	750.0	45.3	7.4	66	SW	15.4	6.9			9	SW		0.724	18.4	Raining	Prof. L. Toscani.
Urbino	27.92	709.2	29.52	749.8	44.1	6.7	75	SSW			4		5			0.413	10.5	Raining	Prof. P. Serpieri.
Pesaro			29.48	748.7	49.1	9.5	75	SW	19.2	8.6			4	SW		0.173	4.4	Rain & hail	Prof. Luigi Guidi.
Ancona			29.50	749.2	52.3	11.3	64	SW			2		3			0.012	0.3	Light rain	Prof. F. De—Bosis.
Grosseto			29.51	749.5	53.8	12.1	72	SSE			2		4	NW		0.287	7.3		Avv. P. Ponticelli.
Rome			29.58	751.4	53.6	12.0	77	SW	7.4	3.3			9	S		0.732	18.6	Raining	Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.34	752.8	55.2	12.9	71	SW			2		9	SSE		1.272	32.3	Raining	Prof. L. Palmieri.
Lecce			29.71	754.7	53.2	11.8	76	WSW	11.2	5.0			6			0.024	0.6	Light rain	Prof. C. De—Giorgi.
Cosenza			29.79	756.7	53.6	12.0	76	SW	3.8	1.7			10			0.614	15.6	Raining	Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			29.65	753.2	56.7	13.7	79	WSW	6.3	2.8			9	WSW		0.094	2.4	Raining	Prof. G. Cacciatore.
Caltanissetta	27.74	704.7	29.74	755.3	43.2	6.2	69	W			2		5	SE		0.346	8.8	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.67	753.5	52.2	11.2	72	WSW	1.3	0.6			10	SW		1.205	30.6		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.55	750.6	34.5	1.4		E			4					0	0		
Groningen			29.69	754.0				ENE			5					0	0		
Helder			29.65	753.2	21.0	— 6.1		ENE			4					0	0		
Utrecht			29.57	751.1	23.4	— 4.8	90	ENE			4		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.11	764.7	15.8	— 9.0	63	Calm	0	0			3			0	0		
Brönö			29.92	759.9	13.1	—10.5	60	NE	4	2			3			0	0		
Christiania			30.19	766.8	— 3.6	—19.8	87	NE	0	0			1			0	0		
Tromsö			29.74	755.3	27.3	— 2.6	92	SW	7	3			10			0.213	5.4	Snowing	

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.65	753.1	60.4	15.8	89	WNW	18.1	8.1			6			0.661	16.8		Dr. J. A. Sampaio.
Campo Major			30.10	764.5	49.3	9.6	76	SW	4.9	2 2			10	WNW		0.043	1.1		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.05	763.3	66.4	19.1	68	WSW	8.1	3.6			2			0.150	3.8		Capt. D. A. de Cunha.
Lisbon			30.14	765.5	52.2	11.2	74	S	4.9	2.2			10			0.067	1.7		The Observatory.
Ponta Delgada, (Azores)			29.71	754.6	61.2	16.2	89	WNW	11.9	5.3			10			0.256	6.5	Light rain	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.02	762.6	0.1	—17.7	84	NE	11	5			10						Astronomical Obs.
Wilna			30.15	765.9	— 8.1	—22.3	70	NE	4	2			7						Astronomical Obs.
Dorpat			30.10	764.4	— 1.8	—18.8	90	WNW	7	3			10						Physical Cabinet.
St. Petersburg			29.97	761.1	0.9	—17.3	93	WNW	4	2			10						Central Physical Obs.
Kuopio			29.98	761.4	— 0.4	—18.0	100	NW	13	6			10					Snowing	Ch. Forsten.
Kieff			30.04	763.0	— 0.2	—17.9	84	NNW	7	3			2						Physical Cabinet.
Nikolaiev			30.04	763.0	18.5	— 7.5	97	NNW	18	8			10						Kurdakof.
Kertch			29.99	761.7	37.9	3.3	92	NE	2	1			10						Lagorio.
Moscow			29.84	757.8	— 9.6	—23.1	83	W	7	3			0						Meteorological Obs.
Lugan			29.92	759.9	16.0	— 8.9	69	WNW	7	3			5						Meteorological Obs.
Archangel			29.81	757.1	— 5.4	—20.3	92	SE	7	3			10						Ogorodnikof.
Tiflis	28.61	726.6	30.03	762.8	53.1	11.7	57	NW	18	8			5						Physical Observatory.
Astrakhan			29.87	758.6	36.7	2.6	100	SW	4	2			10						Sebastianof.
Kasan			29.47	748.4	3.2	—16.0	93	Calm	0	0			10						Physical Cabinet.
Orenburg			30.58	776.8	— 7.4	—21.9	62	SE	13	6			0						Tschernischef.
Ekaterinburg	28.77	730.8	29.84	757.8	— 9.2	—22.9	56	SE	4	2			10					Snowing	Meteorogical Obs.
Nukuss			30.04	763.0	46.4	8.0	79	E	4	2			0						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.47	774.0	—15.7	—26.5	77	Calm	0	0			0						Meteorological Obs.
Yeniseisk			30.13	765.3	—23.8	—31.0	69	W	4	2			0						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.35	770.8	30.2	— 1.0	74	Calm	0	0			3						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					16.3	— 8.7		WNW	13	6			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.5 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.03	762.7	44.6	7.0	71	W	18.6	8.33		0	4			0	0	Cloudy	Royal Observatory.
San Fernando			30.19	766.9	55.2	12.9	63	N	5.8	2.6		0	6		NW	0.004	0.1		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson. Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.00	762.1	—27.4	—33.0	100	Calm			0		0			0	0		
Umea			30.08	764.1	—20.9	—29.4	100	NW			2		0			0	0		
Hernosand			30.10	764.6	—28.1	—33.4		N			2		0			0	0		
Stockholm			30.14	765.6	— 2.9	—19.4	75	Calm			0		0			0	0		
Wisby			30.16	766.0	14.7	— 9.6	74	ESE			4		5			0.008	0.2		
SUB-SERIES.																			
Upsala			30.17	766.2	— 7.6	—22.0	100	SW	0	0			0			0.002	0.04		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.23	717.0	29.71	754.7	35.8	2.1	81	SSW			2		10			0.047	1.2	Covered	The Observatory.
Zurich	27.96	710.1	29.67	753.5	33.8	1.0	96	NW			1		10			0.457	11.6	Snow & fog	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —10.6 mm; Thermometer, +0.4 cent.; Relative Humidity, +1 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the baroflèter corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.91	759.8	59.4	15.2	74	SW	7	3.0			6		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.85	758.1	63.0	17.2		SE			1		5						
Valona			29.71	754.5	55.0	12.8		S			3		8			Blank	Blank		
Varna			29.76	756.0	42.8	6.0		SW			1		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			30.11	764.9	73.6	23.1	58	WSW			1		5c			0	0	*D. clouds	Pr. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. * Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario			30.48	774.2	— 6	—21.1		Calm	0	0		0	0			0.01	0.3	Clear	W. R. Bigg.
*Chatham, N. B			29.73	755.1	10	—12.2	94	W	2	0.9		2k	5ks	E	E	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island			29.74	755.4	15	— 9.4	91	N	8	3.6			8s			0.075	1.91	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.53	775.4	2.0	—16.7	100	W			1	1cs	0	E		0	0	Bright	James Smith, M. A.
Dalhousie, N. B								W			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.21	767.3	43.3	6.3	100	NW					10n					Rainy	W. H. Bevis.
Fredericton, N. B			29.87	758.7	10.1	—12.2	81	NW	14	6.3		1c	0			0.045	1.14	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.66	778.7	— 6	—21.1	93	SE	1	0.4		Haze	Haze			0	0	Hazy	James Stewart.
Goderich, Ontario			30.60	777.2	7.2	—13.8	87	NE			2	4k	4s	N		0.10	2.5	Cloudy	H. J. Strang, M. A.
Granton, Ontario	29.32	744.7	30.56	776.2	3.7	—15.7		NE			1	1cs	0	W		0	0	Clear	James Grant.
*Halifax, N. S			29.81	757.2	16	— 8.9	78	W	10	4.5		0	2s		W	0.540	13.72	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.54	775.7	— 5	—20.6	85	Calm	0	0		0	0			0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S			29.64	752.8	21.5	— 5.8		N	5	2.2		6k	0	N		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.28	769.1	6	—14.4	78	W	20	8.9		0	2ks			0.02	0.5	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			30.41	772.4	— 5	—20.6	89	W	12	5.4		0	0			Inap.	Inap.	Clear	J. B. Haney.
*Parry Sound, Ontario			30.59	777.0	—15	—26.1	65	N	2	0.9		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			30.55	776.0	2	—16.7	100	N	3	1.3		0	0			Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario			30.55	776.0	— 2	—18.9	97	N	2	0.9			10ks		NW	0.05	1.3	Cloudy	M. Payne.
*Quebec, Quebec			30.15	765.8	7	—13.9	76	W	20	8.9		0	0			0.05	1.3	Clear	Capt. Ashe, R. N.
St. John, N. B			29.91	759.7	11	—11.7	80	NW	5	2.2		0	0			0.040	1.02	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.56	776.2	7	—13.9	80	Calm	0	0			10n			0.35	8.9	Cloudy	K. Stewart.
Stayner, Ontario																Inap.	Inap.		R. J. Cole.
Stratford, Ontario	29.14	740.1	30.58	776.7	2.2	—16.6	90	NE	5	2.2		3cs	0	NE		0.100	2.54	Fine	C. J. MacGregor, M. A.
*Sydney, C. B			29.68	753.9	20	— 6.7	94	W	8	3.6			10n			0.30	7.6	Cloudy	T. C. Hill.
*Toronto, Ontario			30.58	776.7	1	—17.2	85	N	4	1.8		0	0			0.02	0.5	Clear	Magnetic Observatory.
Woodstock, Ontario			30.56	776.2	3.1	—16.1	95	N	6	2.7		6cs	0	N		0	0	Fair	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.49	749.0	17.5	— 8.1		W				5k	10sn			0.40	10.2	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.31	769.9	9	—12.8	68	NW	10	4.5		0	0			Inap.	Inap.	Clear	
Alpena, Mich.			30.62	777.7	2	—16.7	72	W	8	3.6			10s		W	0.02	0.5	Cloudy	
Atlantic City, N. J.			30.36	771.1	21	— 6.1	85	NW	8	3.6			10s			0	0	Cloudy	
Augusta, Ga.			30.14	765.5	37	2.8	90	NE	10	4.5			10n			0.53	13.5	Light rain	
Baltimore, Md.			30.40	772.1	24	— 4.4	74	NW	1	0.4			10s			0	0	Cloudy	
Barnegat, N. J.			30.35	770.9	21	— 6.1	79	NW	15	6.7			10s			0	0	Cloudy	
Bismarck, Dakota	28.67	728.2	30.60	777.2	—10	—23.3	76	Calm	0	0			10s		SE	0.03	0.8	Threatening	
Boston, Mass.			30.17	766.3	8	—13.3	78	W	8	3.6		1cs	0	W		0.01	0.3	Clear	
Breckenridge, Minn.			30.68	779.3	—14	—25.6	63	Calm	0	0		0	5s			0	0	Fair	
Buffalo, N. Y.			30.49	774.4	10	—12.2	79	N	9	4.0			10s			Inap.	Inap.	Cloudy	
Burlington, Vt.			30.36	771.1	10	—12.2	79	N	5	2.2		0	8s			0.05	1.3	Cloudy	
Cairo, Ill.			30.14	765.5	24	— 4.4	74	NE	14	6.3			10n			Inap.	Inap.	Light snow	
Cape Hatteras, N. C.			30.18	766.6	34	1.1	100	NE	21	9.4			10n			0.41	10.4	Heavy snow	
Cape Henry, Va.			30.37	771.4	28	— 2.2	66	NE					10s			0	0	Cloudy	
Cape Lookout, N. C.			30.24	768.1	36	2.2	100	NE	36	16.1			10n		NE	0.37	9.4	Light rain	
Cape May, N. J.			30.36	771.1	24	— 4.4	74	N	28	12.5			10s		W	0	0	Cloudy	
Charleston, S. C.			30.15	765.8	41	5.0	91	NE	16	7.2			10n		NE	0.50	12.7	Light rain	
Cheyenne, Wyoming	23.76	603.5	29.70	754.4	— 5	—20.6	100	S	8	3.6			10s			0.04	1.0	Cloudy	
Chicago, Ill.			30.46	773.7	20	— 6.7	63	NE	20	8.9			10s		N	0.02	0.5	Cloudy	
Cincinnati, Ohio			30.35	770.9	19	— 7.2	69	NE	7	3.1			10ks		NW	0	0	Cloudy	
Cleveland, Ohio			30.50	774.7	15	— 9.4	82	N	9	4.0			10s		N	0	0	Cloudy	
Corsicana, Tex.			30.11	764.8	25	— 3.9	75	NW	14	6.3			10s			0.60	15.2	Cloudy	
Davenport, Iowa			30.53	775.4	8	—13.3	77	NE	10	4.5			10s			0	0	Cloudy	
Denison, Tex.			30.13	765.3	21	— 6.1	85	NW	12	5.4			10s			0.94	23.9	Cloudy	
Denver, Col.	24.65	626.1	29.87	758.7	—19	—28.3	65	S	4	1.8		0	0			0	0	Clear	
Detroit, Mich.			30.52	775.2	4	—15.6	60	N	4	1.8		Haze	2s			0.03	0.8	Fair	
Dodge City, Kan.	27.51	698.7	30.08	764.0	0	—17.8	69	N	16	7.2			10s			0.06	1.5	Cloudy	
Dubuque, Iowa			30.59	777.0	— 8	—22.2	56	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			30.68	779.3	— 5	—20.6	63	Calm	0	0		0	0			0	0	Clear	
Eastport, Me.			29.92	760.0	11	—11.7	79	NW	20	8.9		0	0			0.42	10.7	Clear	
Erie, Pa.			30.50	774.7	14	—10.0	81	NW	14	6.3			10ks		N	0.02	0.5	Cloudy	
Escanaba, Mich.			30.58	776.7	14	—10.0	81	W	11	4.9			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			30.02	762.5	24	— 4.4	87	NE	15	6.7			10s			0.13	3.3	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.88	733.5	30.09	764.3	13	—10.6	44	NW	12	5.4			10s			0.85	21.6	Cloudy	
Fort Sully, Dakota	28.63	727.2	30.53	775.4	— 1	—18.3	100	NE	6	2.7			10n			0.15	3.8	Light snow	
Florence, Arizona	28.48	723.4	30.04	763.0	44	6.7		SE				0	0			0	0	Clear	
Galveston, Tex.			29.96	761.0	45	7.2	92	N	35	15.6			10s		N	0.79	20.1	Cloudy	
Grand Haven, Mich.			30.55	776.0	8	—13.3	78	E	7	3.1		0	1s			0.02	0.5	Clear	
Indianapolis, Ind.			30.41	772.4	13	—10.6	81	NE	8	3.6			10s			0	0	Cloudy	
Indianola, Tex.			30.00	762.0	40	4.4	70	N	40	17.9			10s		N	0.61	15.5	Cloudy	
Jacksonville, Fla.			30.04	763.0	50	10.0	93	NE	4	1.8			10s			0.11	2.8	Cloudy	
Keokuk, Iowa			30.41	772.4	8	—13.3	78	NE	8	3.6			10s		NE	0	0	Cloudy	
Key West, Fla.			30.06	763.5	72	22.2	90	SE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.35	770.9	32	0.0	100	NE	34	15.2			10n			0.05	1.3	Heavy snow	
Knoxville, Tenn.			30.16	766.1	30	— 1.1	89	N	14	6.3			10n			0.02	0.5	Heavy snow	
La Crosse, Wis.			30.65	778.5	—12	—24.4	50	N	3	1.3		0	0			0	0	Clear	
Leavenworth, Kan.			30.37	771.4	10	—12.2	79	NE	6	2.7			10n			0.01	0.3	Light snow	
Louisville, Ky.			30.31	769.9	21	— 6.1	57	NE	24	10.7			10s			0	0	Cloudy	
Lynchburg, Va.			30.36	771.1	26	— 3.3	64	E	8	3.6			10s			0	0	Cloudy	
Malone, N. Y.			30.39	771.9	2	—16.7	72	SW	7	3.1		0	5s		SW	0.06	1.5	Fair	
Marquette, Mich.			30.49	774.4	18	— 7.8	68	SW	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			29.96	761.0	31	— 0.6	89	NE	20	8.9			10s		NE	0.27	6.9	Cloudy	
Milwaukee, Wis.			30.54	775.7	15	— 9.4	83	NE	15	6.7			10ks		NE	0	0	Cloudy	
Mobile, Ala.			29.88	758.9	46	7.8	100	NE	8	3.6			10n			0.79	20.1	Light rain	
Montgomery, Ala.			29.99	761.7	40	4.4	95	NE	12	5.4			10n		NE	0.95	24.1	Heavy rain	
Morgantown, W. Va.	29.28	743.7	30.44	773.2	19	— 7.2	84	NW	3	1.3			10s		NW	0.01	0.3	Cloudy	
Mt. Washington, N. H.	23.36	593.3	29.72	754.9	—19	28.3	100	NW	100	44.7			Fog			0.06	1.5	Foggy	
Nashville, Tenn.			30.15	765.8	27	— 2.8	88	NE	6	2.7			10n			0.14	3.6	Light snow	
New Haven, Conn.			30.30	769.6	18	— 7.8	52	NW	5	2.2			10s			0	0	Cloudy	
New London, Conn.			30.27	768.8	17	— 8.3	67	W	6	2.7		0	8s		W	0	0	Fair	
New Orleans, La.			29.83	757.7	49	9.4	93	NE	8	3.6			10n			0.35	8.9	Light rain	
Newport, R. I.			30.23	767.8	20	— 6.7	72	W	13	5.8		0	8s		W	0	0	Cloudy	
New York, N. Y.			30.35	770.9	20	— 6.7	70	NW	12	5.4			10s			0	0	Cloudy	
Norfolk, Va.			30.37	771.4	28	2.2	67	NE	13	5.8			10s			0	0	Cloudy	
North Platte, Neb.	27.21	691.1	30.09	764.3	— 1.0	—18.3	100	NE	12	5.4			10n			0.27	6.9	Light snow	
Omaha, Neb.	29.23	742.4	30.44	773.2	8	—13.3	89	NE	12	5.4			10s			0	0	Cloudy	
Oswego, N. Y.			30.47	773.9	12.5	—10.8	81	NW	11	4.9			10ks		W	0.28	7.1	Cloudy	
Pembina, Dakota			30.61	777.5	— 3	—19.4	83	S	3	1.3			10s			0	0	Cloudy	
Philadelphia, Pa.			30.38	771.6	21	— 6.1	71	N	16	7.2		Haz.	Haz			0	0	Hazy	
Pike's Peak, Col.	17.15	435.6	29.36	745.7	—14	—25.6	73	NW	32	14.3		0	0			0.02	0.5	Clear	
Pittsburgh, Pa.			30.44	773.2	18	— 7.8	84	NE	8	3.6			10s		NE	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.53	775.4	9	—12.8	78	NW	10	4.5			10s			0.04	1.0	Cloudy	
Portland, Me.			30.12	765.0	10	—12.2	79	NW	4	1.8		0	0			0.02	0.5	Clear	
Portland, Oregon			30.23	767.8	41	5.0	91	S	2	0.9			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.07	763.8	68.0	20.0	100	SE	12	5.4			Fog			0.01	0.3	Foggy	
Rochester, N. Y.			30.40	774.4	10	—12.2	79	NW	12	5.4			10s			0.08	2.0	Cloudy	
Salt Lake City, Utah	25.48	647.2	29.81	757.2	26	— 3.3	88	Calm	0	0			10s			0.04	1.0	Cloudy	
Sandy Hook, N. J.			30.30	769.6	22	— 5.6	72	NW	24	10.7		10ck	0	W		0	0	Cloudy	
San Diego, Cal.			30.00	762.0	46	7.8	42	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.05	763.3	47	8.3	85	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.01	584.4	29.55	750.6	2	—16.7	72	N	5	2.2			10s			0.07	1.8	Cloudy	
Savannah, Ga.			30.12	765.0	42	5.6	91	NE	18	8.0			10n		NE	0.23	5.8	Light rain	
Shreveport, La.			30.04	763.0	34	1.1	100	N	6	2.7			10s			0.74	18.8	Cloudy	
Smithville, N. C.			30.14	765.5	38	3.3	100	NE	17	7.6			10n		NE	0.14	3.6	Light rain	
Springfield, Mass.			30.26	768.6	14	—10.0	62	Calm	0	0		2cs	2s			0	0	Fair	
St. Louis, Mo.			30.34	770.6	15	— 9.4	82	NE	16	7.2			10s			0	0	Cloudy	
St. Marks, Fla.			29.91	759.7	59	15.0	100	SE	14	6.3			10s			0.09	2.3	Cloudy	
St. Paul, Minn.			30.62	777.7	— 5	—20.6	63	NW	1	0.4			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.14	765.5	13	—10.6	44	NW	16	7.2		0	0			0	0	Clear	
Toledo, Ohio			30.51	774.9	8	—13.3	78	Calm	0	0		0	Haze			0.01	0.3	Hazy	
Tucson, Arizona	27.52	699.0	30.07	763.8	21	— 6.1		SW				0	0			0	0	Clear	
Tybee Island, Ga.			30.09	764.3	44	6.7	92	NE	30	13.4			10n		NE	0.42	10.7	Light rain	
Vicksburg, Miss.			29.94	760.5	40	4.4	100	N	7	3.1			10n		W	2.60	66.0	Light rain	
Virginia City, M. T.	24.01	609.8	29.49	749.0	5	—15.0	88	Calm	0	0		3k	0	NW		0.04	1.0	Fair	
Washington, D. C.			30.42	772.7	23	— 5.0	72	NW	8	3.6			10s		W	0	0	Threatening	
Wilmington, N. C.			30.18	766.6	35	1.7	90	NE	12	5.4			10n		NE	0.19	4.8	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.22	767.6	21	— 6.1	71	NW	18	8.0		0	5s			0	0	Fair	
Yankton, Dakota	29.09	738.9	30.57	776.5	0	—17.8	85	E	9	4.0			10s			0	0	Cloudy	
Yuma, Arizona			30.07	763.8	44	6.7		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.19	766.8	77	25.0	78	Calm	0	0		5c	2s	SE	SE	0	0		James Gall.
Navassa, W. I.					81	27.2		E			3							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	65	18.3	83	E	2.0	0.9		2c	0	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	81	27.2	83	E			2	5ck	5ck?	E		0.010	0.25	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.07	763.6			83.3	28.5		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8			65.4	18.6	79	Calm			0	4k	0			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.30	769.6	— 9.5	—23.1	78	SW	10	4.5		2c	0	SW		0	0	Fine	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.03	762.7	74	23.3		NE			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.00	762.0	64	17.8	68	Calm			0	0	8k			0	0		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, at Provincetown, Mass.			30.07	763.8	23.5	— 4.7	80	WNW	14	6.3		2k	0	NW				Clear	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto-pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 25, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.13	765.4	59.5	15.3	74	Calm			0		5			0	0	Fair	Charnot.
Algiers			30.10	764.5	60.4	15.8	61	W			2		6			0	0	Fair	Peter.
La Calle			30.00	762.0	56.5	13.6	56	NNW			3		3			0.157	4.0	Fair	Didier.
Tunis			30.02	762.4	51.8	11.0		W			5		7			0.079	2.0	Cloudy	Jacques.
Sfax																			Chauvey.
Saida			30.15	765.7	52.7	11.5	55	SSW			1		2			0	0	Clear	Millot.
Tebessa			30.04	763.0	40.1	4.5		W			1		2			0	0	Clear	Bourgeois.
Geriville			30.14	765.6	51.4	10.8	65	S			4		1			0	0	Clear	Lemaillot.
Laghouat			30.17	766.3	55.4	13.0	36	W			2		2			0	0	Clear	Guyot.
Biskra			30.13	765.3	60.3	15.7	45	NW			3		4			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.70	754.3	32.7	0.4	92	Calm			0		10			0.197	5.0	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.91	759.7	11.1	—11.6	100	NNE			2		10			0	0		Dr. Wierzbiski.
Eperies			29.74	755.4	19.4	— 7.0	83	N			3		10n,k,s			0	0		Julius Mikolik.
Gratz	28.41	721.6	29.71	754.5	34.5	1.4	93	S			2		10			1.063	27.0		Andreas Rospini.
Hermannstadt	28.08	713.2	29.51	749.6	42.4	5.8	77	SE			3		10			0	0		Prof. Reissenberger.
Kremsmünster	28.35	720.1	29.74	755.5	31.3	— 0.4	96	Calm			0		10			0	0		Prof. C. Wagner.
Lemberg			29.85	758.2	9.1	—12.7	92	NE			3		10			0.346	8.8		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.65	753.0	43.5	6.4	86	W			2		10ks			0.206	5.22		I.R. Hydrographic Of'ce.
Szegedin			29.62	752.4	38.1	3.4	97	Calm			0		10			0.322	8.20		Karl Stancel.
Trieste			29.67	753.5	43.2	6.2	62	E			2		10			0	0		Prof. V. Farolfi.
Vienna			29.79	756.7	23.4	— 4.8	90	N			1		10			0.047	1.2		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.77	756.2	29.5	— 1.4	97	ESE			3		10			0	0	Covered	Royal Observatory.

NOTE.—In the originals, the wea her is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.02	762.5	34.2	1.2		SE	19	8.5			7			0.240	6.10	*D. clouds	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.98	761.5	36.9	2.7		NE	7	3.1									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.95	760.7	35.8	2.1		ENE			1		9					*D. clouds	J. Dreyer.
Bradford																0.16	4.1		J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	82.0	27.8		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.87	758.7	34.0	1.1		NE			2		10					Snowing	H. Todd. [H.C.
Cardington			29.88	758.9	34.0	1.1		NE			2		10			Blank	Blank	Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.80	756.9	37.5	3.1		SE			3		10					Raining	Capt. Fellowes, R. E.
Dartmoor	28.35	720.1	29.91	759.7	32.4	0.2		NE			2		10					Gloomy	R. E. Power.
Davos Platz, (Switzerland)	24.47	621.5			25.1	— 3.8	72	Calm			0		7			0.020	0.51	*D. clouds	Francis Redford, M. A.
Donaghadee			29.98	761.5	38	3.3		E			5		10					Overcast	J. Mac Gowan.
Dover			29.75	755.6	41	5.0		ENE			4		9					Wet	J. Costello.
Eccles, (near Manchester)			29.94	760.5	35.3	1.8		E	10.1	4.6			8					Snowing	Thomas Mackereth.
Falmouth, Observatory			29.85	758.2	38.4	3.6		NNE			1		9					Overcast	The Staff.
Fort Napier, (Natal)	27.58	700.5	29.82	757.4	78.2	25.7		NE			2		1					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	85.0	29.4		NE			0		2					*D. clouds	
Galway, Queen's College			29.97	761.2	36	2.2		NW			7		10					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.06	763.5	61.2	16.2		SW			3		0					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.05	763.3	32.8	0.4		NE			2		10					Snowing	Lewis Stuart.
Great Yarmouth			29.84	757.9	35	1.7		ENE			6		8					Overcast	G. T. Watson.
Greenwich, Royal Obs'y			29.81	757.2	37.8	3.2		NE			2		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.75	755.6	42	5.6		NNE			2		8					*D. clouds	Dr. S. E. Hoskins.
Helston			29.85	758.2	40	4.4		NE			4		0			0.33	8.4	Fine	M. P. Moyle.
Holyhead			29.95	760.7	36	2.2		ENE			3		3					*D. clouds	John Tilston.
Kew, Observatory			29.81	757.2	35.7	2.1		NE	21	9.4			10					Overcast	The Staff.
Kingstown			29.93	760.2	41	5.0		ESE			5		9					Overcast	George Mitchell.
Leicester Museum			29.92	760.0	34.0	1.1		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.86	758.4	63.8	17.7		NW			4		2k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.09	764.3	30	— 1.1		Calm			0		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	73.5	23.1		SE			0		0					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			29.94	760.5	35.2	1.8		NE			5		10d		SE	0.020	0.74	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.90	759.4	32.8	0.4		NE			4–5		10					Snowing	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.83	757.7	34	1.1		ENE			3		10					Gloomy	J. Lucas.
Plymouth			29.82	757.4	38	3.3		NNW			1		2					*D. clouds	John Merrifield.
Roche's Point			29.87	758.7	41	5.0		NE			3		5					Cloudy	W. Kennedy.
Saint Ann's Head			29.86	758.4	38	3.3		E			3		7					*D. clouds	John C. Walker.
Saint Helier, (Jersey)			29.72	754.9	44.0	6.7		NNE			1		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			30.14	765.5	30.4	— 0.9		ESE	15	6.7			9					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.63	752.6	52.6	11.4		SW			3		9					Raining	Sergt. W. H. Lyne.
Sheffield			29.94	760.5	34.6	1.4		E			1		10			0.032	0.84	Snowing	W. F. Cooper.
Silloth Rectory			30.10	764.5	44.7	7.1	80	E			2		4			0	0	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			29.97	761.2	33.3	0.7		E			2		10s					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			30.03	762.7	35	1.7		SSE			1		8					*D. clouds	John Smith.
Stratfield Turgiss			29.83	757.7	35.8	2.1		E			1		10					Raining	Rev. Charles H. Griffith
Thurso			30.12	765.0	33	0.6		SE			2		7					*D. clouds	John Trotter.
Truro, Royal Institution			29.83	757.7	40	4.4		NE			2		4					*D. clouds	W. Newcombe.
Valencia, Observatory			29.87	758.7	42.3	5.7		E	9	4.0			7					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					36	2.2		E			4		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.88	758.9	85.1	29.5	45	SSE	9	4.0		0	0						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.42	747.3	74.0	23.3	88	N			2		8x			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.09	764.3	34.5	1.4		E			2		6k			0.10	2.5	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				W	8.2	3.7						0.077	1.91		C. Meldrum.
Melbourne, Observatory			29.56	750.8	69.2	20.7	78	S	4	1.8			6		NW	0	0	Sultry	R. L. J. Ellery.
Monach L't-house, (Hebrides)			30.03	762.7	40	4.4		S			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.18	766.6	33	0.6		S			3	7	5	S					Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
Minister of Foreign Affairs.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.20	767.1	20.5	— 6.4	79	ENE			2		10						
Fanöe			30.17	766.2	20.8	— 6.2	76	NE			4		10						
Godthaab, (Greenland)			28.93	734.7	39.2	4.0	28	ESE			6		8						
Stykkisholm, (Iceland)			29.89	759.3	29.5	— 1.4	96	E			4		5						
Thorshavn, (Faröe)			30.10	764.4	37.5	3.2	73	SE			3		7						
Vestervig			30.24	768.1	18.3	— 7.6	83	E			2		10						

Note.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.69	754.1	42.8	6	100	SW			2		5km		SW	0	0	Cloudy	Normal School.
Amiens			29.72	755.0	40.6	4.8	90	WSW			3		5		NNW	0.189	4.8	Cloudy	Normal School.
Avignon			29.79	756.7	43.9	6.6	79	NNW			1		10			0	0	Misty	Normal School.
Bar-sur-Seine			29.72	755.0	40.6	4.8	86	WSW			1		10n		SW	0.091	2.3	Covered	C. Saillard.
Beaumette, (near Angers)			29.72	754.8	44.4	6.9	74	NW	3.6	1.6					WNW	0	0		Beaumette Observ'tory.
Beauvais			29.74	755.4	39.4	4.1	80	SE			1		10			0	0	Covered	Normal School.
Besançon			29.77	756.1	40.3	4.6	77	S			3		8		SW	0	0	Very cloudy	Normal School.
Bourg en Bresse			29.76	755.9	35.8	2.1	89	ESE			6		10n		NW	0	0	Covered	Normal School.
Bourges			29.92	760.0	37.4	3	89	NW			2		5		SW	0	0	Cloudy	Normal School.
Brest			29.74	755.3	45.1	7.3	79	NNE			1		2k		NNE	0.236	6.00		Naval Observatory.
Carcassonne			29.85	758.1	47.1	8.4	77	W			1		8		E	0.12	3.	Very cloudy	Normal School.
Caen																			Normal School.
Chartres			29.69	754.0	36.5	2.5	96	NW			2		10			0.106	2.7	Covered	Normal School.
Châlons-sur-Marne			29.73	755.1	39.7	4.3	87	SSE			2		10n			0.031	0.8	Covered	Normal School.
Clermont			29.72	754.9	41.4	5.2	81	NW			2		10		W	0	0	Covered	Puy de Dome Obs'y.
Commercy			29.73	755.1	37.8	3.2	95	SW			2		8		E	0.098	2.5	Very cloudy	Normal School.
Commune de Gréasque*			29.76	755.8	45.5	7.5	61	NW			2		5		NW	0	0		M. Kina.
Grenoble			29.86	758.4	31.8	—0.1	92	ENE			2		10k		NW	0	0	Covered	Normal School.
La Roche-sur-Yon			29.74	755.5	45.0	7.2	77	S			2		5		N.	0.228	5.8	Cloudy	Normal School.
Le Mans			29.71	754.7	43.9	6.6	88	S			2		5		S	0.020	0.5	Cloudy	Normal School.
Lons-Le-Saulnier			29.77	756.1	39.0	3.9	77	SW			1		2		NW	0.047	1.20	Raining	Normal School.
Lorient			29.76	756.0	46.4	8.0	57	N			4		2		NE	0.081	0.8	Slightly cl'dy	Naval Observatory.
Mâcon			29.85	758.2	35.6	2	79	Calm			0		10			0	0	Covered	Normal School.
Metz			29.82	757.5	37.6	3.1	90	ESE			2		10			0.110	2.8	Covered	M. Schuster.
Mirecourt			29.76	755.8	37.8	3.2	89	SSW			4		10		NNE	0.04	1.	Covered	Normal School.
Nismes			29.87	758.6	45.7	7.6	61	N			4		0			0	0	Clear	Normal School.
Orleans			29.71	754.5	37.0	2.8	93	SSE			2		10			0.04	1.	Covered	Normal School.
Paris, Observatory			29.71	754.6	40.6	4.8	89	SSE			1		10k		S	0.017	0.44	Covered	National Observatory.
Parthenay																			Normal School.
Privas			29.82	757.3	41.5	5.3		NW			2		10		NW	0	0	Covered	Normal School.
Rochefort, Observatory			29.78	756.3	46.0	7.8	83	SW			3		2		ENE	0.079	2.0	¾ covered	Naval Observatory.
Rouen			29.76	755.8	42.6	5.9	76	WSW			2		5		W.	0	0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			29.69	754.2	40.5	4.7	72	SE			2		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			29.78	756.4	48.7	9.3	44	NW			2		3			0	0		Marseilles Observatory.
Mont-Louis	24.62	625.3	30.04	763.0	30.0	—1.1	88	WNW	9.3	4.17			10			0.083	2.1		—. Falguère.
Montsouris, Paris			29.69	754.2	41.4	5.2	89	S			1		10		SE	0.016	0.4		Montsouris Observatory
Perpignan			29.83	757.6	52.2	11.2	52	NW	18.6	8.33			5		NW	0.055	1.4		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.19	563.6			18.9	—7.3		WNW			6–8		10			0.913	23.2	Snowy	General de Nansouty.
Saint Maur, (near Paris)			29.71	754.5	40.6	4.8	92	SE			1		10.			0	0	Covered	E. Renou.
Toulouse			29.88	759.0	44.1	6.7	88	W			3		10			0.264	6.7	Rainy	Toulouse Observatory.
Tours			29.71	754.7	40.5	4.7	94	SSW			1		10		W	0.024	0.6		C. Marquet.
Versailles, (near Paris)			29.71	754.5	40.3	4.6	90	SW			1		10			0.041	1.04	Light fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.26	768.7	42.3	5.7	81	SSW	7.8	3.5			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1.010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.74	755.5	18.5	—7.5	40	E			2		7	NE		0.079	2.0		Prof. T. Hoh.
Berlin			30.09	764.3	7.7	—13.5	81	E			5		10			0	0		Prof. Arndt.
Breslau			29.96	760.9	7.0	—13.9	91	NE			3		9			0.079	2.0		Royal University Obs'y.
Carlsruhe			29.78	756.5	33.1	0.6	94	E			1		10			0	0		A. Senz.
Cassel			29.94	760.5	17.6	—8.0	82	ENE			2		2	E		0	0		Dr. H. Möhl.
Crefeld			29.80	756.9	27.3	—2.6	82	NE			3		10			0	0		Director Lose.
Emden			30.22	767.6	8.1	—13.3	90	E			6		0			0	0		Prof. Prestel.
Frankfort on the Main			29.85	758.3	27.5	—2.5	90	NE			2		10			0.024	0.6		Physical Society.
Friedrichshafen	28.32	719.3	29.78	756.5	39.9	4.4	77	SSE			1		3			0.075	1.9	Snowing	M. Wilhelm.
Hamburg			30.10	764.6	2.1	—16.6	100	E			4		10			0	0	Light fog	Captain F. Hegemann.
Kiel			30.11	764.8	18.0	—7.8	56	E			3		2			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.25	768.3	—5.6	—20.9	84	NE			2		2			0	0		Prof. E. Luther.
Köslin			30.18	766.5	5.4	—14.8		E			2		0			0	0		H. Müller.
Leipsic			30.01	762.3	8.2	—13.2	88	ENE			3		9			Inap.	Inap.	Light snow	Prof. Bruhns.
Memel			30.27	768.9	3.7	—15.7	76	E			1		0			0	0		Reinbrecht & Skalweit.
Münster			29.86	758.5	21.6	—5.8	91	NE			1		0			0	0		Prof. E. Heis.
Neufahrwasser			30.20	767.1	2.8	—16.2	76	Calm			0		1			0	0		A Lothe.
Posen			30.08	763.9	7.7	—13.5	100	ENE			5		10			0.004	0.1		Dr. Magener.
Strassburg, (in Alsace)			29.76	755.9	34.2	1.2	100	Calm			0		10			0	0		Dr. Schur.
Stuttgart			29.83	757.6	33.3	0.7	89	N			1		10			0.228	5.8		Prof. Schoder.
Thorn																			Dr. Husenbalg.
Treves, (Trier)			29.70	754.3	36.1	2.3	89	NE			1		10			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.23	717.0	29.81	757.1	27.3	—2.6	92	NNE			1		10			0.157	4.0	Foggy	Dr. von Bebber.
Wustrow, Naval School			30.19	766.8	12.6	—10.8	91	SE			2		5			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 35°, 3′, E. 5°, 56′.			30.05	763.2	68.7	20.4	80	NW			6		10	NW					Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 9 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.69	754.1	57.4	14.1		W										Very cloudy	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.65	753.2	43.9	6.6	66	Calm	0	0			6			0	0		Prof. Giovanni Lodia.
Padua			29.65	753.2	41.0	5.0	92	E	2.5	1.1			9	ESE		0	0		Prof. Dott. Lorenzoni.
Vicenza			29.65	753.2	37.6	3.1	95	W	5.6	2.5			7			0	0		Alm. Da Schio.
Verona			29.62	752.4	39.2	4.0	90	SW			1		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.32	719.4	29.69	754.2	37.0	2.8	69	SW			1		3			0	0		Prof. Trionfini Carlo.
Domodossola			29.70	754.3	40.3	4.6	66	Calm			0		3			0	0		Prof. Giuseppe Colza.
Milan			29.71	754.7	31.8	— 0.1	98	N			1		10			0	0		Ab. Gio. Capelli.
Pavia			29.72	754.8	30.6	— 0.8	90	SW			1		10			0.291	7.4		Prof. Gio. Cantoni.
Moncalieri			29.74	755.3	28.0	— 2.2	98	WNW	0	0			9			0.622	15.8	Snowing	Prof. P. F. Denza.
Mondovi	27.75	704.8	29.74	755.3	37.9	3.3	33	SSW			2		1			0	0		Prof. C. Bruno.
Porto Maurizio			29.72	754.8	50.2	10.1	76	E			1		3			0	0		Prof. L. Vassallo.
Genoa			29.68	753.9	51.1	10.6	49	N	0	0			0			0	0		Prof. Garibaldi.
Piacenza			29.72	754.9	29.3	— 1.5	94	W	8.1	3.6			10			0	0	Dense fog	Dott. G. Manzi.
Parma			29.72	755.0	32.9	0.5	96	SW			2		10			0	0	Dense fog	Prof. P. Pigorini.
Bologna			29.74	755.5	43.2	6.2	86	W			1		2	E		0	0		Prof. A. Falagi.
Florence			29.72	754.9	44.6	7.0	74	NE			2		2	W		0.031	0.8		Cav. F. Meucci.
Leghorn			29.69	754.0	45.0	7.2	87	NE	3.1	1.4			3	SW		0	0		Prof. P. Monte.
Siena	28.48	723.3	29.71	754.7	42.3	5.7	86	SW	0	0			3	SW		0.020	0.5		Prof. L. Toscani.
Urbino	28.12	714.1	29.71	754.7	42.6	5.9	70	SW			2		3			0	0		Prof. P. Serpieri.
Pesaro			29.69	754.2	45.7	7.6	73	NW	19.2	8.6			3			0	0		Prof. Luigi Guidi.
Ancona			29.70	754.4	46.4	8.0	71	W			2		2			0	0		Prof. F. De—Bosis.
Grosseto			29.71	754.7	46.8	8.2	86	NE			2		8	NW		0.598	15.2	Raining	Avv. P. Ponticelli.
Rome			29.74	755.4	51.8	11.0	58	E	2.5	1.1			7			0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U			29.76	755.9	54.7	12.6	48	WNW			4		5	W		0.551	14.0		Prof. L. Palmieri.
Lecce			29.74	755.5	53.2	11.8	60	WNW	17.4	7.8			5			0	0		Prof. C. De—Giorgi.
Cosenza			29.80	756.8	47.5	8.6	68	SW	3.1	1.4			10			0.831	21.1	Raining	Prof. F. D. Conti.
Ripposto (Sicily)																			Prof. F. Cafiero.
Palermo			29.81	757.2	56.7	13.7	48	W	11.9	5.3			7	W		0.106	2.7	Raining	Prof. G. Cacciatore.
Caltanissetta	27.92	709.1	29.91	759.7	47.8	8.8	65	W			4		5	NE		0.094	2.4	Raining	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.79	756.6	51.6	10.9	51	WNW	9.4	4.2			2	W		0.197	5.0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the
Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.84	757.8	29.1	— 1.6		ENE			4					0	0		
Groningen			29.95	760.8				NE			5					0	0		
Helder			29.94	760.4	19.4	— 7.0		ENE			4					0	0		
Utrecht			29.84	758.0	17.2	— 8.2	94	ENE			4		8			0.008	0.2	Very cloudy.	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.21	767.2	24.1	— 4.4	77	ENE	11	5			10			0.146	3.7	Snowing	
Brönö			30.04	763.1	21.2	— 6.0	74	Calm	0	0			9			Inap.	Inap.	Light snow.	
Christiania			30.24	768.0	1.6	—16.9	85	Calm	0	0			7			0	0		
Tromsö			29.85	758.3	15.1	— 9.4	84	Calm	0	0			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.68	753.9	62.2	16.8	89	SW	15.0	6.7			8			0	0		Dr. J. A. Sampaio.
Campo Major			30.08	764.0	54.9	12.7	75	SSW	3.1	1.4			3	SSW		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.99	761.7	66.7	19.3	74	WSW	9.8	4.4			1			0.157	4.0		Capt. D. A. de Cunha.
Lisbon			30.07	763.6	54.5	12.5	85	ESE	1.3	0.6			10			0.067	1.7		The Observatory.
Ponta Delgada, (Azores)			29.84	757.8	63.3	17.4	90	SW	9.8	4.4			3			0.059	1.5		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.03	762.8	4.5	—15.3	81	NE	13	6			10					Snowing	Astronomical Obs.
Wilna			30.30	769.7	— 8.9	—22.7	80	SE	2	1			6						Astronomical Obs.
Dorpat			30.30	769.6	1.2	—17.1	91	SW	4	2			3						Physical Cabinet.
St. Petersburg			30.22	767.6	— 7.8	—22.1	91	NW	4	2			2						Central Physical Obs.
Kuopio			30.07	763.8	— 2.2	—19.0	100	Calm	0	0			10						Ch. Forsten.
Kieff			30.08	764.0	— 0.2	—17.9	100	ENE	9	4			10					Graupeind	Physical Cabinet.
Nikolaiev			29.89	759.2	28.9	— 1.7	98	ESE	22	10			10						Kurdakof.
Kertch			29.90	759.5	40.3	4.6	97	ENE	16	7			10					Foggy	Lagorio.
Moscow			30.32	770.1	— 8.3	—22.4	84	SSW	4	2			3						Meteorological Obs.
Lugan			30.16	766.0	11.3	—11.5	71	E	22	10			10						Meteorological Obs.
Archangel			29.88	758.9	—13.0	—25.0	86	SE	9	4			10						Ogorodnikof.
Tiflis	28.73	729.7	30.15	765.7	56.3	13.5	54	Calm	0	0			7						Physical Observatory.
Astrakhan			30.33	770.4	22.5	— 5.3	85	NE	7	3			9			Blank	Blank		Sebastianof.
Kasan			29.93	760.1	— 7.6	—22.0	91	W	11	5			0						Physical Cabinet.
Orenburg			30.52	775.1	9.1	—12.7	80	SW	20	9			10						Tschernischef.
Ekaterinburg	28.55	725.1	29.60	751.7	— 4.5	—20.3	50	SW	22	10			10						Meteorogical Obs.
Nukuss			30.07	763.7	44.6	7.0	94	WNW	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.02	762.5	21.4	— 5.9	98	SE	2	1			10						Meteorological Obs.
Yeniseisk			30.04	763.1	—23.4	—30.8	80	SW	4	2			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.01	762.3	26.1	— 3.3	74	Calm	0	0			1						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 1.3	—18.5		Calm	0	0			0						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.09	764.3	45.0	7.2	81	SW	5.2	2.33		0	3			0	0	Cloudy	Royal Observatory.
San Fernando			30.21	767.4	56.7	13.7	70	NE	0	0		0	9		NE	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.04	763.0	—20.2	—29.0	54	N			2		2			0	0		
Umea			30.07	763.6	—15.5	—26.4	80	Calm			0		0			0	0		
Hernosand			30.15	765.7	—23.1	—30.6		N			2		3			0	0		
Stockholm			30.15	765.9	12.9	—10.6	86	W			4		10			0	0		
Wisby			30.25	768.4	19.8	— 6.8	78	NNE			4		10					Snowing	
Sub-Series.																			
Upsala			30.15	765.9	7.7	—13.5	100	WSW	8.5	3.8			0			0	0		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.33	719.6	29.82	757.3	35.6	2.0	90	S			1		10			0	0	Covered	The Observatory.
Zurich	28.12	714.3	29.82	757.5	36.5	2.5	76	S			1		4			0	0	Cloudy	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, —8.0 mm; Thermometer, +0.3 cent.; Relative Humidity, +10 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			29.69	754.0	54.1	12.3	73	SW	12	5.5			10		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			29.62	752.4	62.2	16.8		NW			1		10						
Valona			29.69	754.0	51.8	11.0		W			2		5			Blank	Blank		
Varna			29.72	755.0	50.0	10.0		NE			2		10					Foggy	
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.97	761.3	68.9	20.5	51	NNW			1		10cs			0	0	Overcast	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B.																			Hon. J. Ferguson.
Brockville, Ontario			30.49	774.4	—11	—23.9		Calm	0	0			8s		SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B.			30.05	763.3	1	—17.2	100	SW	1	0.4		5ck	2ks	NW	NW	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.96	761.0	12	—11.1	82	N	13	5.8			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.46	773.7	— 4.2	—20.1	100	SW			1	0	3s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B.			30.10	764.5				W			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C.			30.05	763.3	43.3	6.3	100	N					10n			†0.53	†13.5	Rainy	W. H. Bevis.
Fredericton, N. B.			30.20	767.1	5.1	—14.9	77	NW	10	4.5		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.52	775.2	—20	—28.9	93	S	6	2.7		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.34	770.6	14.2	— 9.9	91	NE			2		10n			Inap.	Inap.	Cloudy	H. J. Strang, M. A.
Granton, Ontario	29.10	739.1	30.31	769.9	11.6	—11.3		NE			1		10n			0.100	2.54	Cloudy	James Grant.
*Halifax, N. S.			30.01	762.2	6	—14.4	76	W	10	4.5		0	0			Inap.	Inap.	Clear	F. Allison, M. A.
Heart's Content, N. F.																			E. Weedon.
*Kingston, Ontario			30.55	776.0	— 3	—19.4	83	NE	1	0.4		8c	0			0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S.			29.75	755.6	22.0	— 5.6		N	3	1.3		7k	0	N		0.10	2.5	Fair	C. H. Rigby.
*Montreal, Quebec			30.47	773.9	— 3	—19.4	90	SE	11	4.9		0	Sm'e.			0	0	Fair	C. H. McLeod, C. E.
*Ottawa, Ontario			30.46	773.7	— 4	—20.0	90	Calm	0	0		2cs	0	N		0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.50	774.7	—13	—25.0	52	N	7	3.1		0	2ks		N	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.31	769.9	14	—10.0	93	NE	12	5.4		10k	0	NE		0	0	Cloudy	H. Morgan.
Port Hastings, N. S.			29.84	757.9	23.2	— 4.9		NW	20	8.9						0.20	5.1	Blustering	Peter Grant.
Port Stanley, Ontario			30.29	769.4	15	— 9.4	82	E	14	6.3			10n		E	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.38	771.6	5	—15.0	87	W	23	10.3		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B.			30.20	767.1	8	—13.3	78	NW	15	6.7		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.38	771.6	10	—12.2	60	E	2	0.9		10cs	0			0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario			30.39	771.9	5	—15.0	88	SE	1	0.4		8c	0			0.29	7.4	Cloudy	R. J. Cole.
Stratford, Ontario	28.93	734.8	30.33	770.4	12.1	—11.1	96	E	10	4.5			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B.			29.9	756.7	24	— 4.4	78	NW	10	4.5		2k	8ks		NW	0	0	Fair	T. C. Hill.
*Toronto, Ontario			30.40	772.1	11	—11.7	92	N	10	4.5			10n		W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.33	770.4	12.6	—10.8	94	E	7	3.1			10s			0.030	0.76	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.75	755.6	22.0	— 5.6		NW				10	10			0.01	0.3	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m. †Precipitation in 48 hours.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.44	773.2	5	—15.0	81	Calm	0	0		10k	0	W		0	0	Cloudy	
Alpena, Mich.			30.37	771.4	22	— 5.6	72	NE	10	4.5			10s		NE	0.01	0.3	Cloudy	
Atlantic City, N. J.			30.30	769.6	23	— 5.0	73	N	12	5.4			10s			0	0	Cloudy	
Augusta, Ga.			30.15	765.8	30	— 1.1	89	NE	8	3.6			10n		NE	1.40	35.6	Sleeting	
Baltimore, Md.			30.34	770.6	24	— 4.4	74	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Barnegat, N. J.			30.30	769.6	23	— 5.0	86	N	15	6.7		10k	0	NW		0	0	Cloudy	
Bismarck, Dakota	28.46	722.9	30.40	772.1	—17	—27.2	67	Calm	0	0		0	0			0.08	2.0	Clear	
Boston, Mass.			30.30	769.6	9	—12.8	78	W	5	2.2		5cs	Sm'e	W		0	0	Fair	
Breckenridge, Minn.			30.46	773.7	— 7	—21.7	80	NE	2	0.9		0	5s			0	0	Fair	
Buffalo, N. Y.			30.21	767.3	14.5	— 9.7	73	E	11	4.9			10s		E	0	0	Cloudy	
Burlington, Vt.			30.49	774.4	4	—15.6	74	E	3	1.3		0	2s			0	0	Fair	
Cairo, Ill.			30.18	766.6	19	—17.2	84	NW	6	2.7			10s			0.31	7.9	Cloudy	
Cape Hatteras, N. C.			30.00	762.0	46	7.8	92	NE	18	8.0			10n			1.85	47.0	Light rain	
Cape Henry, Va.			30.20	767.1	30	— 1.1	100	NE					10n			0.23	5.8	Light rain	
Cape Lookout, N. C.			30.09	764.3	36	2.2	100	N	24	10.7			10n		N	1.70	43.2	Light rain	
Cape May, N. J.			30.30	769.6	23	— 5.0	73	NE	10	4.5			10s		N	0	0	Cloudy	
Charleston, S. C.			30.10	764.5	35	1.7	90	N	10	4.5			10n			0.85	21.6	Light rain	
Cheyenne, Wyoming	23.76	603.5	29.70	754.4	— 1	—18.3	100	N	12	5.4		0	0			Inap	Inap.	Clear	
Chicago, Ill.			30.18	766.6	21.5	— 5.8	71	E	7	3.1			10s		E	Inap	Inap.	Cloudy	
Cincinnati, Ohio			30.06	763.5	21	— 6.1	85	NE	3	1.3			10s		NE	0.09	2.3	Cloudy	
Cleveland, Ohio			30.22	767.6	14.5	— 9.7	73	NE	7	3.1			10n			0.03	0.8	Light snow	
Corsicana, Tex.			30.33	770.4	13	—10.6	78	NW	7	3.1		0	2s			0	0	Clear	
Davenport, Iowa			30.24	768.1	19	— 7.2	84	NE	5	2.2			10s			0.01	0.3	Cloudy	
Denison, Tex.			30.35	770.9	9.5	—12.5	68	NW	8	3.6			10s		N	0	0	Cloudy	
Denver, Col.	24.58	624.3	29.80	756.9	— 8	—22.2	79	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			30.22	767.6	14	—10.0	81	NE	11	4.9			10s			0	0	Cloudy	
Dodge City, Kan.	27.51	698.7	30.12	765.0	— 5	—20.6	66	NW	8	3.6		2c	2s	NW	NW	0	0	Fair	
Dubuque, Iowa			30.26	768.6	19	— 7.2	84	NE	1	0.4			10s			Inap.	Inap.	Cloudy	
Duluth, Minn.			30.38	771.6	15	— 9.4	82	Calm	0	0			10s			0	0	Cloudy	
Eastport, Me.			30.18	766.6	10	—12.2	58	NW	25	11.2		0	0			Inap.	Inap.	Clear	
Erie, Pa.			30.24	768.1	19	— 7.2	84	E	10	4.5			10s			Inap.	Inap.	Cloudy	
Escanaba, Mich.			30.36	771.1	17	— 8.3	83	N	11	4.9			10s			Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.24	768.1	16	— 8.9	66	NW	8	3.6			10s			0	0	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.00	736.6	30.23	767.8	12	—11.1	50	N	4	1.8			10s			0	0	Cloudy	
Fort Sully, Dakota	28.45	722.6	30.32	770.1	0	—17.8	84	Calm	0	0			10n			0.20	5.1	Light snow	
Florence, Arizona	28.42	721.9	29.97	761.2	45	7.2		SW				0	0			0	0	Clear	
Galveston, Tex.			30.23	767.8	31	— 0.6	79	N	20	8.9			10s		N	0	0	Cloudy	
Grand Haven, Mich.			30.24	768.1	16	— 8.9	83	E	9	4.0			10s		SE	0	0	Cloudy	
Indianapolis, Ind.			30.12	765.0	17	— 8.3	83	NE	4	1.8			10s			0.12	3.0	Cloudy	
Indianola, Tex.			30.28	769.1	26	— 3.3	77	N	20	8.9			10s			0	0	Cloudy	
Jacksonville, Fla.			30.03	762.7	49	9.4	93	N	12	5.4			10s			0.75	19.1	Cloudy	
Keokuk, Iowa			30.21	767.3	16	— 8.9	66	N	3	1.3			10s		N	0.08	2.0	Cloudy	
Key West, Fla.			30.06	763.5	74	23.3	95	SE	4	1.8		8cs	0			0	0	Cloudy	
Kittyhawk, N. C.			30.13	765.3	42	5.6	100	NE	20	8.9			10n			0.76	19.3	Light rain	
Knoxville, Tenn.			30.10	764.5	30	— 1.1	89	NE	4	1.8			Fog			0.18	4.6	Dense fog	
La Crosse, Wis.			30.32	770.1	13	—10.6	62	N	6	2.7		Haze	Haze			0	0	Hazy	
Leavenworth, Kan.			30.24	768.1	17	— 8.3	83	N	6	2.7			10s			0.17	4.3	Cloudy	
Louisville, Ky.			30.10	764.5	21	— 6.1	71	N	4	1.8			10n		NE	0.14	3.6	Light snow	
Lynchburg, Va.			30.30	769.6	22	— 5.6	85	NE	3	1.3			10n			0.14	3.6	Light snow	
Malone, N. Y.			30.42	772.7	1	—17.2	72	S	4	1.8		2ck	0	W		0	0	Fair	
Marquette, Mich.			30.32	770.1	24	— 4.4	61	W	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			30.21	767.3	23	— 5.0	85	NW	5	2.2			10s		NW	0.24	6.1	Cloudy	
Milwaukee, Wis.			30.25	768.3	22	— 5.6	85	E	15	6.7			10ks		E	0	0	Cloudy	
Mobile, Ala.			30.08	764.0	45	7.2	95	N	8	3.6			10n		N	1.11	28.2	Light rain	
Montgomery, Ala.			30.12	765.0	39.5	4.2	91	N	5	2.2			10n		N	1.13	28.7	Light rain	
Morgantown, W. Va.	29.04	737.6	30.16	766.1	25	— 3.9	75	E	8	3.6			10s			Inap.	Inap.	Threatening	
Mt. Washington, N. H.	23.71	602.2	30.07	763.8	5	—15.0	75	NW	42	18.8		0	0			0	0	Clear	
Nashville, Tenn.			30.41	764.8	27	— 2.8	88	W	2	0.9			10s		W	0.29	7.4	Cloudy	
New Haven, Conn.			30.35	770.9	15	— 9.4	65	N	10	4.5		Haze	Haze			0	0	Fair	
New London, Conn.			30.33	770.4	17	— 8.3	50	NW	4	1.8		2k	5s	W	W	0	0	Fair	
New Orleans, La.			30.09	764.3	42	5.6	79	N	13	5.8			10ks		N	0.38	9.7	Cloudy	
Newport, R. I.			30.32	770.1	17	— 8.3	67	N	4	1.8			10ks		NW	0	0	Cloudy	
New York, N. Y.			30.34	770.6	19	— 7.2	69	Calm	0	0			10s, fg			0	0	Cloudy	
Norfolk, Va.			30.21	767.3	29	— 1.7	94	NE	12	5.4			10n		NE	0.16	4.1	Sleeting	
North Platte, Neb.	27.12	688.8	29.96	761.0	3.0	—16.1	100	Calm	0	0			10n			0.06	1.5	Light snow	
Omaha, Neb.	29.08	738.6	30.26	768.6	16	— 8.9	83	N	4	1.8			10n			0.03	0.8	Light snow	
Oswego, N. Y.			30.44	773.2	12.5	—10.8	89	SE	3	1.3			10s			Inap.	Inap.	Cloudy	
Pembina, Dakota			30.55	776.0	—22	—30.0	60	S	1	0.4		0	Haze			0	0	Clear	
Philadelphia, Pa.			30.34	770.6	19	— 7.2	77	E	8	3.6			10s,n			Inap.	Inap.	Light snow	
Pike's Peak, Col.	17.21	437.1	29.42	747.3	—16	—26.7	100	W	38	17.0		0	0			0.06	1.5	Clear	
Pittsburgh, Pa.			30.18	766.6	20	— 6.7	86	NE	6	2.7			10s		NE	Inap.	Inap.	Threatening	
Port Huron, Mich.			30.28	769.1	14	—10.0	81	NE	11	4.9			10s			0	0	Threatening	
Portland, Me.			30.30	769.6	14	—10.0	63	Calm	0	0		1c	Haze	W		0	0	Clear	
Portland, Oregon			30.15	765.8	45	7.2	84	S	8	3.6			10s			0	0	Cloudy	
Punta Rassa, Fla.			30.06	763.5	69.5	20.8	95	S	12	5.4		2cs	0	SW		0	0	Fair	
Rochester, N. Y.			30.40	772.1	12	—11.1	81	SW	3	1.3			10s			Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.57	649.5	29.90	759.4	29	— 1.7	89	Calm	0	0			10n			0.35	8.9	Light snow	
Sandy Hook, N. J.			30.31	769.9	21	— 6.1	71	NE	12	5.4			10s		NE	0	0	Cloudy	
San Diego, Cal.			30.13	765.3	48	8.9	82	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.13	765.3	48	8.9	77	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.07	586.0	29.61	752.1	5	—15.0	50	N	4	1.8		5k	0	W		0	0	Fair	
Savannah, Ga.			30.13	765.3	36	2.2	90	NE	7	3.1			10n		NE	0.55	14.0	Light rain	
Shreveport, La.			30.31	769.9	27	— 2.8	88	NW	6	2.7			10s		NW	0	0	Cloudy	
Smithville, N. C.			30.09	764.3	33	0.6	89	N	10	4.5			10s		N	1.55	39.4	Cloudy	
Springfield, Mass.			30.38	771.6	11	—11.7	58	N	1	0.4		8c,ck	Haze	W		0	0	Fair	
St. Louis, Mo.			30.21	767.3	14	—10.0	82	N	8	3.6			10s			0.05	1.3	Cloudy	
St. Marks, Fla.			29.99	761.7	49	9.4	100	NE	8	3.6			10n			2.28	57.9	Light rain	
St. Paul, Minn.			30.35	770.9	6	—14.4	76	Calm	0	0			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.28	769.1	18	— 7.8	68	NW	12	5.4		2c	0	W		0	0	Fair	
Toledo, Ohio			30.17	766.3	19	— 7.2	84	NE	10	4.5			10s		NE	0.03	0.8	Cloudy	
Tucson, Arizona	27.60	701.0	30.15	765.8	19	— 7.2		SE				0	0			0	0	Clear	
Tybee Island, Ga.			30.07	763.8	36	2.2	100	NE	16	7.2			Fog			1.00	25.4	Foggy	
Vicksburg, Miss.			30.21	767.3	32.5	0.3	84	N	8	3.6			10s		W	1.10	27.9	Cloudy	
Virginia City, M. T.	24.08	611.6	29.56	750.8	17	— 8.3	92	Calm	0	0		0	2ks		NW	0.19	4.8	Fair	
Washington, D. C.			30.34	770.6	20	— 6.7	85	N	8	3.6			10s			0	0	Threatening	
Wilmington, N. C.			30.10	764.5	32	0.0	100	NE					10n		NE	1.51	38.4	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			30.32	770.1	16	— 8.9	66	NW	3	1.3			10s		NW	0	0	Cloudy	
Yankton, Dakota	28.96	735.6	30.39	771.9	7	—13.9	77	NE	5	2.2			10n			0.07	1.8	Light snow	
Yuma, Arizona			30.11	764.8	40	4.4		E				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.19	766.8	77	25.0	72	Calm	0	0		5c	2s			0	0		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.04	763.0	66	18.9	89	E	1.0	0.4		2c	2k	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S. A.			30.00	762.0	79	26.1	87	E			1	6ks?	6ks	E		1.030	26.16	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	30.03	762.7			82.4	28.0		E								0	0		Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			65.0	18.3	84	Calm			0	8cs,k	1s			0.02	0.5	Cloudy	Thomas Herran.
York Factory, B. A.			29.96	761.0	1.0	—17.2	86	SW	16	7.2			9s			0	0	Gloomy	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.01	762.2	74	23.3		S			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			29.99	761.7	66	18.9	78	Calm			0	0	4k			0.06	1.5		F. L. Clarke.
Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from—		
Schooner Addie Fuller, at Provincetown, Mass.			30.23	767.8	27	— 2.8	88	N	4	1.8		2c	2s		NW			Clear	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg't.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 26, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.26	768.5	64.9	18.3	60	Calm			0		6			0	0	Fair	Charnot.
Algiers			30.24	768.0	59.4	15.2	66	NW			3		7			Inap.	Inap.	Cloudy	Peter.
La Calle			30.22	767.6	57.6	14.2	51	NW			4		7			0.354	9.0	Cloudy	Didier.
Tunis			30.12	765.1	57.2	14.0		W			4		6			0	0	Fair	Jacques.
Sfax																			Chauvey.
Saida			30.23	767.9	49.3	9.6	76	SW			1		2			0	0	Clear	Millot.
Tebessa			30.12	765.0	45.5	7.5		NW			4		2			0	0	Clear	Bourgeois.
Geriville			30.21	767.4	52.7	11.5	100	NW			3		0			0	0	Clear	Lemaillot.
Laghouat			30.25	768.3	56.3	13.5	30	E			2		2			0	0	Clear	Guyot.
Biskra			30.24	768.1	60.1	15.6	68	NW			3		5			0	0	Fair	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.02	762.5	26.6	— 3.0	91	Calm			0		10			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.19	766.7	7.2	—13.8	100	NE			2		10			0.094	2.4		Dr. Wierzbiski.
Eperies			29 99	761.8	9.9	—12.3	81	N			3		10			Blank	Blank		Julius Mikolik.
Gratz	28.75	730.2	30.07	763.7	27.9	— 2.3	85	S			2		5			0.197	5.0		Andreas Rospini.
Hermannstadt	28.23	717.1	29.71	754.7	29.3	— 1.5	84	NW			5		10			0.022	0.55	Snowy	Prof. Reissenberger.
Kremsmünster	28.77	730.7	30.22	767.5	19.8	— 6.8	84	NW			1		10			0.244	6.2		Prof. C. Wagner.
Lemberg			29.93	760.2	7.7	—13.5	96	NE			2		10			0.134	3.4		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			29.89	759.1	46.9	8.3	61	NNW			1		2ks			0.170	4.33		I.R. Hydrographic Of'ce.
Szegedin			29.92	759.9	23.0	— 5.0	86	N			3		10			0.077	1.95		Karl Stancel.
Trieste			29.92	759.9	45.1	7.3	49	ENE			1		0			0	0	Clear	Prof. V. Farolfi.
Vienna			30.18	766.6	15.8	— 9.0	78	NW			3		6			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			30.24	768.0	22.5	— 5.8		E			1		10			0	0	Covered	Royal Observatory.

NOTE.—In the originals, the wea her is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			30.13	765.3	35.4	1.9		SSE	33	14.8			9			0.090	2.29	Snowing	William Boswell.
Ardrossan			30.03	762.7	30	— 1.1		ESE			4		9					Overcast	William McNeil.
Armagh, Observatory			29.84	757.9	35.9	2.2		ESE	19	8.5			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.65	753.1	40.3	4.6		E			3-4		10					Raining	J. Dreyer.
Bradford			30.14	765.5	30.1	— 1.1		E			2		10			0.01	0.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	80.0	26.7		NE			1		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			30.18	766.6	33.0	0.6		E			1		7					*D. clouds	H. Todd. [H. C.
Cardington			30.16	766.1	32.0	0.0		SE			2		9			Blank	Blank	Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			30.18	766.6	33.4	0.8		SE			1		8					Hazy	Capt. Fellowes, R. E.
Dartmoor	28.43	722.1	29.98	761.5	35.0	1.7		SE			6		10					Raining	R. E. Power.
Davos Platz, (Switzerland)	24.74	628.4			22.0	— 5.6	82	SW			1		10			0.024	0.61	Overcast	Francis Redford, M. A.
Donaghadee			29.89	759.2	37	2.8		SE			6		10					Overcast	J. Mac Gowan.
Dover			30.19	766.8	31	— 0.6		SE			3		9					Hazy	J. Costello.
Eccles, (near Manchester)			30.11	764.8	29.7	— 1.3		SE	7.0	3.1			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory			29.89	759.2	43.8	6.6		SE			6		10					Raining	The Staff.
Fort Napier, (Natal)	27.33	694.2	29.57	751.1	94.7	34.8		E			1		0					Blue sky	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	85.0	29.4		N			1		4					*D. clouds	
Galway, Queen's College			29.58	751.3	36	2.2		W			8		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.20	767.1	62.0	16.7		SW			2		0					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			30.05	763.3	32.2	0.1		E			2		10					Threatening	Lewis Stuart.
Great Yarmouth			30.20	767.1	32	0.0		ESE			3		7					*D. clouds	G. T. Watson.
Greenwich, Royal Obs'y			30.16	766.1	34.2	1.2		ESE			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			30.04	763.0	42.5	5.8		SSE			6		10					Squally	Dr. S. E. Hoskins.
Helston			29.90	759.4	43	6.1		S			6		10n			0.8	20.3	Raining	M. P. Moyle.
Holyhead			29.92	760.0	35	1.7		S			2		10					Raining	John Tilston.
Kew, Observatory			30.16	766.1	35.0	1.7		SE	15	6.7			10					Drizzling	The Staff.
Kingstown			29.84	757.9	40	4.4		SE			8		10					Raining	George Mitchell.
Leicester Museum			30.16	766.1	29.1	— 1.6		E			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			29.90	759.4	60.0	15.6		NW			4		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			30.01	762.2	36	2.2		Calm			0		2					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	73.5	23.1		SE			1		0					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			30.18	766.6	29.0	— 1.7		SE			4		10cs,k		SSE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			30.11	764.8	28.7	— 1.8		E			3		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.12	765.0	34	1.1		SE			1		10					Gloomy	J. Lucas.
Plymouth			29.97	761.2	41.1	5.1		S			4		10					Raining	John Merrifield.
Roche's Point			29.50	749.3	49	9.4		SSE			7		10					Raining	W. Kennedy.
Saint Ann's Head			29.84	757.9	41	5.0		SE			8		10					Raining	John C. Walker.
Saint Helier, (Jersey)			30.08	764.0	41.2	5.1		SSE			4		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			30.07	763.8	34.9	1.6		SSE	36	16.1			10					Overcast	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.76	755.9	54.0	12.2		SW			2		9					Gloomy	Sergt. W. H. Lyne.
Sheffield			30.16	766.1	29.7	— 1.3		SE			1		8			0.380	9.65	Overcast	W. F. Cooper.
Silloth Rectory			30.04	763.0	31.3	— 0.4	69	E			3		10			0.710	18.03	Overcast	Rev. Francis Redford.
Stonyhurst, Observatory			30.11	764.8	29.4	— 1.4		SE			1		10ks					Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.95	760.7	35	1.7		SSE			4		8					Threatening	John Smith.
Stratfield Turgiss			30.16	766.1	33.7	0.9		E			1		9					Overcast	Rev. Charles H. Griffith.
Thurso			30.05	763.3	35	1.7		SSE			4		10					Overcast	John Trotter.
Truro, Royal Institution			29.86	758.4	45	7.2		SE			7		10					Raining	W. Newcombe.
Valencia, Observatory			29.42	747.3	51.6	10.9		SSE	39	17.4			10					Raining	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					36	2.2		SE			7		10			0	0		Henry Mercer.
Cape Good Hope, Obs'y			29.87	758.7	75.7	24.3	52	W	12	5.4		4	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.02	737.1	69.5	20.8	94				3		10n			0.01	0.3	Heavy rain	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			30.13	765.3	32.0	0.0		SE			3		10ks			0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				ESE	10.5	4.7						0.52	13.2		C. Meldrum.
Melbourne, Observatory			29.52	749.8	52.1	11.2	72	WNW	20	8.9			8			0.91	23.1	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.82	757.4	36	2.2		SSE			8		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			30.06	763.5	36	2.2		S			4	5	7	SE		Blank	Blank		Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
Minister of Foreign Affairs.

COSTA RICA SERIES.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.40	772.2	20.3	— 6.5	79	NW			2		0						
Fanöe			29.42	772.7	23.0	— 5.0	74	SE			2		1						
Godthaab, (Greenland)			29.41	747.1	44.2	6.8	32	ESE			4		10						
Stykkisholm, (Iceland)			29.80	756.8	28.9	— 1.7	96	E			2		0						
Thorshavn, (Faröe)			30.00	761.9	37.8	3.2	78	S			2		10						
Vestervig			30.38	771.6	22.8	— 5.1	88	S			4		10						

Note.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			30.20	767.0	41.0	5	100	SW			2		10			0	0	Covered	Normal School.
Amiens			30.25	768.3	30.2	— 1.0	96	NE			3		10			0	0	Covered	Normal School.
Avignon			30.09	764.3	45.0	7.2	57	N			6		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.21	767.3	38.3	3.5	82	WSW			1		10n		E	0.299	7.6	Covered	C. Saillard.
Beaumette, (near Angers)			30.15	765.9	37.6	3.1	80	SSE	2.7	1.2					W	0	0		Beaumette Observ'tory.
Beauvais			30.24	768.2	32.7	0.4	91	ESE			2		10			0.010	0.25	Covered	Normal School.
Besançon			30.23	767.8	37.4	3	86	E			2		8		NE	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.20	767.1	37.8	3.2	90	N			2		5ks		SW	0.057	1.4	Cloudy	Normal School.
Bourges			30.23	767.9	38.8	3.8	87	N			6		5		NW	0.28	7.	Cloudy	Normal School.
Brest			29.87	758.7	44.1	6.7	91	SSE			4		10		SSE	0.039	1.00	Raining	Naval Observatory.
Carcassonne			30.14	765.6	47.7	8.7	79	W			1		0			0.322	8.2	Clear	Normal School.
Caen																			Normal School.
Chartres			30.18	766.6	34.2	1.2	88	SW			2		10			0.186	4.7	Covered	Normal School.
Châlons-sur-Marne			30.21	767.4	35.8	2.1	89	Calm			0		10n			0	0	Covered	Normal School.
Clermont			30.19	766.7	38.8	3.8	90	NE			1		8		N	0.126	3.2	Very cloudy	Puy de Dome Obs'y.
Commercy			30.19	766.8	33.1	0.6	92	E			2		10			0.008	0.2	Covered	Normal School.
Commune de Gréasque*			30.17	766.4	42.1	5.6	63	NW			2		0			0	0		M. Kina.
Grenoble			30.18	766.6	34.2	1.2	78	NNE			1		8ks		NE	0.177	4.50	Very cloudy	Normal School.
La Roche-sur-Yon			30.14	765.5	39.6	4.2	93	E			4		10			0.118	3.0	Covered	Normal School.
Le Mans			30.21	767.3	34.7	1.5	93	ESE			2		10			0.012	0.3	Covered	Normal School.
Lons-Le-Saulnier			30.17	766.4	38.3	3.5	90	NE			1		2		E	0	0	Slightly cl'dy	Normal School.
Lorient			30.04	763.1	44.2	6.8	74	SE			4		10			0.717	18.2	Raining	Naval Observatory.
Mâcon			30.25	768.4	39.7	4.3	93	N			2		5		N	0.181	4.6	Cloudy	Normal School.
Metz			30.28	769.2	27.5	— 2.5	77	NE			2		10			0	0	Covered	M. Schuster.
Mirecourt			30.11	764.8	31.3	— 0.4	85	SSW			4		10		NNE	0	0	Covered	Normal School.
Nismes			29.98	761.5	48.9	9.4	68	SE			4		2		SE	0	0	Slightly cl'dy	Normal School.
Orleans			30.19	766.8	37.8	3.2	94	NNE			2		10			0	0	Covered	Normal School.
Paris, Observatory			30.23	767.9	33.4	0.8	95	SW			1		10			0	0	Foggy	National Observatory.
Parthenay																			Normal School.
Privas			30.15	765.9	41.0	5		NNE			2		5		N	0	0	Cloudy	Normal School.
Rochefort, Observatory			30.15	765.7	43.7	6.5	78	SE			3		10		N	0	0	Covered	Naval Observatory.
Rouen			30.20	767.0	36.7	2.6	79	SSE			3		10			0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.14	765.6	39.2	4	91	N			2		10		N	0.39	10.	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			30.00	762.1	47.7	8.7	65	NW			3		1			0	0	Slightly cl'dy	Marseilles Observatory.
Mont-Louis	24.84	630.8	30.27	768.8	35.4	1.9	36	NE	5.6	2.50			2		NW	0.31	8.1		—. Falguère.
Montsouris, Paris			30.20	767.0	32.7	0.4	96	Calm			0		10			Inap.	Inap.		Montsouris Observatory
Perpignan			30.11	764.9	51.4	10.8	60	NW	22.4	10.00			4		NW	0.03	1.0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.46	570.5			30.2	— 1.0		N			1		1			0.49	12.5	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.22	767.6	34.0	1.1	96	SW?			1		10			0	0	Covered	E. Renou.
Toulouse			30.21	767.3	40.6	4.8	84	SE			1		4			0.12	3.1	Light fog	Toulouse Observatory.
Tours			30.19	766.8	37.8	3.2	84	E			1		10			0	0	Misty	C. Marquet.
Versailles, (near Paris)			30.21	767.2	33.1	0.6	100				1		10			0	0	Dense fog	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.38	771.7	42.1	5.6	79	N	6.0	2.7			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4 the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135 millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			30.14	765.5	18.5	— 7.5	58	NE			3		5			0	0		Prof. T. Hoh.
Berlin			30.45	773.4	9.0	—12.8	71	NE			5		0			0	0		Prof. Arndt.
Breslau			30.30	769.5	— 0.9	—18.3	78	NW			4		10	N		0	0		Royal University Obs'y.
Carlsruhe			30.26	768.5	45.3	7.4	88	NE			3		0?			0.244	6.2	Snowing?	A. Senz.
Cassel			30.37	771.3	16.9	— 8.4	68	NE			3		0			0	0		Dr. H. Möhl.
Crefeld			30.26	768.6	21.9	— 5.6	82	E			1		0			0	0		Director Lose.
Emden			30.52	775.2	17.8	— 7.9	59	NE			1		0			0.039	1.0		Prof. Prestel.
Frankfort on the Main			30.33	770.4	21.2	— 6.0	82	NE			3		0			0	0		Physical Society.
Friedrichshafen	28.71	729.2	30.24	768.2	23.7	— 4.6	93	NE			8		10			0	0		M. Wilhelm.
Hamburg			30.45	773.5	15.6	— 9.1	78	SE			2		7ks	SSE		0	0	Fair	Captain F. Hegemann.
Kiel			30.43	772.8	21.7	— 5.7	69	Calm			0		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.37	771.5	3.4	—15.9	50	NE			2		2			0	0		Prof. E. Luther.
Köslin			30.43	773.0	9.5	—12.5		SE			1		2			0	0		H. Müller.
Leipsic			30.42	772.6	5.7	—14.6	87	NNE			2		0			0	0		Prof. Bruhns.
Memel			30.37	771.3	9.1	—12.7	65	Calm			0		6	N		0	0		Reinbrecht & Skalweit.
Münster			30.33	770.4	20.1	— 6.6	90	NE			1		0			0	0		Prof. E. Heis.
Neufahrwasser			30.38	771.6	17.4	— 8.1	65	E			1		7	NNE		0	0		A Lothe.
Posen			30.37	771.5	5.0	—15.0	84	N			2		0			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.29	769.4	24.1	— 4.4	77	NE			2		2			0	0		Dr. Schur.
Stuttgart			30.28	769.0	19.4	— 7.0	81	N			1		10			0.035	0.9		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.19	766.8	25.2	— 3.8	89	NE			3		10			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria,)	28.63	727.3	30.27	768.9	17.2	— 8.2	91	NNE			1		0			0	0		Dr. von Bebber.
Wustrow, Naval School			30.48	774.3	17.1	— 8.3	96	SE			2		8			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 35°, 4′, E. 10°, 30′.			29.96	760.9	62.1	16.7	61	W			6		10	W				Smoke-haze.	Chaplain Fasch.

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.86	758.4	52.2	11.2		SW										Raining	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			29.90	759.5	42.8	6.0	51	Calm	0	0			1			0	0		Prof. Giovanni Clodig.
Padua			29.93	760.2	36.3	2.4	93	SW	2.[illegible]	1.1			10			0	0		Prof. Dott. Lor.nzoni.
Vicenza			29.93	760.3	34.3	1.3	98	W	1.2	0.6			10			0	0	Dense fog	Alm. Da Schio.
Verona			29.91	759.8	39.6	4.2	83	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.58	725.8	29.95	760.6	39.6	4.2	49	NW			2		1			0	0		Prof. Trionfini Carlo.
Domodossola			29.96	760.9	42.8	6.0	41	N			6		0			0	0		Prof. Giuseppe Colza.
Milan			29.98	761.6	29.7	— 1.3	100	NW			1		10			0	0		Ab. Gio. Capelli.
Pavia			29.97	761.3	30.4	— 0.9	73	W			4		0			0	0		Prof. Gio. Cantoni.
Moncalieri			30.00	762.1	33.6	0.9	74	ENE	3.1	1.4			0			0	0		Prof. P. F. Denza.
Mondovi	28.01	711.5	30.00	762.0	39.0	3.9	38	WSW			2		0			0	0		Prof. C. Bruno.
Porto Maurizio			29.99	761.8	49.1	9.5	37	WSW			2		0			0	0		Prof. L. Vassallo.
Genoa			29.94	760.4	48.4	9.1	29	N	7.4	3.3			0			0	0		Prof. Garibaldi.
Piacenza			29.98	761.4	26.8	— 2.9	89	W	3.8	1.7			0			0	0		Dott. G. Manzi.
Parma			29.97	761.1	33.6	0.9	85	W			2		2			0	0		Prof. P. Pigorini.
Bologna			29.94	760.4	36.1	2.3	42	NW			1		3	S		0	0		Prof. A. Palagi.
Florence			29.93	760.3	45.5	7.5	52	N			4		0			0	0		Cav. F. Meucci.
Leghorn			29.88	759.0	47.1	8.4	46	NE	4.[illegible]	2.2			1			0	0		Prof. P. Monte.
Siena	28.64	727.5	29.88	758.9	43.9	6.6	68	WSW	0	0			3	W		0	0		Prof. L. Toscani.
Urbino	28.32	719.4	29.92	760.0	33.3	0.7	94	N			2		10			0	0		Prof. P. Serpieri.
Pesaro			29.96	760.9	36.5	2.5	56	WNW	26.[illegible]	11.7			10	NW		0	0	Dense fog	Prof. Luigi Guidi.
Ancona			29.98	761.4	39.6	4.2	84	NW			4		10			0	0		Prof. F. De—Bosis.
Grosseto			29.86	758.5	48.4	9.1	67	NE			4		3	SE		0.736	18.7		Avv. P. Ponticelli.
Rome			29.82	757.3	49.5	9.7	59	NNE	6.[illegible]	2.8			2			0.185	4.7		Prof's. P. Secchi & L. Respighi
Naples, O. U.			29.80	757.0	51.1	10.6	59	NNE			2		6	NW		0.276	7.0		Prof. L. Palmieri.
Lecce			29.80	756.8	50.4	10.2	72	ENE	6.3	2.8			8			0.094	2.4	Raining	Prof. C. De—Giorgi.
Cosenza			29.82	757.5	46.4	8.0	72	ESE	9.8	4.4			10			1.035	26.3	Raining	Prof. F. D. Conti.
Ilipostо, (Sicily)																			Prof. F. Cafiero.
Palermo			29.81	757.1	52.3	11.3	58	W	6.9	3.1			8	W		0.181	4.6	Raining	Prof. G. Cacciatore.
Caltanissetta	27.86	707.6	29.85	758.2	45.0	7.2	63	NW			6		3	E		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			29.82	757.5	46.8	8.2	59	NE	3.1	1.4			10	NW		0.209	5.3		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet: Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			30.28	769.1	27.5	— 2.5		SE			4					0	0		
Groningen			30.34	770.5	9.7	—12.4		ENE			3					0	0		
Helder			30.32	770.0	16.5	— 8.6		E			4					0	0		
Utrecht			30.26	768.5	17.2	— 8.2	76	ESE			2		0			0	0	Clear	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			30.29	769.3	23.7	— 4.6	58	Calm	0	0			3			0	0		
Bróno			29.72	755.0	33.1	0.6	89	WSW	18	8			10			Inap.	Inap.	Light snow	
Christiania			30.33	770.4	0.0	—17.8	89	ENE	0	0			0			[illegible]	0		
Tromsö			29.61	752.0	20.8	— 6.2	54	SE	9	4			0			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.47	748.5	57.2	14.0	91	Calm	0	0			8			0.669	17.0		Dr. J. A. Sampaio.
Campo Major			30.19	766.8	50.7	10.4	86	ESE	4.9	2 2			10			0.028	0.7	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.10	764.5	64.6	18.1	66	W	8.7	3.9			7			0	0		Capt. D. A. de Cunha.
Lisbon			30.12	765.1	60.1	15.6	87	S	17.4	7.8			10			0.177	4.5	Rainy	The Observatory.
Ponta Delgada, (Azores)			29.52	749.9	57.9	14.4	95	SW	3.1	1.4			10			0.598	15.2	Raining	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.18	766.6	4.3	—15.4	77	NNW	18	8			6						Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			30.36	771.1	10.2	—12.1	88	SW	4	2			8						Physical Cabinet.
St. Petersburg			30.27	768.9	9.5	—12.5	94	WSW	4	2			5						Central Physical Obs.
Kuopio			30.08	764.1	5.4	—14.8	100	SW	13	6			3						Ch. Forsten.
Kieff			29.74	755.3	10.9	—11.7	100	NNE	11	5			10					Snowing	Physical Cabinet.
Nikolaiev			29.56	750.7	32.9	0.5	98	Calm	0	0			10					Foggy	Kurdakof
Kertch			29.63	752.7	49.1	9.5	88	SW	16	7			9						Lagorio.
Moscow			30.43	773.0	— 4.2	—20.1	80	S	4	2			3						Meteorological Obs.
Lugan			29.76	755.8	16.9	— 8.4	88	E	40	18			10			Blank	Blank		Meteorological Obs.
Archangel			29.97	761.2	2.1	—16.0	91	WNW	22	10			10						Ogorodnikof.
Tiflis	28.53	724.6	29.96	760.9	50.7	10.4	71	SE	4	2			5						Physical Observatory.
Astrakhan			29.98	761.4	20.1	— 6.6	97	ENE	22	10			10						Sebastianof.
Kasan			30.44	773.1	1.9	—16.7	85	Calm	0	0			10						Physical Cabinet.
Orenburg			30.45	773.5	18.9	— 7.3	87	S	16	7			10						Tschernischef.
Ekaterinburg	29.09	738.9	30.17	766.4	—13.0	—25.0	52	SW	27	12			0						Meteorogical Obs.
Nukuss			30.28	769.0	36.0	2.2	65	E	7	3			9						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.89	759.1	8.6	—13.0	76	W	18	8			9						Meteorological Obs.
Yeniseisk			29.12	739.6	2.8	—16.2	91	SW	7	3			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.33	770.4	23.7	— 4.6	51	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					0.5	—17.5		E	7	3			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.32	770.0	37.4	3.0	92	N	1.5	0.67			10			Inap.	Inap.	Foggy	Royal Observatory.
San Fernando			30.23	767.7	57.0	13.9	70	N	0	0		3	7	NW	N	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.96	761.0	1.8	—16.8	80	NE			2		10			0	0		
Umea			30.06	763.4	3.2	—16.0	81	S			2		2			0	0		
Hernosand			30.14	765.5	—16.2	—26.8	89	Calm			0		2			0	0		
Stockholm			30.24	768.0	5.7	—14.6	91	W			2		0			0.012	0.3		
Wisby			30.32	770.1	24.8	— 4.0	82	WNW			6		7			0.016	0.4		
SUB-SERIES.																			
Upsala			30.24	768.1	1.0	—17.2	100	S	3.6	1.6			0			0.012	0.30		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.70	728.9	30.18	766.5	37.0	2.8	79	SSW			2		9			0.039	1.0	Cloudy	The Observatory.
Zurich	28.48	723.4	30.19	766.8	33.4	0.8	90	NW			1		10			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +1.3 mm; Thermometer, +1.2 cent.; Relative Humidity, —2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.82	757.4	55.4	13.0	71	SW	9	4.0			10		WSW	0.760	19.3	Raining	
Fao, (Persian Gulf)																			
Salonica			29.78	756.3	55.8	13.2		NE			2		5						
Valona			29.76	756.0	46.8	8.2		W			2		5						
Varna			29.65	753.0	50.0	10.0		NE			3		2						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.13	765.2	68.5	20.3	76	WSW			3		7n		SW	0.06	1.5	Showery	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B			29.94	760.5	6.5	—14.2	74	SW	3	1.3			0					Clear	Hon. J. Ferguson.
Brockville, Ontario			30.11	764.8	9	—12.8		NE	4	1.8			10s		NE	Inap.	Inap.	Light snow	W. R. Bigg.
*Chatham, N. B			29.96	761.0	— 1	—18.3	100	SW	3	1.3		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island			29.92	760.0	12	—11.1	90	W	15	6.7		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			30.11	764.8	7.9	—13.4	82	E			2		10s			Inap.	Inap.	Dull	James Smith, M. A.
Dalhousie, N. B			30.05	763.3				W			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.01	762.2	44.3	6.8	92	SW					10n			0	0	Cloudy	W. H. Bevis.
Fredericton, N. B			30.13	765.3	1.6	—16.9	83	NW	7	3.1		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.06	763.5	—16	—26.7	94	SW	2	0.9			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			30.01	762.2	19.8	— 6.8	91	W			2		10n			0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.85	732.8	30.02	762.5	18.2	— 7.7		SW			1		10n			0.100	2.54	Cloudy	James Grant.
*Halifax, N. S			30.00	762.0	12	—11.1	96	W	8	3.6		0	2ks		W	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.10	764.5	13	—10.6	91	NE	3	1.3			10s			0.02	0.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.68	753.9	26.0	— 3.3		N	6	2.7		5k	0	N		0.05	1.3	Fair	C. H. Rigby.
*Montreal, Quebec			30.15	765.8	4	—15.6	92	NE	12	5.4			10n			0	0	Cloudy	C. H. McLeod, C. E.
*Ottawa, Ontario			30.10	764.5	10	—12.2	81	E	6	2.7			10ks		NE	0	0	Threatening	J. B. Haney.
*Parry Sound, Ontario			30.00	762.0	17	— 8.3	92	SE	9	4.0		8k	2ks	SE	SE	0.03	0.8	Cloudy	Rev. R. Mosley.
Port Dover, Ontario			30.03	762.7	21	— 6.1	91	SW	6	2.7			10n		SW	0.18	4.6	Light snow	H. Morgan.
Port Hastings, N. S			29.86	758.4	19.0	— 7.2		NW	8	3.6						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.08	764.0	19	— 7.2	97	N	16	7.2			10n		W	0.11	2.8	Cloudy	M. Payne.
*Quebec, Quebec			30.21	767.3	— 5	—20.6	100	Calm	0	0			Haze			0	0	Hazy	Capt. Ashe, R. N.
St. John, N. B			30.10	764.5	9	—12.8	78	N	1	0.4		0	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.96	761.0	19	— 7.2	89	SE	3	1.3			10s			0.05	1.3	Light snow	K. Stewart.
Stayner, Ontario			30.02	762.5	15	— 9.4	93	SE	1	0.4			10n			0.08	2.0	Light snow	R. J. Cole.
Stratford, Ontario	28.64	727.4	30.01	762.2	17.3	— 8.2	97	SW	8	3.6			10s			0.150	3.81	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.74	755.4	25	— 3.9	84	W	5	2.2		0	5ks		NW	0.02	0.5	Fair	T. C. Hill.
*Toronto, Ontario			30.01	762.2	20	— 6.7	93	NE	3	1.3			10n			0.25	6.3	Light snow	Magnetic Observatory.
Woodstock, Ontario			30.02	762.5	19.5	— 6.9	100	NW	1	0.4			10s			0.050	1.27	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.29	744.0	20.0	— 6.7		W				10	10			0.01	0.3	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.13	765.3	11	—11.7	79	Calm	0	0		5k	5s	SW	W	0	0	Cloudy	
Alpena, Mich.			29.93	760.2	20	— 6.7	85	NW	8	3.6			10n		NW	0.70	17.8	Light snow	
Atlantic City, N. J.			29.94	760.5	37	2.8	100	NE	16	7.2			10n			0.35	8.9	Light rain	
Augusta, Ga.			30.08	764.0	34	1.1	89	NW	2	0.9			10s		NW	0.11	2.8	Cloudy	
Baltimore, Md.			30.06	763.5	28	— 2.2	88	NW	5	2.2			10s			0.11	2.8	Cloudy	
Barnegat, N. J.			29.96	761.0	37	2.8	100	NE	13	5.8			10n			0.32	8.1	Light rain	
Bismarck, Dakota	28.08	713.2	29.98	761.5	—20	—28.9	63	Calm	0	0		0	0			0	0	Clear	
Boston, Mass.			30.15	765.8	20	— 6.7	78	NW	5	2.2			10s,sm'		NW	0	0	Cloudy	
Breckenridge, Minn.			29.94	760.5	— 6	—21.1	81	Calm	0	0		0	2s			0.01	0.3	Clear	
Buffalo, N. Y.			29.99	761.7	26	— 3.3	88	W	16	7.2			10n		W	0.12	3.0	Light snow	
Burlington, Vt.			30.17	766.3	13	—10.6	82	Calm	0	0			10s			0	0	Cloudy	
Cairo, Ill.			30.20	767.1	20	— 6.7	85	W	2	0.9			10s			0	0	Cloudy	
Cape Hatteras, N. C.			29.92	760.0	35	1.7	100	N	8	3.6			10n		N	1.06	26.9	Light rain	
Cape Henry, Va.			30.01	762.2	31	— 0.6	89	NW					10s			0.82	20.8	Cloudy	
Cape Lookout, N. C.			30.02	762.5	35	1.7	90	N	11	4.9			10n		N	0.43	10.9	Light rain	
Cape May, N. J.			29.95	760.7	31	— 0.6	100	N	20	8.9			10n			0.42	10.7	Light rain	
Charleston, S. C.			30.08	764.0	37	2.8	90	NW	8	3.6			10n			1.58	40.1	Light rain	
Cheyenne, Wyoming	23.57	598.7	29.51	749.5	19	— 7.2	85	W	8	3.6			10s			0.01	0.3	Cloudy	
Chicago, Ill.			30.04	763.0	18	— 7.8	68	SW	4	1.8			Fog			0.03	0.8	Foggy	
Cincinnati, Ohio			30.11	764.8	22	— 5.6	85	W	5	2.2			10s			0.02	0.5	Cloudy	
Cleveland, Ohio			30.12	765.0	18.5	— 7.5	76	SW	10	4.5			10s		SW	0.08	2.0	Cloudy	
Corsicana, Tex.			30.21	767.3	21	— 6.1	85	N	8	3.6			10s			0	0	Cloudy	
Davenport, Iowa			30.05	763.3	18	— 7.8	84	SW	9	4.0			10n			0.03	0.8	Light snow	
Denison, Tex.			30.23	767.8	22	— 5.6	72	NE	3	1.3			10s			Inap.	Inap.	Cloudy	
Denver, Col.	24.39	619.5	29.61	752.1	10	—12.2	58	S	5	2.2			10s			0	0	Cloudy	
Detroit, Mich.			30.04	763.0	15	— 9.4	82	SW	6	2.7			10s			0.05	1.3	Cloudy	
Dodge City, Kan.	27.28	692.9	29.90	759.4	—14	—25.6	73	W	2	0.9		0	2s		W	0	0	Clear	
Dubuque, Iowa			30.00	762.0	12	—11.1	80	S	1	0.4			10n			0.10	2.5	Light snow	
Duluth, Minn.			29.94	760.5	17	— 8.3	84	Calm	0	0		5c	0			0.17	4.3	Fair	
Eastport, Me.			30.13	765.3	9	—12.8	57	NW	10	4.5		0	0			0	0	Clear.	
Erie, Pa.			30.04	763.0	22	— 5.6	85	S	16	7.2			10n			0.03	0.8	Light snow	
Escanaba, Mich.			30.00	762.0	16	— 8.9	83	N	4	1.8		2ck	5s	SW		Inap.	Inap.	Fair	
Fort Gibson, Indian Ter.			29.18	766.6	15	— 9.4	82	E	2	0.9			10s			Inap.	Inap.	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.76	730.5	29.98	761.5	10	—12.2	47	Calm	0	0		5cs	0			0	0	Fair	
Fort Sully, Dakota	28.23	717.0	30.16	766.1	—20	—28.9	64	Calm	0	0		0	0			0.03	0.8	Clear	
Florence, Arizona	28.48	723.4	30.03	762.7	45	7.2		E				0	0			0	0	Clear	
Galveston, Tex.			30.18	766.6	34	1.1	67	N	10	4.5			10n			0.05	1.3	Light rain	
Grand Haven, Mich.			29.98	761.5	21	— 6.1	85	SE	5	2.2			10s		W	0.02	0.5	Cloudy	
Indianapolis, Ind.			30.13	765.3	20	— 6.7	77	SW	3	1.3			10n			0.01	0.3	Light snow	
Indianola, Tex.			30.21	767.3	29	— 1.7	59	N	20	8.9			10s		N	0	0	Cloudy	
Jacksonville, Fla.			30.05	763.3	43	6.1	91	NE	4	1.8			10n			0.62	15.7	Light rain	
Keokuk, Iowa			30.06	763.5	18	— 7.8	68	SW	9	4.0			10s		SW	0	0	Cloudy	
Key West, Fla.			30.03	762.7	72	22.2	90	SE	4	1.8		0	5ks			0	0	Fair	
Kittyhawk, N. C.			30.02	762.5	32	0.0	89	NW	8	3.6			10ks		NW	1.13	28.7	Cloudy	
Knoxville, Tenn.			30.11	764.8	29	— 1.7	78	NW	8	3.6			10s			0.01	0.3	Cloudy	
La Crosse, Wis.			29.97	761.2	12	—11.1	80	W	2	0.9			10s			0.02	0.5	Cloudy	
Leavenworth, Kan.			30.12	765.0	7	—13.9	89	W	6	2.7		0	0			0.03	0.8	Clear	
Louisville, Ky.			30.17	766.3	21	— 6.1	71	W	2	0.9			10s			0.01	0.3	Cloudy	
Lynchburg, Va.			30.09	764.3	24	— 4.4	86	Calm	0	0		0	Sm'e			0.09	2.3	Smoky	
Malone, N. Y.			30.08	764.0	13	—10.6	80	Calm	0	0			10s			0	0	Cloudy	
Marquette, Mich.			29.94	760.5	26	— 3.3	76	Calm	0	0			10s			0.15	3.8	Cloudy	
Memphis, Tenn.			30.22	767.6	22	— 5.6	85	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Milwaukee, Wis.			30.05	763.3	8	—13.3	78	W	7	3.1			8s		W	0.01	0.3	Cloudy	
Mobile, Ala.			30.11	764.8	35	1.7	100	N	9	4.0			10s		N	0.09	2.3	Cloudy	
Montgomery, Ala.			30.11	764.8	38	3.3	85	N	4	1.8			10s		NE	0.12	3.0	Cloudy	
Morgantown, W. Va.	28.99	736.3	30.10	764.5	28	— 2.2	77	SW	9	4.0			10s		SW	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.62	599.9	29.98	761.5	11	—11.7	79	W	10	4.5		8s	0	W		0	0	Fair	
Nashville, Tenn.			30.18	766.6	22	— 5.6	86	Calm	0	0			10s			0	0	Cloudy	
New Haven, Conn.			30.07	763.8	20	— 6.7	85	NE	13	5.8			10n			0.03	0.3	Light snow	
New London, Conn.			30.10	764.5	25	— 3.9	87	N	10	4.5			10n			0.02	0.5	Light snow	
New Orleans, La.			30.09	764.3	38	3.3	71	N	9	4.0			10s		N	0.13	3.3	Cloudy	
Newport, R. I.			30.10	764.5	25	— 3.9	88	N	5	2.2			10s			0.02	0.5	Threatening	
New York, N. Y.			30.05	763.3	28	— 2.2	88	NE	16	7.2			10n			0.04	1.0	Light snow	
Norfolk, Va.			30.01	762.2	30	— 1.1	89	NW	6	2.7			10s			0.45	11.4	Threatening	
North Platte, Neb.	26.86	682.2	29.75	755.6	—18.0	—27.8	100	Calm	0	0			10ks			0.02	0.5	Cloudy	
Omaha, Neb.	28.88	733.5	30.08	764.0	2	—16.7	86	Calm	0	0		0	0			0.08	2.0	Clear	
Oswego, N. Y.			30.06	763.5	25.5	— 3.0	87	SE	4	1.8			10n			0.04	1.0	Light snow	
Pembina, Dakota			30.02	762.5	—11	—23.9	76	Calm	0	0			10s			0	0	Cloudy	
Philadelphia, Pa.			30.02	762.5	28	— 2.2	100	E	15	6.7			10n		E	0.07	1.8	Light rain	
Pike's Peak, Col.	17.14	435.4	29.35	745.5	— 9	—22.8	100	W	40	17.9		2s	Fog		W	0.10	2.5	Light snow	
Pittsburgh, Pa.			30.08	764.0	27	— 2.8	88	SW	5	2.2			10n		SW	Inap.	Inap.	Light snow	
Port Huron, Mich.			30.00	762.0	16	— 8.9	83	SW	6	2.7		Haze	5s		SW	0.11	2.8	Fair	
Portland, Me.			30.16	766.1	17	— 8.3	83	Calm	0	0		5k,hz	Haze	W		0	0	Hazy	
Portland, Oregon			30.15	765.8	47	8.3	77	Calm	0	0			10n			0.20	5.1	Light rain	
Punta Rassa, Fla.			30.02	762.5	69.0	20.6	98	SE	12	5.4			10n		SE	0.02	0.5	Light rain	
Rochester, N. Y.			29.98	761.5	25	— 3.9	82	SE	4	1.8			10n			0.04	1.0	Light snow	
Salt Lake City, Utah	25.37	644.4	29.70	754.4	37	2.8	80	W	4	1.8			10s			0.02	0.5	Cloudy	
Sandy Hook, N. J.			29.99	761.7	30	— 1.1	100	NE	18	8.0			10n		NE	0.04	1.0	Light snow	
San Diego, Cal.			30.04	763.0	50	10.0	37	E	8	3.6		0	0			0	0	Clear	
San Francisco, Cal.			30.09	764.3	47	8.3	85	N	4	1.8		0	Fog			0	0	Fair	
Santa Fé, N. M.	23.01	584.4	29.55	750.6	12	—11.1	61	NE	6	2.7		0	0			0	0	Clear	
Savannah, Ga.			30.08	764.0	36	2.2	90	N	10	4.5			10n		N	0.92	23.4	Light rain	
Shreveport, La.			30.25	768.3	29	— 1.7	89	Calm	0	0			10s			0	0	Cloudy	
Smithville, N. C.			30.03	762.7	33	0.6	89	N	4	1.8			10n		N	0.36	9.1	Light rain	
Springfield, Mass.			30.14	765.5	21	— 6.1	77	N	4	1.8			10n			0.01	0.3	Light snow	
St. Louis, Mo.			30.24	768.1	14	—10.0	82	W	8	3.6		0	0			Inap.	Inap.	Clear	
St. Marks, Fla.			30.05	763.3	42	5.6	90	N	4	1.8			10s		N	0.83	21.1	Cloudy	
St. Paul, Minn.			29.92	760.0	12	—11.1	79	Calm	0	0			10n			0.04	1.0	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.14	765.5	31	— 0.6	79	N	8	3.6			10s		NW	0	0	Cloudy	
Toledo, Ohio			30.07	763.8	20	— 6.7	70	SW	7	3.1			10s		SW	0.04	1.0	Cloudy	
Tucson, Arizona	25.57	700.3	30.12	765.0	24	— 4.4		SE				2c	0	W		0	0	Fair	
Tybee Island, Ga.			30.05	763.3	36	2.2	100	N	14	6.3			10n		N	1.13	28.7	Light rain	
Vicksburg, Miss.			30.22	767.6	27	— 2.8	88	N	2	0.9			10s			0	0	Cloudy	
Virginia City, M. T.	23.87	606.3	29.35	745.5	20	— 6.7	85	Calm	0	0			5ks		N	0.13	3.3	Cloudy	
Washington, D. C.			30.06	763.5	26	— 3.3	94	N	8	3.6			10n		N	0.15	3.8	Light rain	
Wilmington, N. C.			30.04	763.0	32	0.0	89	NW	8	3.6			10n		NW	0.85	21.6	Light rain	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.13	765.3	32	0.0	89	NE	4	1.8			10n			0.02	0.5	Heavy snow	
Yankton, Dakota	28.71	729.2	30.16	766.1	— 4	—20.0	83	W	4	1.8			10s			0.06	1.5	Cloudy	
Yuma, Arizona			30.02	762.5	42	5.6		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	77	25.0	72	Calm	0	0		2c	2s	SE	SE	0	0		James Gall.
Navassa, W. I.					80	26.7		NE			3							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	65	18.3	83	E	1.0	0.4		0	5k			0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.98	761.5	79	26.1	91	E			1	7ks?	7ks	E		0.520	13.21	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.04	762.9			80.6	27.0		E								0.354	9.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640 3			65.5	18.6	77	Calm			0	1c	3ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			29.77	756.1	2.0	—16.7	86	SW	6	2.7		0	2s		SW	0.05	1.3	Fair	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	75	23.9		SSE			4					0	0	Cloudy	Daniel Smith.
Makawao, Maui, H. I.			29.94	760.5	68	20.0	69	S			2	0	4k			0.02	0.5		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Provincetown, Mass.			30.10	764.5	36	2.2	90	Calm	0	0			10s					Overcast	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,185 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for alti-tude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

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

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 27, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.30	769.7	63.0	17.2	64	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.32	770.2	60.8	16.0	79	N			1		0			Inap.	Inap.	Clear	Peter.
La Calle			30.34	770.5	58.3	14.6	70	NW			3		5			0	0	Fair	Didier.
Tunis			30.31	769.8	55.4	13.0		W			4		7			0.276	7.0	Cloudy	Jacques.
Sfax																			Chauvey.
Saida			30.32	770.2	53.1	11.7	62	S			3		1			0	0	Fair	Millot.
Tebessa			30.26	768.7	41.9	5.5		NNW			3		2			0	0	Clear	Bourgeois.
Geriville			30.26	768.5	53.2	11.8	94	NNW			2		0			0	0	Clear	Lemaillot.
Laghouat			30.36	771.2	53.2	11.8	36	S			2		1			0	0	Clear	Guyot.
Biskra			30.40	772.2	60.6	15.9	42	NW			2		2			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.46	773.6	22.1	— 5.5	87	Calm			0		0			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.54	775.7	7.3	—13.7	96	W			3		10			0	0		Dr. Wierzbiski.
Eperies			30.34	770.6	18.3	— 7.6	67	NW			2		7cks		S	0.409	10.40		Julius Mikolik.
Gratz	29.14	740.1	30.50	774.8	18.7	— 7.4	72	S			3		5			0	0		Andreas Rospini.
Hermannstadt	28.73	729.8	30.30	769.7	12.9	—10.6	70	NW			5		6			0	0		Prof. Reissenberger.
Kremsmünster	29.06	738.0	30.56	776.2	9.3	—12.6	84	NE			2		0			0	0		Prof. C. Wagner.
Lemberg			30.29	769.4	7.9	—13.4	96	N			2		10			0.051	1.3		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.32	770.0	37.2	2.9	51	E			3		6ks			0	0		I.R.Hydrographic Of'ce.
Szegedin			30.38	771.7	16.2	— 8.8	88	N			1		10			0	0		Karl Stancel.
Trieste			30.33	770.4	32.0	0.0	78	E			2		0			0	0	Clear	Prof. V. Farolfi.
Vienna			30.54	775.6	17.2	— 8.2	65	NW			2		0			0.094	2.4		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.97	761.1	36.3	2.4	75	S			4		10ks		SW	0	0	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.48	748.8	38.1	3.4		SSW	5	2.2			9			0.825	20.96	Misty	William Boswell.
Ardrossan			29.42	747.3	36	2.2		NE			3		10					Overcast	William McNeil.
Armagh, Observatory			29.33	745.0	43.0	6.1		ENE	5	2.2			10					Foggy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.23	742.4	49.9	9.9		SE			1–2		10					Drizzling	J. Dreyer.
Bradford			29.48	748.8	40.3	4.6		Calm			0		10			0.53	13.5	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	81.0	27.2		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.66	753.4	47.0	8.3		S			2		10			Blank	Blank	Overcast	H. Todd. [H.C.
Cardington			29.65	753.1	48.4	9.1		S			3		10					Overcast	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.75	755.6	48.0	8.9		SW			4		10			Blank	Blank	Threatening	Capt. Fellowes, R. E.
Dartmoor	28.15	715.0	29.65	753.1	50.0	10.0		S			6		10					Heavy rain	R. E. Power.
Davos Platz, (Switzerland)	24.94	633.5			24.0	— 4.4	45	Calm			0		5			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.34	745.2	47	8.3		N			2		10					Overcast	J. Mac Gowan.
Dover			29.81	757.2	47	8.3		SW			5		9					Wet	J. Costello.
Eccles, (near Manchester)			29.48	748.8	49.4	9.7		S	6.0	2.7			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.56	750.8	55.0	12.8		SSW			6		10					Raining	The Staff.
Fort Napier, (Natal)	27.36	694.9	29.60	751.8	79.0	26.1		NE			2		0					Blue sky	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.91	759.7	84.0	28.9		N			1		4					*D. clouds	
Galway, Queen's College			29.50	749.3	38	3.3		W			7		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.25	768.3	61.0	16.1		E			3		4					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.42	747.3	35.7	2.1		NE			1		10					Snowing	Lewis Stuart.
Great Yarmouth			29.75	755.6	43	6.1		S			6		8					Drizzling	G. T. Watson.
Greenwich, Royal Obs'y			29.71	754.6	49.5	9.7		SSW			5		10					Raining	The Staff, for G. B. Airy.
Guernsey			29.75	755.6	53.5	11.9		SSW			6		10					Raining	Dr. S. E. Hoskins.
Helston			29.60	751.8	55	12.8		SW			6		10n			0.95	24.1	Heavy rain	M. P. Moyle.
Holyhead			29.37	746.0	51	10.6		SSW			4		10			Blank	Blank	Foggy	John Tilston.
Kew, Observatory			29.71	754.6	49.3	9.6		S	23	10.3			10					Raining	The Staff.
Kingstown			29.36	745.7	46	7.8		Calm			0		10					Foggy	George Mitchell.
Leicester Museum			29.57	751.1	49.9	9.9		S			3		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.12	765.0	57.2	14.0		NW			4		4k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.41	747.0	36	2.2		W			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.04	763.0	73.5	23.1		SE			1		3					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			29.54	750.3	49.9	9.9		S			5		10d		S	0.287	7.29	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.54	750.3	48.9	9.4		S			4		10					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.62	752.3	51	10.6		S			3		10					Raining	J. Lucas.
Plymouth			29.61	752.1	53.2	11.8		SW			5		10					Raining	John Merrifield.
Roche's Point			29.25	742.9	50	10.0		SSW			6		10					Raining	W. Kennedy.
Saint Ann's Head			29.43	747.5	52	11.1		SW			6		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.80	756.9	54.0	12.2		S			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.43	747.5	35.5	1.9		SSE	10	4.5			5					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			29.89	759.2	38.2	3.4		NE			4		10					Raining	Sergt. W. H. Lyne.
Sheffield			29.53	750.0	44.5	6.9		SW			3		10			0.05	1.50	Overcast	W. F. Cooper.
Silloth Rectory			29.40	746.7	45.0	7.2	97	Calm			0		10			0.500	12.70	Overcast	Rev. Francis Redford
Stonyhurst, Observatory			29.46	748.3	45.6	7.6		SW			3		10n			Blank	Blank	Overcast	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.36	745.7	38	3.3		Calm			0		10					Overcast	John Smith.
Stratfield Turgiss			29.71	754.6	50.7	10.4		S			2		10					Raining	Rev. Charles H. Griffith.
Thurso			29.41	747.0	36	2.2		Calm			0		6					*D. clouds	John Trotter.
Truro, Royal Institution			29.59	751.6	57	13.9		SW			8		10					Raining	W. Newcombe.
Valencia, Observatory			29.15	740.4	54.0	12.2		SSW	50	22.4			10					Drizzling	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)					48	8.9		W			3		10			0.90	22.9		Henry Mercer.
Cape Good Hope, Obs'y			29.80	756.9	70.0	21.1	63	NW	16	7.2		8	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.31	744.5	65.0	18.3	88	N			5		8k			1.31	33.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.47	748.5	37.0	2.8		E			2		10s			0.44	11.2	Overcast	Andrew Gibb.
Mauritius, Observatory			30.03	762.7				E	11.3	5.1						0.11	2.8		C. Meldrum.
Melbourne, Observatory			29.80	756.9	57.3	14.1	73	NW	8	3.6			7			0.11	2.8	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.33	745.0	46	7.8		SSE			4		10			0.4	10.2		J. Youngclause.
North Unst, (Shetland Is.)			29.45	748.0	34	1.1		SE			8		10					Snow & sleet	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

San José																			

DANISH SERIES.

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

Copenhagen			30.41	772.5	22.6	— 5.2	66	S			4		10						
Fanöe			30.19	766.9	14.5	— 9.7	74	SE			6		10						
Godthaab, (Greenland)			29.23	742.4	33.4	0.8	46	NE			6		5						
Stykkisholm, (Iceland)			29.36	745.7	34.7	1.5	89	SE			6		8						
Thorshavn, (Faröe)			29.37	746.1	38.8	3.8	88	NE			3		10					Raining	
Vestervig			30.15	765.8	15.8	— 9.0	88	SE			6		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			29.96	760.9	41.0	5	93	SW			2		5kn		SW	0	0	Cloudy	Normal School.
Amiens			30.00	762.1	39.6	4.2	93	WNW			6		5		W	0.087	2.2	Cloudy	Normal School.
Avignon			30.26	768.5	42.1	5.6	69	NNE			1		0			0	0	Clear	Normal School.
Bar-sur-Seine			30.15	765.8	40.5	4.7	78	S			1		8n			0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.98	761.6	50.4	10.2	76	SW	5.8	2.6					SW	0.063	1.6		Beaumette Observ'tory.
Beauvais			30.02	762.4	42.8	6	73	S			2		8		W	0.010	0.25	Very cloudy	Normal School.
Besançon			30.30	769.5	34.5	1.4		E			2		8		NW	0	0	Very cloudy	Normal School.
Bourg en Bresse			30.28	769.2	36.9	2.7	83	SE			1		5ckn		SE	0	0	Cloudy	Normal School.
Bourges			30.18	766.6	42.8	6	85	E			2		2		N	0.020	0.5	Slightly cl'dy	Normal School.
Brest			29.72	754.8	54.5	12.5	95	SW			6		10		SW	0.276	7.00	Raining	Naval Observatory.
Carcassonne			30.21	767.4	48.2	9	67	E			1		0			0	0	Clear	Normal School.
Caen																			Normal School.
Chartres			30.00	762.0	43.3	6.3	88	S			3		9		SE	0.047	1.2		Normal School.
Châlons-sur-Marne			30.14	765.6	37.0	2.8	72	S			4		10n			0	0	Covered	Normal School.
Clermont			30.13	765.4	46.4	8.0	57	S			1		8			0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			30.20	767.0	31.8	— 0.1	93	ESE			2		8		E	0	0	Very cloudy	Normal School.
Commune de Gréasque*			30.27	768.9	43.5	6.4	56	NW			2		5		NW	0	0		M. Kina.
Grenoble			30.33	770.4	35.8	2.1	63	NE			2		5cs		SW	0	0	Cloudy	Normal School.
La Roche-sur-Yon			30.06	763.4	47.1	8.4	81	SE			2		8		NE	0	0	Very cloudy	Normal School.
Le Mans			30.01	762.3	45.9	7.7	75	WNW			2		8		W	0.04	1.	Very cloudy	Normal School.
Lons-Le-Saulnier			30.22	767.6	38.7	3.7	76	N			1		2			0	0	Slightly cl'dy	Normal School.
Lorient			29.89	759.1	58.3	14.6	72	SSW			6		10			0	0	Covered	Naval Observatory.
Mâcon			30.22	767.5	38.3	3.5	93	N			2		5		N	0.181	4.6	Cloudy	Normal School.
Metz			30.27	768.8	27.5	— 2.5	77	E			2		10			0	0	Covered	M. Schuster.
Mirecourt			30.23	767.9	30.4	— 0.9	79	SSW			2		5		NNE	0	0	Partly cl'dy	Normal School.
Nismes			30.22	767.5	46.8	8.2	71	E			2		2		SE	0	0	Slightly cl'dy	Normal School.
Orleans			30.07	763.7	44.2	6.8	88	S			2		0			0	0	Clear	Normal School.
Paris, Observatory			30.04	762.9	43.9	6.6	61	S			2		8k		SW	0.015	0.38	Hazy	National Observatory.
Parthenay																			Normal School.
Privas			30.28	769.2	39.2	4		NNW			2		2		NNW	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.06	763.5	51.3	10.7	74	SSE			3		8		N	0	0	¾ covered	Naval Observatory.
Rouen			29.97	761.1	46.2	7.9	65	S			2		5		SW	0.028	0.7	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.26	768.6	41.4	5.2	86	SW			2		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			30.21	767.2	52.0	11.1	53	SW			0-1		6			0	0	Partly cl'dy.	Marseilles Observatory.
Mont-Louis	24.98	634.4	30.40	772.1	41.0	5.0	67	WSW	13.0	5.83			0			0	0		—. Falguère.
Montsouris, Paris			30.00	762.1	44.1	6.7	54	S			3-4		9		WSW	0.012	0.3		Montsouris Observatory
Perpignan			30.24	768.2	46.8	8.2	76	E	7.4	3.33			1		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.62	574.6			48.2	9.0		W			1		1			0	0	Clear	General de Nansouty.
Saint Maur, (near Paris)			30.03	762.8	44.2	6.8	68	SSE			8		4			0.012	0.3		E. Renou.
Toulouse			30.19	766.9	47.8	8.8	76	SSE			1		3			0	0		Toulouse Observatory.
Tours			30.05	763.3	47.8	8.8	58	SSW			1		9		W	0.008	0.2		C. Marquet.
Versailles, (near Paris)			30.02	762.5	46.0	7.8	59	SW			3		9			0.004	0.11	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.41	772.5	36.0	2.2	79	ESE	7.4	3.3			0			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1.010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. * Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			30.36	771.1	16.0	— 7.8	66	E			3		3	E		0	0		Prof. T. Hoh.
Berlin			30.51	774.9	14.0	—10.0	68	SE			5		2			0	0		Prof. Arndt.
Breslau			30.54	775.6	11.7	—11.3	74	NW			1		10			0	0		Royal University Obs'y.
Carlsruhe			30.32	770.1	22.6	— 5.2	84	SW			1		10			0	0		A. Senz.
Cassel			30.33	770.3	21.4	— 5.9	78	SE			4		8	SW		0	0		Dr. H. Möhl.
Crefeld			30.11	764.8	27.3	— 2.6	71	SE			5		9			0	0		Director Lose.
Emden			30.16	766.0	24.4	— 4.2	75	SE			1		10			0	0		Prof. Prestel.
Frankfort on the Main			30.37	771.3	21.6	— 5.8	81	SE			2		8			0	0		Physical Society.
Friedrichshafen	28.86	733.1	30.41	772.3	22.8	— 5.1	93	NE			5		10			0	0		M. Wilhelm.
Hamburg			30.32	770.2	11.5	—11.4	89	SE			5		10ks			0	0		Captain F. Hegemann.
Kiel			30.28	769.2	16.0	— 8.9	59	SE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia.)			30.49	774.4	15.8	— 9.0	63	S			2		9			0	0		Prof. E. Luther.
Köslin			30.51	775.0	23.9	— 4.5		Calm			0		4			0	0		H. Müller.
Leipsic			30.49	774.4	12.4	—10.9	69	SE			1		2			0	0		Prof. Bruhns.
Memel			30.47	773.8	14.0	—10.0	71	SE			1		9ks	NW		0	0		Reinbrecht & Skalweit.
Münster			30.14	765.6	28.2	— 2.1	84	SE			1		10			0	0		Prof. E. Heis.
Neufahrwasser			30.43	772.8	27.1	— 2.7	77	NNW			2		10			0.016	0.4		A Lothe.
Posen			30.65	778.5	14.4	— 9.8	87	NNW			3		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			30.36	771.1	21.6	— 5.8	100	NE			2		10			0	0		Dr. Schur.
Stuttgart			30.35	770.9	22.6	— 5.2	70	E			1		5			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			30.14	765.6	33.4	0.8	63	W			3		10			0.024	0.6		Prof. Flesch.
Weissenburg, (Bavaria,)	28.82	732.0	30.47	774.0	16.3	— 8.7	97	ESE			3		10			0	0		Dr. von Bebber.
Wustrow, Naval School			30.51	775.0	11.5	—11.4	84	SE			2		0			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 34°, 58′, E. 14°, 40′.			29.61	752.1	64.8	18.2	80	NW			7		10	NE					Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 418.4 meters, or 1,356 3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			29.76	755.8	49.5	9.7		NE										Covered	

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

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			30.30	769.6	34.7	1.5	33	E	4.3	1.9			0			0	0		Prof. Giovanni Clodig
Padua			30.32	770.0	35.2	1.8	65	N	4.9	2.2			9	S		0	0		Prof. Dott. Lorenzoni.
Vicenza			30.32	770.2	36.5	2.5	65	E	0.7	0.3			7	W		0	0		Alm. Da Schio.
Verona			30.30	769.5	35.6	2.0	80	E			1		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.89	733.9	30.26	768.7	33.4	0.8		S			2		1			0	0		Prof. Trionfini Carlo.
Domodossola			30.28	769.1	37.0	2.8	70	Calm			0		3			0	0		Prof. Giuseppe Calza.
Milan			30.35	771.0	30.0	— 1.1	100	ENE			1		6			0	0		Ab. Gio. Capelli.
Pavia			30.32	770.2	27.3	— 2.6	87	E			4		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.32	770.0	30.4	— 0.9	98	N	0.7	0.3			3	NW		0	0		Prof. P. F. Denza.
Mondovi	28.30	718.9	30.29	769.4	35.8	2.1	33	NW			2		1			0	0		Prof. C. Bruno.
Porto Maurizio			30.30	769.6	50.2	10.1	47	E			2		3	SW		0	0		Prof. L. Vassallo.
Genoa			30.26	768.7	50.0	10.0	39	N	0	0			2			0	0		Prof. Garibaldi.
Piacenza			30.35	770.9	27.0	— 2.8	98	SSE	1.3	0.6			10			0	0	Dense fog.	Dott. G. Manzi.
Parma			30.33	770.4	28.4	— 2.0	92	N			4		10			0	0		Prof. P. Pigorini.
Bologna			30.21	767.3	31.1	— 0.5	41	W			1		10			0	0		Prof. A. Palagi.
Florence			30.31	769.8	40.1	4.5	74	NE			2		0			0	0		Cav. F. Meucci.
Leghorn			30.26	768.5	45.0	7.2	46	NE	6.5	3.1			3	NW		0	0		Prof. P. Monte.
Siena	29.02	737.1	30.26	768.5	39.2	4.0	64	SE	2.5	1.1			1	N		0	0		Prof. L. Toscani.
Urbino	28.70	729.0	30.30	769.6	36.5	2.5	77	NE			2		9			0	0		Prof. P. Serpieri.
Pesaro			30.32	770.0	42.3	5.7	57	E	13.0	5.8			3	NW		0	0		Prof. Luigi Guidi.
Ancona			30.31	769.9	42.8	6.0	56	N			4		7			0.118	3.0	Raining	Prof. F. De—Bosis.
Grosseto			30.27	768.8	45.5	7.5	41	NE			2		2	SE		0	0		Avv. P. Ponticelli.
Rome			30.22	767.5	46.0	7.8	39	N	12.5	5.6			0			0.224	5.7		Prof's. P. Secchi & L. Respighi
Naples, O. U			30.18	766.5	46.8	8.2	27	ENE			4		4	N		0	0		Prof. L. Palmieri.
Lecce			30.02	762.5	43.2	6.2	49	N	32.2	14.4			5	N		0	0		Prof. C. De—Giorgi.
Cosenza			30.11	764.7	42.6	5.9	64	ENE	4.9	2.2			0			0	0		Prof. F. D. Conti.
Ripposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.09	764.2	48.6	9.2	64	N	8.1	3.6			9	N		0.255	6.4	Raining	Prof. G. Cacciatore.
Caltanissetta	28.08	713.3	30.08	763.9	41.9	5.5	75	N			6		8	SE		0.024	0.6	Light rain	Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.19	766.7	43.2	6.2	35	ENE	2.5	1.1			2	NE		0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally he weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

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

Flushing			29.94	760.4	37.2	2.9		S			6					0	0		
Groningen			30.04	763.0	21.2	— 6.0		SE			4					0	0		
Helder			29.92	760.0	28.4	— 2.0		SE			5					0.236	6.0		
Utrecht			29.98	761.5	28.2	— 2.1	75	SSE			5		8			0.276	7.0	Very cloudy.	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

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

Bergen			29.99	761.8	32.7	0.4	82	SE	13	6			10			0.098	2.5		
Brönö			29.97	761.1	30.2	— 1.0	76	Calm	0	0			9			0	0		
Christiania			30.37	771.3	— 2.0	—18.9	88	ESE	0	0			10			0	0		
Tromsö			29.84	758.0	16.5	— 8.6	76	Calm	0	0			5			0	0		

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

PORTUGUESE SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.51	749.5	53.2	11.8	74	W	18.1	8.1			6			0.874	22.2		Dr. J. A. Sampaio.
Campo Major			30.23	767.9	56.3	13.5	69	E	4.3	1.9			2			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.08	764.1	65.8	18.8	83	SW	6.3	2.8			10					Raining	Capt. D. A. de Cunha.
Lisbon			30.18	766.6	59.5	15.3	78	S	13.7	6.1			5	SSW		0.004	0.1		The Observatory.
Ponta Delgada, (Azores)			29.59	751.5	60.8	16.0	56	W	14.3	6.4			5			0.283	7.2	Rainy	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.44	773.2	13.5	—10.3	87	NW	11	5			6						Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			30.47	773.8	6.4	—14.2	82	SSW	9	4			0						Physical Cabinet.
St. Petersburg			30.37	771.4	5.4	—14.8	90	SW	9	4			2						Central Physical Obs.
Kuopio			30.06	763.4	14.4	— 9.8	100	SW	18	8			10					Snowing	Ch. Forsten.
Kieff			30.03	762.8	10.2	—12.1	100	NNW	13	6			10					Snowing	Physical Cabinet.
Nikolaiev			30.15	765.7	12.4	—10.9	76	NW	13	6			0						Kurdakof
Kertch			30.08	764.1	30.4	— 0.9	90	NNW	11	5			6						Lagorio.
Moscow			30.43	773.0	2.8	—16.2	81	NE	9	4			10						Meteorological Obs.
Lugan			29.92	760.0	27.7	— 2.4	81	W	7	3			10						Meteorological Obs.
Archangel			29.94	760.5	— 2.2	—19.0	93	SSW	13	6			10					Snowing	Ogorodnikof.
Tiflis	28.75	730.2	30.19	766.8	50.7	10.4	63	Calm	0	0			8						Physical Observatory.
Astrakhan			30.11	764.7	23.4	— 4.8	98	NNE	2	1			10						Sebastianof.
Kasan			30.46	773.7	—12.1	—24.5	97	Calm	0	0			1						Physical Cabinet.
Orenburg			30.41	772.3	17.8	— 7.9	86	E	18	8			7						Tschernischef.
Ekaterinburg	29.28	743.7	30.37	771.4	—12.6	—24.8	54	Calm	0	0			1						Meteorogical Obs.
Nukuss			30.01	762.3	45.0	7.2	80	W	13	6			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.49	774.5	—15.3	—26.3	78	SW	4	2			0						Meteorological Obs.
Yeniseisk			29.85	758.1	—11.9	—24.4	75	SW	7	3			10						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.17	766.3	25.2	— 3.8	44	Calm	0	0			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					— 0.8	—18.2		W	7	3			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.37	771.4	43.5	6.4	95	NE	2.2	1.00			10			Inap.	Inap.	Foggy	Royal Observatory.
San Fernando			30.25	768.3	62.8	17.1	68	SE	7.0	3.4		1	3	SE	SE	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.97	761.3	— 6.2	—21.2	72	NW			2		0			0.118	3.0		
Umea			30.07	763.6	—18.3	—10.4	100	Calm			0		10			0	0		
Hernosand			30.11	764.7	21.0	— 6.1	87	S			2		5			0	0		
Stockholm			30.26	768.6	17.6	— 8.0	88	WNW			2		2			0	0		
Wisby			30.39	772.0	25.9	— 3.4	87	WSW			4		5			0	0		
SUB-SERIES.																			
Upsala			30.26	768.5	9.1	—12.7	98	SW	10.7	4.8			0			0.007	0.18		Dr. Hildebrandsson.

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

SWISS SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.83	732.3	30.32	770.2	33.4	0.8	79	ESE			2		10			0	0	Covered	The Observatory.
Zurich	28.62	727.0	30.35	771.0	27.1	— 2.7	82	E			1		8			0	0	Covered	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, +4.6 mm; Thermometer, —0.8 cent.; Relative Humidity, —2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Constantinople			29.95	760.6	38.5	3.6	89	N	27	12.0			10		N	0	0		
Fao, (Persian Gulf)																			
Salonica			30.03	762.7	45.1	7.3		N			4		10					Snowing	
Valona			29.84	758.0	43.2	6.2		N			2		2						
Varna			29.96	761.0	30.2	— 1.0		N			2		10			Blank	Blank		
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.10	764.5	67.8	19.9	57	NE			1		8c			0	0	*D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. * Detached clouds.

CANADIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bathurst, N. B			29.77	756.1	9.0	—12.8	80	NW	3	1.3			0					Clear	Hon. J. Ferguson.
Brockville, Ontario			30.01	762.2	19	— 7.2		SW	4	1.8			10s		SW	0.10	2.5	Cloudy	W. R. Bigg.
*Chatham, N. B			29.81	757.2	— 9	—22.8	100	Calm	0	0		2ck	2ks	SW	SW	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.78	756.4	12	—11.1	82	N	3	1.3		0	0			0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			29.96	761.0	21.6	— 5.8	85	E			1		10s			0.20	5.1	Unsettled	James Smith, M. A.
Dalhousie, N. B			29.88	758.9				W			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			29.99	761.7	39.6	4.2	96	Calm					10n			0.23	5.8	Rainy	W. H. Bevis.
Fredericton, N. B			29.91	759.7	— 2.8	—19.3	100	SE	1	0.4			10s		W	0	0		Prof. Harrison.
*Fort Garry, Manitoba			29.97	761.2	—14	—25.6	95	S	10	4.5		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			30.06	763.5	19.7	— 6.8	92	W			2	10k	0			0	0	Dull	H. J. Strang, M. A.
Granton, Ontario	28.87	733.3	30.06	763.5	15.4	— 9.2		SW			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			29.82	757.4	12	—11.1	88	W	6	2.7		2cs	2ks	W	W	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.06	763.5	19	— 7.2	87	Calm	0	0			10s			0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.67	753.6	25.0	— 3.9		W	5	2.2		6k	0	W		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			29.96	761.0	16	— 8.9	90	SW	12	5.4			10n			0.01	0.3	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.97	761.2	14	—10.0	78	Calm	0	0			Fog			0.17	4.3	Threatening	J. B. Haney.
*Parry Sound, Ontario			29.90	759.4	21	— 6.1	93	S	8	3.6			10n		S	0.17	4.3	Light snow	Rev. R. Mosley.
Port Dover, Ontario			30.08	764.0	18	— 7.8	90	W	7	3.1		Haz.	Haz.		W	0.02	0.5	Cloudy	H. Morgan.
Port Hastings, N. S			29.88	758.9	24.9	— 3.9		Calm	0	0						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.09	764.3	17	— 8.3	83	N	16	7.2			10ks		W	0	0	Cloudy	M. Payne.
*Quebec, Quebec			29.93	760.2	11	—11.7	80	SW	8	3.6		5c	2ks	SW	SW	0	0	Fair	Capt. Ashe, R. N.
St. John, N. B			29.92	760.0	11	—11.7	79	N	1	0.4		0	3ks			0	0	Fine	G. Murdoch, C. E.
*Saugeen, Ontario			29.93	760.2	22	— 5.6	72	SW	15	6.7			10n		W	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario			30.02	762.5	18	— 7.8	83	Calm	0	0			10n			Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.68	728.5	30.06	763.5	12.5	—10.8	87	SW	7	3.1			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.72	754.9	25	— 3.9	81	NW	4	1.8			10s		NW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			30.06	763.5	20	— 6.7	87	SW	9	4.0			10n		SW	0.02	0.5	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.04	763.0	14.6	— 9.7	81	SW	4	1.8			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.49	749.0	28.0	— 2.2		W				10	10			0.02	0.5	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.99	761.7	23	— 5.0	86	Calm	0	0			10s			0.15	3.8	Cloudy	
Alpena, Mich.			29.90	759.4	15	— 9.4	65	SW	12	5.4		0	0			0.04	1.0	Clear	
Atlantic City, N. J.			30.02	762.5	27	— 2.8	88	NW	4	1.8		2c	Haze	W		0.03	0.8	Fair	
Augusta, Ga.			30.07	763.8	36	2.2	90	N	3	1.3			10s			0	0	Cloudy	
Baltimore, Md.			30.09	764.3	26	— 3.3	76	NW	7	3.1		2ck	2s	W		0	0	Fair	
Barnegat, N. J.			30.00	762.0	29	— 1.7	89	N	8	3.6		5c	2s	W	W	0.20	5.1	Fair	
Bismarck, Dakota	28.03	711.9	29.88	758.9	— 9	—22.8	77	SE	2	0.9		0	0			0.06	1.5	Clear	
Boston, Mass.			29.95	760.7	29	— 1.7	95	W	4	1.8			10s		SW	0.01	0.3	Cloudy	
Breckenridge, Minn.			30.02	762.5	—21	—29.4	63	E	4	1.8		0	1s			0	0	Clear	
Buffalo, N. Y.			30.04	763.0	20	— 6.7	85	W	10	4.5			10n			0.06	1.5	Light snow	
Burlington, Vt.			29.99	761.7	24	— 4.4	86	N	2	0.9			10s			0.03	0.8	Cloudy	
Cairo, Ill.			30.16	766.1	21	— 6.1	85	E	6	2.7			10s			0	0	Cloudy	
Cape Hatteras, N. C.			29.97	761.2	38	3.3	90	NE	15	6.7			10s			0.31	7.9	Cloudy	
Cape Henry, Va.			30.07	763.8	33	0.6	89	N				8c	2s	W		0	0	Cloudy	
Cape Lookout, N. C.			30.05	763.3	36	2.2	80	N	14	6.3			10s		N	0.36	9.1	Cloudy	
Cape May, N. J.			30.03	762.7	29	— 1.7	78	N	16	7.2		0	5s		NW	Inap.	Inap.	Fair	
Charleston, S. C.			30.04	763.0	40	4.4	82	N	8	3.6			10s		NW	0.40	10.2	Cloudy	
Cheyenne, Wyoming	23.67	601.2	29.61	752.1	12	—11.1	100	NW	2	0.9			10n			Inap.	Inap.	Light snow	
Chicago, Ill.			30.10	764.5	17	— 8.3	67	SW	4	1.8		0	0			0.02	0.5	Clear	
Cincinnati, Ohio			30.13	765.3	20	— 6.7	70	NW	3	1.3			10n			Inap.	Inap.	Light snow	
Cleveland, Ohio			30.14	765.5	17	— 8.3	83	SW	8	3.6			10n		SW	0.01	0.3	Light snow	
Corsicana, Tex.			29.98	761.5	25	— 3.9	75	SE	5	2.2		2cs	0			0	0	Clear	
Davenport, Iowa			30.15	765.8	9	—12.8	100	Calm	0	0			Fog			0.01	0.3	Foggy	
Denison, Tex.			30.00	762.0	24	— 4.4	61	SE	8	3.6		1c	0			0	0	Clear	
Denver, Col.	24.48	621.8	29.70	754.4	10	—12.2	79	Calm	0	0		0	0			0.50	12.7	Clear	
Detroit, Mich.			30.09	764.3	15	— 9.4	65	SW	5	2.2			10s			Inap.	Inap.	Cloudy	
Dodge City, Kan.	27.29	693.2	29.86	758.4	— 8	—22.2	79	NW	4	1.8			10s		NW	0	0	Cloudy	
Dubuque, Iowa			30.16	766.1	—10	—23.3	54	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Duluth, Minn.			29.96	761.0	15	— 9.4	82	NW	16	7.2			10s		W	0.05	1.3	Cloudy	
Eastport, Me.			29.88	758.9	18	— 7.8	84	NW	5	2.2			10s		S	0	0	Cloudy	
Erie, Pa.			30.07	763.8	20	— 6.7	85	SW	12	5.4			10n			0.01	0.3	Heavy snow	
Escanaba, Mich.			29.92	760.0	11	—11.7	79	W	8	3.6		0	1s			0.15	3.8	Cloudy	
Fort Gibson, Indian Ter.			29.96	761.0	23	— 5.0	86	E	8	3.6			10s			Inap.	Inap.	Cloudy	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.67	728.2	29.83	757.7	24	— 4.4	48	NE	2	0.9			10s			0	0	Cloudy	
Fort Sully, Dakota	28.18	715.8	30.01	762.2	0	—17.8	84	Calm	0	0			10s			0	0	Cloudy	
Florence, Arizona	28.34	719.8	29.89	759.2	42	5.6		SW				8c	0	N		0	0	Fair	
Galveston, Tex.			30.03	762.7	41	5.0	91	NE	6	2.7			10s		W	Inap.	Inap.	Cloudy	
Grand Haven, Mich.			30.03	762.7	24	— 4.4	80	W	19	8.5			10s		W	0.02	0.5	Cloudy	
Indianapolis, Ind.			30.17	766.3	17	— 8.3	83	NW	1	0.4			10n			0.03	0.8	Light snow	
Indianola, Tex.			29.99	761.7	41	5.0	79	N	8	3.6			10s			0	0	Cloudy	
Jacksonville, Fla.			30.01	762.2	46	7.8	92	NE	5	2.2			10n			0.53	13.5	Light rain	
Keokuk, Iowa			30.08	764.0	6	—14.4	76	Calm	0	0			10s			0	0	Cloudy	
Key West, Fla.			30.00	762.0	72	22.2	90	SE	8	3.6		0	2s			0	0	Clear	
Kittyhawk, N. C.			30.05	763.3	36	2.2	80	N	22	9.8			10s		W	0	0	Cloudy	
Knoxville, Tenn.			30.10	764.5	30	— 1.1	89	SW	1	0.4			10s			0	0	Cloudy	
La Crosse, Wis.			30.15	765.8	— 7	—21.7	80	S	8	3.6		Haze	Haze			0	0	Hazy	
Leavenworth, Kan.			30.04	763.0	15	— 9.4	83	S	1	0.4			10n			Inap.	Inap.	Light snow	
Louisville, Ky.			30.15	765.8	20	— 6.7	70	N	2	0.9			10s			Inap.	Inap.	Cloudy	
Lynchburg, Va.			30.06	763.5	33	0.6	89	Calm	0	0			10s		E	0	0	Cloudy	
Malone, N. Y.			29.92	760.0	24	— 4.4	87	W	4	1.8			10s		W	0.06	1.5	Cloudy	
Marquette, Mich.			29.84	757.9	30	— 1.1	78	W	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			30.17	766.3	22	— 5.6	85	Calm	0	0			10s			Inap.	Inap.	Cloudy	
Milwaukee, Wis.			30.12	765.0	2	—16.7	73	W	9	4.0		0	0			0.02	0.5	Clear	
Mobile, Ala.			30.08	764.0	36	2.2	90	N	8	3.6			10s		N	0.03	0.8	Cloudy	
Montgomery, Ala.			30.11	764.8	35.5	1.9	80	N	4	1.8			10s			0.01	0.3	Cloudy	
Morgantown, W. Va.	29.01	736.8	30.12	765.0	26	— 3.3	76	W	6	2.7			10s		W	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.36	593.3	29.72	754.9	5	—15.0	75	NW	40	17.9		0	10s		NW	0.12	3.0	Fair	
Nashville, Tenn.			30.14	765.5	23	— 5.0	86	Calm	0	0			10s			0	0	Cloudy	
New Haven, Conn.			30.00	762.0	31	— 0.6	78	N	12	5.4		8cs	0			0.02	0.5	Fair	
New London, Conn.			29.96	761.0	32	0.0	89	NW	3	1.3			10s			0.09	2.3	Cloudy	
New Orleans, La.			30.05	763.3	38	3.3	71	N	6	2.7			10s		W	0.04	1.0	Cloudy	
Newport, R. I.			29.96	761.0	32	0.0	89	N	4	1.8			10s		N	0.19	4.8	Threatening	
New York, N. Y.			30.02	762.5	30	— 1.1	78	N	6	2.7			10ks		W	0.06	1.5	Cloudy	
Norfolk, Va.			30.07	763.8	30	— 1.1	78	N	2	0.9		5c	2s	SW		Inap.	Inap.	Fair	
North Platte, Neb.	26.90	683.2	29.68	753.9	6.0	—14.4	88	W	4	1.8			10s			0	0	Cloudy	
Omaha, Neb.	28.86	733.0	30.06	763.5	0	—17.8	85	Calm	0	0		2cs	0			Inap.	Inap.	Clear	
Oswego, N. Y.			30.05	763.3	28	— 2.2	72	SW	8	3.6			10s			Inap.	Inap.	Threatening	
Pembina, Dakota			29.94	760.5	—22	—30.0	60	S	6	2.7		0	0			0	0	Clear	
Philadelphia, Pa.			30.04	763.0	26	— 3.3	76	N	11	4.9		1c	Haze	SW		0.01	0.3	Fair	
Pike's Peak, Col.	17.14	435.4	29.35	745.5	—12	—24.4	100	W	24	10.7		5s	Fog	NW		0.09	2.3	Light snow	
Pittsburgh, Pa.			30.09	764.3	25	— 3.9	81	W	4	1.8			10s		W	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.06	763.5	15	— 9.4	64	SW	12	5.4			10s			Inap.	Inap.	Cloudy	
Portland, Me.			29.92	760.0	26	— 3.3	76	NW	4	1.8		5c,hs'	Haze			0	0	Hazy	
Portland, Oregon			29.98	761.5	43	6.1	91	S	1	0.4			10n			0.31	7.9	Light rain	
Punta Rassa, Fla.			29.98	761.5	70.0	21.1	98	S	14	6.3			Fog		S	Inap.	Inap.	Foggy	
Rochester, N. Y.			30.04	763.0	22	— 5.6	72	W	6	2.7			10n		W	Inap.	Inap.	Light snow	
Salt Lake City, Utah	25.37	644.4	29.70	754.4	31	— 0.6	100	W	4	1.8			10n			0.40	10.2	Light snow	
Sandy Hook, N. J.			29.98	761.5	29	— 1.7	89	N	6	2.7		0	8ks		N	0.09	2.3	Cloudy	
San Diego, Cal.			29.90	759.4	52	11.1	79	NE	4	1.8		0	5s		NE	0	0	Fair	
San Francisco, Cal.			30.01	762.2	49	9.4	77	NW	2	0.9		0	0			0	0	Clear	
Santa Fé, N. M.	22.89	581.4	29.43	747.5	20	— 6.7	70	N	1	0.4			10s			0.01	0.3	Cloudy	
Savannah, Ga.			30.05	763.3	40	4.4	91	NE	8	3.6			10s		N	0.36	9.1	Cloudy	
Shreveport, La.			30.14	765.5	26	— 3.3	88	E	4	1.8		5cs	0	NE		Inap.	Inap.	Fair	
Smithville, N. C.			30.06	763.5	35	1.7	90	N	6	2.7			10s		N	0.42	10.7	Cloudy	
Springfield, Mass.			29.97	761.2	28	— 2.2	77	Calm	0	0		1cs	2s, f,g			0.11	2.8	Fair	
St. Louis, Mo.			30.16	766.1	16	— 8.9	83	NE	4	1.8			10n			0.03	0.8	Light snow	
St. Marks, Fla.			30.04	763.0	44	6.7	92	N	6	2.7			10s		N	0.80	20.3	Cloudy	
St. Paul, Minn.			30.05	763.3	— 4	—20.0	64	Calm	0	0		0	0			Inap.	Inap.	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.94	760.5	30	— 1.1	78	NW	12	5.4		2c	5s	NW	NW	0	0	Clearing	
Toledo, Ohio			30.10	764.5	18	— 7.8	84	SW	6	2.7		5k	2ks	W	W	0.03	0.8	Clearing	
Tucson, Arizona	27.42	696.5	29.97	761.2	32	0.0		S				10c	0	W		0	0	Cloudy	
Tybee Island, Ga.			30.03	762.7	39	3.9	91	NW	12	5.4			10s		NW	0.51	13.0	Cloudy	
Vicksburg, Miss.			30.16	766.1	24	— 4.4	94	Calm	0	0		1cs	Sm'e	SW	NE	0	0	Fair	
Virginia City, M. T.	23.94	608.1	29.42	747.3	11	—11.7	79	E	12	5.4		0	2ks		E	0.21	5.3	Fair	
Washington, D. C.			30.11	764.8	21	— 6.1	66	N	8	3.6		5c	1s	SW	SW	Inap.	Inap.	Smoky	
Wilmington, N. C.			30.06	763.5	34	1.1	89	N	8	3.6			10s		N	0.31	7.9	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.98	761.5	31	— 0.6	89	N	4	1.8			10n			0.17	4.3	Light snow.	
Yankton, Dakota	28.66	728.0	30.16	766.1	—18	—27.8	67	N	1	0.4		0	0			Inap.	Inap.	Clear	
Yuma, Arizona			29.88	758.9	46	7.8		NE				0	2s		N	0	0	Fair	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.19	766.8	75	23.9	72	Calm	0	0		5c	2s		SE	0	0		James Gall.
Navassa, W. I.					79	26.1		NE			3							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	65	18.3	89	E	2.0	0.9		2c	2k	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			29.98	761.5	81	27.2	87	E			2	7ks?	7ks	E		0.480	10.92	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.03	762.8			82.8	28.2		E								0.522	13.25		Dr. H. Groot.
Medellin, Colombia, S. A.	25.20	640.1			65.0	18.3	84	Calm			0	8k	1s			0	0	Cloudy	Thomas Herran.
York Factory, B. A.			29.94	760.5	4.0	—15.6	87	W	6	2.7		6c	0	N		Inap.	Inap.		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.99	761.7	74	23.3		N			2					0.56	14.2	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.07	763.8	66	18.9	82	Calm			0	2c	4k	S		0.73	18.5		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, at Provincetown, Mass.					Cloudy	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fe, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 28, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.33	770.3	63.1	17.3	59	Calm			0		0			0	0	Clear	Charnot.
Algiers			30.34	770.7	62.6	17.0	80	NNW			1		0			0	0	Clear	Peter.
La Calle			30.34	770.6	63.0	17.2	72	NNW			2		2			0	0	Clear	Didier.
Tunis			30.38	771.7	55.4	13.0		NW			4		2			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.39	772.0	58.3	14.6	38	SSE			4		1			0	0	Clear	Millot.
Tebessa			30.34	770.7	50.4	10.2		NW			1		0			0	0	Clear	Bourgeois.
Geriville			30.30	769.6	49.1	9.5	93	WNW			5		3			0	0	Fair	Lemaillot.
Laghouat			30.42	772.7	61.2	16.2	40	SW			1		1			0	0	Clear	Guyot.
Biskra			30.43	772.8	62.4	16.9	38	N			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.42	772.6	21.7	— 5.7	77	SW			2		6			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			30.27	768.9	15.8	— 9.0	94	NE			2		10			0.031	0.8		Dr. Wierzbiski.
Eperies			30.34	770.6	18.5	— 7.5	75	S			3		10			0	0		Julius Mikolik.
Gratz	29.01	736.5	30.37	771.3	21.9	— 5.6	72	SW			2		7			0	0		Andreas Rospini.
Hermannstadt	28.89	733.8	30.45	773.5	16.9	— 8.4	79	E			1		5			0	0		Prof. Reissenberger.
Kremsmünster	28.83	732.2	30.27	768.9	21.9	— 5.6	96	Calm			0		8			0	0		Prof. C. Wagner.
Lemberg			30.31	769.8	11.3	—11.5	93	S			1		7			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.35	771.0	40.8	4.9	53	NNW			2		8cs			0	0		I.R. Hydrographic Of'ce.
Szegedin			30.42	772.7	18.9	— 7.3	78	Calm			0		10			0	0		Karl Stancel.
Trieste			30.39	771.8	38.5	3.6	51	W			1		0			0	0		Prof. V. Farolfi.
Vienna			30.32	770.1	21.7	— 5.7	93	Calm			0		10			0.094	2.4		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.83	757.6	50.4	10.2	75	SSW			4		9ks		WSW	0.319	8.10		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.28	743.7	41.0	5.0		SSW	15	6.7			7			0.330	8.38	*D. clouds	William Boswell.
Ardrossan			29.30	744.2	47	8.3		SSW			2		8					Misty	William McNeil.
Armagh, Observatory			29.34	745.2	48.0	8.9		SSW	23	10.3			5					Squally	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.42	747.3	49.9	9.9		WSW			2-3		0					Blue sky	J. Dreyer.
Bradford			29.45	748.0	54.6	12.6		SW			2		10			0.12	3.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.94	760.5	81.4	27.4		NE			3		7					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.61	752.1	55.2	12.9		SW			3		10			Blank	Blank	Overcast	H. Todd. [H.C.
Cardington			29.63	752.6	56.0	13.3		SW			4		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.71	754.6	54.2	12.3		SW			4		10					Squally	Capt. Fellowes, R. E.
Dartmoor	28.26	717.8	29.75	755.6	51.0	10.6		S			8		10					Heavy rain	R. E. Power.
Davos Platz, (Switzerland)	25.03	637.8			42.0	5.6	72	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.34	745.2	47	8.3		WSW			3		3					*D. clouds	J. Mac Gowan.
Dover			29.73	755.1	52	11.1		SW			4		5					½ clouded	J. Costello.
Eccles, (near Manchester)			29.47	748.5	53.7	12.1		SSW	2 4	1.1			10					Overcast	Thomas Mackereth.
Falmouth, Observatory			29.66	753.4	54.0	12.2		SW			3		10					Drizzling	The Staff.
Fort Napier, (Natal)	27.39	695.7	29.62	752.3	84.3	29.1		E			2		8					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.90	759.4	85.0	29.4		Calm?			1?		5					*D. clouds	
Galway, Queen's College			29.43	747.5	43	6.1		S			6		5					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.32	770.1	63.3	17.4		N			1		1					Blue sky	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.30	744.2	42.4	5.8		W			1		10					Raining	Lewis Stuart.
Great Yarmouth			29.62	752.3	55	12.8		SW			4		8					Misty	G. T. Watson.
Greenwich, Royal Obs'y			29.68	753.9	53.4	11.9		SSW			4		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.74	755.4	53.5	11.9		SSW			5		10					Raining	Dr. S. E. Hoskins.
Helston			29.66	753.4	54	12.2		SW			6		10n			0.48	12.2	Heavy rain	M. P. Moyle.
Holyhead			29.47	748.5	51	10.6		SW			4		4					Misty	John Tilston.
Kew, Observatory			29.69	754.1	54.0	12.2		SSW	22	9.8			10					Drizzling	The Staff.
Kingstown			29.43	747.5	52	11.1		W			4		7					*D. clouds	George Mitchell.
Leicester Museum			29.55	750.6	54.9	12.7		SW			1		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.25	768.3	55.4	13.0		NW			3		4c					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.23	742.4	43	6.1		W			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.05	763.3	74.0	23.3		SE			2		4					Blue sky	Surg. Maj. Henry.
Nottingham, Observatory			29.55	750.6	56.3	13.5		SSW			4		10d		SW	0.043	1.09	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.54	750.3	54.4	12.4		SSW			5		10					Threatening	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.61	752.1	56	13.3		SW			5		10					Gloomy	J. Lucas.
Plymouth			29.67	753.6	53.5	11.9		WSW			4		10					Raining	John Merrifield.
Roche's Point			29.50	749.3	51	10.6		WSW			5		8					Cloudy	W. Kennedy.
Saint Ann's Head			29.56	750.8	52	11.1		SW			6		10					Overcast	John C. Walker.
Saint Helier, (Jersey)			29.80	756.9	51.6	10.9		SSW			5		10					Raining	A. P. Amy.
Sandwick Manse, (Orkneys)			29.22	742.2	37.4	3.0		N	3	1.3			10					Overcast	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.15	765.8	32.0	0.0		N			4		10					Snowing	Sergt. W. H. Lyne.
Sheffield			29.48	748.8	55.0	12.8		SW			5		6			0	0	Gloomy	W. F. Cooper.
Silloth Rectory			29.34	745.2	51.8	11.0	88	SW			6		10			0.060	1.52	Overcast	Rev. Francis Redford
Stonyhurst, Observatory								W			3		10ks					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.15	740.4	43	6.1		SW			1		10					Overcast	John Smith.
Stratfield Turgiss			29.68	753.9	52.8	11.6		S			2		10					Raining	Rev. Charles H. Griffith.
Thurso			29.20	741.7	39	3.9		Calm			0		10					Foggy	John Trotter.
Truro, Royal Institution			29.65	753.1	56	13.3		SW			4		10					Raining	W. Newcombe.
Valencia, Observatory			29.46	748.3	51.6	10.9		SW	44	19.7			4					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					51	10.6		S			6		10			0.40	10.2		Henry Mercer.
Cape Good Hope, Obs'y			29.98	761.5	74.0	23.3	56	NW	9	4.0		3	3						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.80	756.9	60.0	15.6	93	NW			2		6kn			0.07	1.8	Hazy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.31	744.5	46.0	7.8		E			2		10k			0.28	7.1	Cloudy	Andrew Gibb.
Mauritius, Observatory			30.00	762.0				ESE	14.0	6.3						0.265	6.73		C. Meldrum.
Melbourne, Observatory			30.13	765.3	56.8	13.8	60	SSW	12	5.4			5			0.04	1.0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.22	742.2	48	8.9		W			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.21	741.9	42	5.6		SE			7		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

San José																			

DANISH SERIES.

Furnished by the cooperation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen			29.73	755.2	29.1	— 1.6	100	S			4		10						Foggy
Fanöe			29.61	752.2	38.1	3.4	100	SW			4		10						
Godthaab, (Greenland)			29.39	746.5	17.6	— 8.0	85	Calm			0		2						
Stykkisholm, (Iceland)			29.55	750.6	34.3	1.3	82	NE			7		8						
Thorshavn, (Faröe)			29.27	743.5	37.0	2.8	82	Calm			0		6						
Vestervig			29.53	750.0	36.7	2.6	96	S			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.99	761.8	42.8	6	100	SW			2		5ck		SW	0	0	Cloudy	Normal School.
Amiens			29.88	759.0	48.6	9.2	92	SW			4		8		SW	0	0	Very cloudy	Normal School.
Avignon			30.33	770.3	42.8	6	82	N			1		10			0	0	Misty.	Normal School.
Bar-sur-Seine			30.07	763.6	48.7	9.3	70	S			1		8n			0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.93	760.2	52.3	11.3	70	S	14.3	6.4					SW	0	0		Beaumette Observ'tory.
Beauvais			29.90	759.5	48.2	9	74	SSW			3		8		WSW	0	0	Very cloudy	Normal School.
Besançon			30.23	767.8	41.0	5	78	SE			2		5		SW	0	0	Cloudy	Normal School.
Bourg en Bresse			30.22	767.6	48.2	9	56	S			8		5cs		N	0	0	Cloudy	Normal School.
Bourges			30.10	764.6	41.0	5	84	E			2		2		N	0	0	Slightly cl'dy	Normal School.
Brest			29.71	754.5	53.8	12.1	93	SW			5		10		SW	0.217	5.50	Raining	Naval Observatory.
Carcassonne			30.23	767.8	47.8	8.8	92	E			2		10		W	0	0	Covered	Normal School.
Caen																			Normal School.
Chartres			29.98	761.5	53.4	11.9	67	SW			2		7		W	0	0		Normal School.
Châlons-sur-Marne			30.02	762.4	51.3	10.7	70	SE			2		5ck		NNE	0	0	Cloudy	Normal School.
Clermont			30.13	765.2	53.6	12.0	54	S			3		8		SW	0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			30.04	763.1	41.9	5.5	83	ESE			2		5		E	0	0	Cloudy	Normal School.
Commune de Gréasque*			30.38	771.6	48.0	8.9	76	E			1		8		SW	0	0		M. Kina.
Grenoble			30.36	771.2	33.4	0.8	75	ENE			2		2ck		NE	0	0	Slightly cl'dy	Normal School.
La Roche-sur-Yon			29.95	760.8	49.3	9.6	79	SE			6		8		NE	0	0	Very cloudy	Normal School.
Le Mans			29.97	761.3	47.8	8.8	91	SW			2		2		SW	0	0	Slightly cl'dy	Normal School.
Lons-Le-Saulnier			30.15	765.7	50.2	10.1	62	SW			3		10		W	0	0	Covered	Normal School.
Lorient			29.84	758.0	56.8	13.8	80	S			5		10			0.465	11.8	Covered	Naval Observatory.
Mâcon			30.24	768.1	43.2	6.2	89	S			2		5		S	0	0	Cloudy	Normal School.
Metz			30.14	765.5	39.9	4.4	78	SE			1		8			0	0		M. Schuster.
Mirecourt			30.07	763.7	41.4	5.2	84	SSW			4		5		NNE	0	0	Partly cl'dy	Normal School.
Nismes			30.29	769.4	47.8	8.8	78	SE			2		5		S	0	0	Cloudy	Normal School.
Orleans			30.00	761.9	50.0	10	89	SSE			2		0			0	0	Clear	Normal School.
Paris, Observatory			29.97	761.3	48.0	8.9	70	SW			3		10k		SW	0	0	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.34	770.5	46.0	7.8		SSE			2		10		S	0	0	Covered	Normal School.
Rochefort, Observatory			30.02	762.5	51.3	10.7	79	SSE			3		5		N	0	0	½ covered	Naval Observatory.
Rouen			29.91	759.6	50.7	10.4	75	S			2		5			0	0	Cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.09	764.2	42.8	6	91	SE			1		2			0	0	Slightly cl'dy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			30.31	769.9	53.4	11.9	67	SE			2		9					Rainy	Marseilles Observatory.
Mont-Louis	25.02	635.4	30.41	772.4	46.8	8.2	60	SW	18.6	8.33			2		W	0	0		—. Falguère.
Montsouris, Paris			29.96	760.9	47.8	8.8	68	SSW			2		10		SSW	0	0		Montsouris Observatory
Perpignan			30.21	767.4	51.8	11.0	79	NE	5.6	2.50			5		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.64	575.0			41.7	5.4		W			6		8					Fair	General de Nansouty.
Saint Maur, (near Paris)			29.97	761.3	48.2	9.0	69	SSW			2		9			0	0	Covered	E. Renou.
Toulouse			30.17	766.4	50.0	10.0	92	SSE			4		9			0	0		Toulouse Observatory.
Tours			30.00	762.0	51.3	10.7	62	SSW			2		5		W	0	0		C. Marquet.
Versailles, (near Paris)			29.97	761.2	48.2	9.0	71	SW			1		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.17	766.4	41.7	5.4	81	SSW	10.3	4.6			0			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,686.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1.010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			30.10	764.5	32.5	0.3	96	SE			2		10	W		0.039	1.0		Prof. T. Hoh.
Berlin			29.93	760.2	35.2	1.8	96	S			4		10			0.299	7.6		Prof. Arndt.
Breslau			30.07	763.8	29.1	— 3.3	91	SSE			3		10			0.146	3.7		Royal University Obs'y.
Carlsruhe			30.11	764.7	37.0	2.8	70	Calm			0		10			0	0		A. Senz.
Cassel			30.01	762.3	35.2	1.8	86	SE			6		8	SW		0.193	4.9		Dr. H. Möhl.
Crefeld			29.86	758.5	45.3	7.4	82	SE			3		9			0.43	11.		Director Lose.
Emden			29.82	757.5	41.2	5.1	100	SW			1		10			0.591	15.0		Prof. Prestel.
Frankfort on the Main			30.10	764.4	36.5	2.5	90	SSW			1		6			0.169	4.3		Physical Society.
Friedrichshafen	28.74	730.0	30.24	768.1	36.3	2.4	80	N			1		8			0	0		M. Wilhelm.
Hamburg			29.79	756.6	40.5	4.7	100	SW			5		10			0.283	7.2	Covered	Captain F. Hegemann.
Kiel			29.72	754.8	36.5	2.5	100	SW			2		10			0.280	7.1		Prof. G. Karsten.
Königsberg, (Prussia.)			30.17	766.3	11.7	—11.3	74	SE			5		10			0	0		Prof. E. Luther.
Köslin			29.88	759.0	20.3	— 6.5		SE			6		4			0.205	5.2		H. Müller.
Leipsic			30.03	762.7	34.2	1.2	100	SSW			2		10			0.465	11.8	Raining	Prof. Bruhns.
Memel			30.23	767.8	9.0	—12.8	76	SE			4		9	W		0	0		Reinbrecht & Skalweit.
Münster			29.84	757.8	48.4	9.1	97	SW			1		10			0.488	12.4		Prof. E. Heis.
Neufahrwasser			30.09	764.2	17.4	— 8.1	85	S			5		10			0	0		A Lothe.
Posen			30.04	763.1	24.6	— 4.1	95	SSE			6		10			0.177	4.5		Dr. Magener.
Strassburg, (in Alsace)			30.13	765.2	22.3	— 5.4	66	SW			2		9	NW		0	0		Dr. Schur.
Stuttgart			30.12	765.0	40.6	4.8	77	E			1		4			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.99	761.7	44.2	6.8	64	W			5		7			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.60	726.3	30.15	765.7	40.3	4.6	68	W			1		8	W		0.016	0.4		Dr. von Bebber.
Wustrow, Naval School			29.86	758.5	32.0	0.0	100	SSE			4		10			0	0		E. F. Schütz.
German Naval Series.																			
"H. M. S. Elisabeth," S. 33°, 54′, E. 17°, 45′.			29.97	761.1	68.4	20.2	74	S			1		7	S				Smoke-haze.	Chaplain Fasch.

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

Furnished by the coöperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.08	764.0	39 4	4.1		NE										Covered	

Note.—The originals give the barometer corrected, but not reduced to sea-level; occasionally the kind of clouds; the weather as published. They omit the humidity, wind-force, amount of cloudiness and rain-fall.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine			30.34	770.5	34.7	1.5	74	Calm	0	0			1			0	0		Prof. Giovanni Clodig.
Padua			30.36	770.9	32.5	0.3	94	NW	5.6	2.5			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.35	771.0	32.9	0.5	89	SW	5.6	2.5			8	W		0	0		Alm. Da Schio.
Verona			30.36	771.1	34.5	1.4	63	E			1		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.95	735.3	30.32	770.1	29.5	— 1.4	92	SW			2		9			0	0	Dense fog	Prof Trionfini Carlo.
Domodossola			30.33	770.4	36.5	2.5	67	SW			6		3			0	0		Prof. Giuseppe Colza.
Milan			30.40	772.1	29.5	— 1.4	100	NW			2		10			0	0		Ab. Gio. Capelli.
Pavia			30.40	772.1	30.9	— 0.6	82	W			4		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.41	772.3	27.7	— 2.4	94	ENE	0	0			10			0	0		Prof. P. F. Denza.
Mondovi	28.37	720.6	30.36	771.1	32.2	0.1	67	WSW			2		3	NNW		0	0		Prof. C. Bruno.
Porto Maurizio			30.40	772.1	48.0	8.9	72	E			2		10	SW		0	0		Prof. L. Vassallo.
Genoa			30.36	771.1	45.9	7.7	63	N	0	0			10	S		0	0		Prof. Garibaldi.
Piacenza			30.40	772.1	30.0	— 1.1	88	WNW	8.1	3.6			7			0	0		Dott. G. Manzi.
Parma			30.39	772.0	30.7	— 0.7	80	W			2		3			0	0		Prof. P. Pigorini.
Bologna			30.39	772.0	29.3	— 1.5	43	W			1		7	E		0	0		Prof. A. Palagi.
Florence			30.38	771.6	40.1	4.5	76	NW			2		0			0	0		Cav. F. Meucci.
Leghorn			30.37	771.3	44.2	6.8	60	NE	5.1	2.5			10	W		0	0		Prof. P. Monte.
Siena	29.09	738.9	30.33	770.3	40.8	4.9	57	SSE	0	0			4	N		0	0		Prof. L. Toscani.
Urbino	28.76	730.6	30.36	771.2	38.3	3.5	62	SE			2		6			0	0		Prof. P. Serpieri.
Pesaro			30.40	772.1	35.6	2.0	91	NW	23.0	10.3			10	NW		0	0	Dense fog	Prof. Luigi Guidi.
Ancona			30.36	771.2	41.4	5.2	78	NW					5			0	0		Prof. F. De—Bosis.
Grosseto			30.36	771.2	48.0	8.9	53	NE			2		3	SE		0	0		Avv. P. Ponticelli.
Rome			30.34	770.6	46.4	8.0	40	NE	4.3	1.9			0			0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U			30.34	770.6	48.0	8.9	30	NNW			2		2	NE		0	0		Prof. L. Palmieri.
Lecce			30.23	767.8	46.0	7.8	57	NNW	19.9	8.9			3			0	0		Prof. C. De—Giorgi.
Cosenza			30.32	770.0	40.6	4.8	65	NE	3.8	1.7			0			0	0		Prof. F. D. Conti.
Hiposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.26	768.6	52.0	11.1	45	N	7.4	3.3			1			0	0		Prof. G. Cacciatore.
Caltanissetta	28.24	717.2	30.23	767.8	43.3	6.3	68	E			4		3	S		0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.35	770.9	45.0	7.2	4 2	NE	1.8	0.8			0			0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the
Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Flushing			29.82	757.5	48.4	9.1		SW			5					0.079	2.0		
Groningen			29.67	753.7	45.7	7.6		S			5					0.362	9.2		
Helder			29.69	754.1	46.4	8.0		SSW			5					0.039	1.0		
Utrecht			29.75	755.6	52.7	11.5	59	SSW			2		8			0.055	1.4	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen			29.35	745.6	36.7	2.6	75	S	18	8			10			0.020	0.5		
Brönö			29.52	749.7	27.7	— 2.4	79	SE	18	8			4			0	0		
Christiania			29.72	754.9	20.1	— 6.6	92	NE	2.9	1.3			10					Snowing	
Tromsö			29.49	749.0	17.4	— 8.1	80	SW	7	3			5			0	0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 m.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.43	747.6	54.5	12.5	72	WNW	16.1	7.2			5			0.205	5.2		Dr. J. A. Sampaio.
Campo Major			30.22	767.6	56.8	13.8	76	SE	9.4	4.2			7	SE		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.08	764.1	67.6	19.8	83	SW	4.9	2.2			10			0.110	2.8		Capt. D. A. de Cunha.
Lisbon			30.13	765.3	63.0	17.2	87	S	27.3	12.2			6			0	0		The Observatory.
Ponta Delgada, (Azores)			29.51	749.5	57.9	14.4	84	WSW	10.5	4.7			10			0.835	21.2	Raining	

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			30.23	767.8	11.7	—11.3	89	SE	13	6			10					Light snow.	Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			30.31	769.9	14.2	— 9.9	79	SW	7	3			10						Physical Cabinet.
St. Petersburg			30.17	766.2	19.4	— 7.0	93	WSW	13	6			10						Central Physical Obs.
Kuopio			30.06	763.4	18.0	— 7.8	100	W	13	6			10						Ch. Forsten.
Kieff			30.27	768.9	7.9	—13.4	88	NNW	7	3			2						Physical Cabinet.
Nikolaiev			30.30	769.6	12.7	—10.7	73	WSW	13	6			7						Kurdakof.
Kertch			30.17	766.2	23.5	— 4.7	88	NNW	13	6			10						Lagorio.
Moscow			30.30	769.6	7.9	—13.4	80	NNW	7	3			10						Meteorological Obs.
Lugan			30.04	763.0	13.1	—10.5	73	NW	18	8			9						Meteorological Obs.
Archangel			29.92	759.9	2.5	—16.4	92	W	18	8			10						Ogorodnikof.
Tiflis	28.69	728.8	30.12	765.1	53.6	12.0	55	N	4	2			7						Physical Observatory.
Astrakhan			30.15	765.9	25.9	— 3.4	95	E	7	3			8						Sebastianof.
Kasan			30.36	771.2	— 1.3	—18.5	100	Calm	0	0			10						Physical Cabinet.
Orenburg			30.33	770.4	14.2	— 9.9	84	E	13	6			10						Tschernischef.
Ekaterinburg	29.35	745.6	30.44	773.2	—12.1	—24.5	54	Calm	0	0			0						Meteorogical Obs.
Nukuss			30.39	771.8	32.0	0.0	85	E	4	2			9						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.21	767.3	— 9.0	—22.8	81	N	4	2			10						Meteorological Obs.
Yeniseisk			30.06	763.5	—23.3	—30.7	74	W	2	1			0					Lunar corona	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.11	764.9	45.5	7.5	10	NNW	18	8			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.35	771.0	46.4	8.0	85	NE	0.7	0.33		0	9			0	0	Almost cov'd	Royal Observatory.
San Fernando			30.32	770.2	65.3	18.5	58	SSE	14.5	6.5		0	4		SW	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			30.00	764.2	—15.2	—26.2	100	Calm			0		10			0	0		
Umea			30.00	761.9	8.6	—13.0	92	S			2		10			0	0		
Hernosand			29.94	760.5	8.8	—12.9	96	W			2		10			0	0		
Stockholm			29.92	759.9	27.0	— 2.8	96	SSE			6		10			0.004	0.1	Snowing	
Wisby			30.00	761.9	24.4	— 4.2	81	S			6		10			0.012	0.3		
SUB-SERIES.																			
Upsala			29.91	759.7	24.8	— 4.0	90	SE	12.8	5.7			10			0.375	9.53	Snowing	Dr. Hildebrandsson.

NOTE.—The originals give the wind-force by the scale 0 to 6, and Upsala also velocity in meters per second; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.77	730.8	30.23	767.7	45.5	7.5	58	ESE			1		4			0	0	Vapory	The Observatory.
Zurich	28.53	724.6	30.22	767.5	39.7	4.3	70	W			1		3			0	0	Bright	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +3.1 mm; Thermometer, +6.0 cent.; Relative Humidity, —22 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory, at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.21	767.2	31.6	— 0.2	97	N	31	14.0			10		N	0.898	22.8		
Fao, (Persian Gulf)																			
Salonica			30.26	768.6	46.6	8.1		N			6		0						
Valona			30.08	764.0	41.4	5.2		N			3		0						
Varna			30.24	768.0	23.0	— 5.0		N			2		0						
SUB-SERIES.																			
Beirut, (Syria,) Lee Obs'y			29.84	757.8	70.0	21.1	77	N			2		0			0	0	Blue sky	Prof. C. V. A. Van Dyck.

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B			29.82	757.4	5.5	—14.7	89	Calm	0	0			8						Hon. J. Ferguson.
Brockville, Ontario			30.19	766.8	15	— 9.4		Calm	0	0		0	8		W	0	0	Fair	W. R. Bigg.
*Chatham, N. B			29.84	757.9	10	—12.2	100	SW	1	0.4		8c	0			0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.84	757.9	19	— 7.2	88	N	8	3.6		0	5ks			0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario			30.13	765.3	14.7	— 9.6	93	W			2	0	2s			0	0	Clearing	James Smith, M. A.
Dalhousie, N. B			29.87	758.7				W			1					0	0	Overcast	H. A. Johnson.
Esquimault, B. C			30.10	764.5	40.1	4.5	100	N					10n			0.20	5.1	Rainy	W. H. Bevis.
Fredericton, N. B			29.93	760.2	11.1	—11.6	98	W	1	0.4		0	0			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.35	770.9	— 4	—20.0	93	N	6	2.7			10n			0	0	Cloudy	James Stewart.
Goderich, Ontario			30.23	767.8	17.7	— 7.9	94	Calm			0		10n			0.05	1.3	Threatening	H. J. Strang, M. A.
Granton, Ontario	29.00	736.6	30.20	767.1	11.6	—11.3		Calm			0		10n			Inap	Inap.	Cloudy	James Grant.
*Halifax, N. S			29.93	760.2	21	— 6.1	86	W	10	4.5		0	2ks			Inap.	Inap.	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.24	768.1	14	—10.0	84	Calm	0	0		5ck	0			0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S			29.75	755.6	22.0	— 5.6		NW	5	2.2		6k	0	NW		0	0	Fair	C. H. Rigby.
*Montreal, Quebec			30.08	764.0	15	— 9.4	79	W	23	10.3		0	2s			0.01	0.3	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.13	765.3	7	—13.9	75	SW	6	2.7		0	2s		SW	0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.17	766.3	19	— 7.2	77	NE	4	1.8		2k	5ks	NW	NW	0.21	5.3	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.22	767.6	10	—12.2	91	N	4	1.8		Haze	Haze			0	0	Cloudy	H. Morgan.
Port Hastings, N. S			29.96	761.0	20.7	— 6.3		NW	5	2.2						0	0	Fine	Peter Grant.
Port Stanley, Ontario			30.23	767.8	6	—14.4	100	NE	2	0.9			10n		NE	0	0	Cloudy	M. Payne.
*Quebec, Quebec			30.01	762.2	12	—11.1	80	SW	4	1.8			10n		SW	0.40	10.2	Cloudy	Capt. Ashe, R. N.
St. John, N. B			30.02	762.5	16	— 8.9	83	W	10	4.5		0	0			0	0	Fine	G. Murdoch, C. E.
*Saugeen, Ontario			30.19	766.8	21	— 6.1	85	Calm	0	0			10n			0	0	Cloudy	K. Stewart.
Stayner, Ontario			30.15	765.8	20	— 6.7	78	W	6	2.7			10n		NW	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.83	732.3	30.22	767.6	11.8	—11.2	96	Calm	0	0			10s			0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.79	756.7	18	— 7.8	83	W	6	2.7		2ck	2ks	W	W	0	0	Clear	T. C. Hill.
*Toronto, Ontario			30.21	767.3	15	— 9.4	87	W	6	2.7			10n			0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario			30.21	767.3	12.0	—11.1	96	Calm	0	0			10s			0.020	0.51	Cloudy	J. Montgomery.
SUB-SERIES.																			
St. Johns, Newfoundland			29.57	751.1	29.0	— 1.7		Calm				10	10			0.01	0.3	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			30.18	766.6	5	—15.0	75	Calm	0	0		0	Haze			Inap.	Inap.	Clear	
Alpena, Mich.			30.18	766.6	9	—12.8	78	NW	6	2.7			10s			0	0	Cloudy	
Atlantic City, N. J.			30.22	767.6	23	— 5.8	73	N	9	4.0		10ck	Haze	W		0	0	Cloudy	
Augusta, Ga.			30.05	763.3	38	3.3	90	NE	4	1.8			10n		NE	0.41	10.4	Light rain	
Baltimore, Md.			30.26	768.6	25	— 3.9	75	Calm	0	0		Haze	Fog			0	0	Foggy	
Barnegat, N. J.			30.21	767.3	23	— 5.0	86	N	13	5.8			10s			0	0	Cloudy	
Bismarck, Dakota	28.39	721.1	30.26	768.6	— 6	—21.1	80	NW	8	3.6			10n			0.12	3.0	Light snow	
Boston, Mass.			30.16	766.1	14	—10.0	81	W	10	4.5		4cs	Sm'e	W		0	0	Fair	
Breckenridge, Minn.			30.15	765.8	1	—17.8	71	Calm	0	0		0	0			0.01	0.3	Clear	
Buffalo, N. Y.			30.20	767.1	18	— 7.8	68	SW	1	0.4		8ck	Sm'e	SW		0.01	0.3	Cloudy	
Burlington, Vt.			30.15	765.8	19	— 7.2	69	S	4	1.8		2k	5s	N		0.03	0.8	Cloudy	
Cairo, Ill.			30.08	764.0	22	— 5.6	85	NE	6	2.7			10n			Inap.	Inap.	Light snow	
Cape Hatteras, N. C.			30.02	762.5	41	5.0	91	NE	12	5.4			10n			Inap.	Inap.	Light rain	
Cape Henry, Va.			30.17	766.3	32	0.0	90	NE					10s			0	0	Cloudy	
Cape Lookout, N. C.			30.09	764.3	35	1.7	100	N	23	10.3			10n			0.56	14.2	Light rain	
Cape May, N. J.			30.17	766.3	26	— 4.4	76	NE	8	3.6			10s		N	0	0	Cloudy	
Charleston, S. C.			30.00	762.0	41	5.0	83	E	16	7.2			10n			0.25	6.3	Light rain	
Cheyenne, Wyoming	23.87	606.3	29.81	757.2	— 9	—22.8	100	NW	8	3.6		0	1s			0.09	2.3	Clear	
Chicago, Ill.			30.16	766.1	17	— 8.3	83	S	2	0.9			10n			0.01	0.3	Light snow	
Cincinnati, Ohio			30.04	763.0	24	— 4.4	87	NE	6	2.7			10s		NE	0.01	0.3	Cloudy	
Cleveland, Ohio			30.23	767.8	10	—12.2	79	SE	5	2.2			Haze			0.01	0.3	Hazy	
Corsicana, Tex.			29.90	759.4	33	0.6	100	W	5	2.2			10n			0.06	1.5	Light rain	
Davenport, Iowa			30.20	767.1	10	—12.2	100	Calm	0	0			10s			0.02	0.5	Cloudy	
Denison, Tex.			29.93	760.2	29	— 1.7	88	NW	7	3.1			10n			0.01	0.3	Heavy snow	
Denver, Col.	24.72	627.9	29.94	760.5	6	—14.4	76	Calm	0	0		0	5s			0.15	3.8	Fair	
Detroit, Mich.			30.18	766.6	14	—10.0	82	Calm	0	0			10n			Inap.	Inap.	Light snow	
Dodge City, Kan.	27.38	695.4	29.86	758.4	12	—11.1	76	N	18	8.0			10n			0.03	0.8	Light snow	
Dubuque, Iowa			30.25	768.3	— 2	—18.9	67	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			30.19	766.8	11	—11.7	79	Calm	0	0			10s			0	0	Cloudy	
Eastport, Me.			30.00	762.0	19	— 7.2	69	W	9	4.0		0	Haze			0	0	Clear	
Erie, Pa.			30.20	767.1	12	—11.1	79	SE	10	4.5			Haze			0.02	0.5	Hazy	
Escanaba, Mich.			30.19	766.8	0	—17.8	69	Calm	0	0		2ck	2s			0	0	Fair	
Fort Gibson, Indian Ter.			29.96	761.0	27	— 2.8	88	N	4	1.8			10n			0.01	0.3	Light snow	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.80	731.5	30.00	762.0	17	— 8.3	52	N	16	7.2			10s			Inap.	Inap.	Cloudy	
Fort Sully, Dakota	28.44	722.4	30.31	769.9	— 1	—18.3	84	NW	5	2.2			10s			0	0	Cloudy	
Florence, Arizona	28.48	723.4	30.03	762.7	45	7.2		N				0	0			0	0	Clear	
Galveston, Tex.			29.83	757.7	45	7.2	100	NE	6	2.7			Fog			1.01	25.7	Foggy	
Grand Haven, Mich.			30.17	766.3	18	— 7.8	84	E	4	1.8			10n			0.06	1.5	Light snow	
Indianapolis, Ind.			30.10	764.5	17	— 8.3	83	N	3	1.3			10s			0.09	2.3	Cloudy	
Indianola, Tex.			29.85	758.2	44	6.7	100	N	14	6.3			10n			1.15	29.2	Light rain	
Jacksonville, Fla.			29.94	760.5	47	8.3	92	N	9	4.0			10n			1.49	37.8	Light rain	
Keokuk, Iowa			30.11	764.8	14	—10.0	81	N	5	2.2			10s		N	0	0	Cloudy	
Key West, Fla.			29.98	761.5	74	23.3	90	SE	8	3.6		0	0			0	0	Clear	
Kittyhawk, N. C.			30.14	765.5	40	4.4	82	NE	20	8.9			10s			0	0	Threatening	
Knoxville, Tenn.			30.02	762.5	30	— 1.1	89	SE	1	0.4			10s			0	0	Cloudy	
La Crosse, Wis.			30.27	768.8	1	—18.3	72	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kan.			30.12	765.0	17	— 8.3	83	N	6	2.7			10n			0.03	0.8	Light snow	
Louisville, Ky.			30.06	763.5	22	— 5.6	86	N	8	3.6			10s			Inap.	Inap.	Cloudy	
Lynchburg, Va.			30.18	766.6	31	— 0.6	89	SE	2	0.9			10s			0	0	Cloudy	
Malone, N. Y.			30.09	764.3	24	— 4.4	86	SW	9	4.0			10s		SW	0.06	1.5	Cloudy	
Marquette, Mich.			30.11	764.8	25	— 3.9	75	Calm	0	0			10s			0	0	Cloudy	
Memphis, Tenn.			30.03	762.7	25	— 3.9	77	NE	8	3.6			10s			Inap.	Inap.	Cloudy	
Milwaukee, Wis.			30.22	767.6	9	—12.8	78	NW	6	2.7		Haze	2s			0.01	0.3	Hazy	
Mobile, Ala.			29.88	758.9	44	6.7	100	N	8	3.6			10n			0.96	24.4	Light rain	
Montgomery, Ala.			29.93	760.2	41	5.0	91	E	12	5.4			10n		E	0.44	11.2	Light rain	
Morgantown, W. Va.	29.00	736.6	30.12	765.0	22	— 5.6	79	NE	5	2.2			10s		NE	0	0	Cloudy	
Mt. Washington, N. H.	23.36	593.3	29.72	754.9	— 5	—20.6	100	W	72	32.2			Fog			0	0	Foggy	
Nashville, Tenn.			30.04	763.0	26	— 3.3	88	Calm	0	0			10s			0	0	Cloudy	
New Haven, Conn.			30.21	767.3	18	— 7.8	52	N	5	2.2		Haze	10s		N	0	0	Cloudy	
New London, Conn.			30.20	767.1	15	— 9.4	65	NW	4	1.8		2c	2s	NW	W	0	0	Fair	
New Orleans, La.			29.80	756.9	52	11.1	86	E	14	6.3			10s			1.30	33.0	Cloudy	
Newport, R. I.			30.18	766.6	20	— 6.7	72	NW	6	2.7			10s		W	0	0	Cloudy	
New York, N. Y.			30.22	767.6	21	— 6.1	85	NW	3	1.3		10cs	Fog	SW		0	0	Cloudy	
Norfolk, Va.			30.17	766.3	31	— 0.6	89	NE	7	3.1			10s			0	0	Cloudy	
North Platte, Neb.	27.14	689.3	29.95	760.5	8.0	—13.3	100	N	12	5.4			10s			Inap.	Inap.	Cloudy	
Omaha, Neb.	28.97	735.8	30.17	766.3	2	—16.7	86	W	3	1.3		0	0			0	0	Clear	
Oswego, N. Y.			30.21	767.3	25.5	— 3.6	69	S	7	3.1			10s		NW	Inap.	Inap.	Cloudy	
Pembina, Dakota			30.22	767.6	— 5	—20.6	82	N	8	3.6			10s			0.03	0.8	Cloudy	
Philadelphia, Pa.			30.25	768.3	20.5	— 6.4	78	E	7	3.1			10s			0	0	Cloudy	
Pike's Peak, Col.	17.15	435.6	29.36	745.7	—21	—29.4	100	N	32	14.3		0	5ks			0.02	0.5	Clear	
Pittsburgh, Pa.			30.12	765.0	20	— 6.7	85	E	8	3.6			10s		E	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.19	766.8	15	— 9.4	63	Calm	0	0			10s,sm			0	0	Smoky	
Portland, Me.			30.10	764.5	17	— 8.3	67	Calm	0	0		0	Haze			0	0	Clear	
Portland, Oregon			30.07	763.8	45	7.2	92	NW	3	1.3			10s			0.15	3.8	Cloudy	
Punta Rassa, Fla.			29.93	760.2	71.0	21.7	95	S	16	7.2		0	Haze			0.02	0.5	Clear	
Rochester, N. Y.			30.19	766.8	16	— 8.9	75	SW	7	3.1		Haze	5s	W	W	Inap.	Inap.	Fair	
Salt Lake City, Utah	25.55	649.0	29.88	758.9	28	— 2.2	88	Calm	0	0			10s			0.15	3.8	Cloudy	
Sandy Hook, N. J.			30.16	766.1	23	— 5.0	60	N	6	2.7		10cs	Haze			0	0	Cloudy	
San Diego, Cal.			30.04	763.0	50	10.0	86	NE	4	1.8		0	0			0	0	Clear	
San Francisco, Cal.			30.07	763.8	50	10.0	90	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	22.95	583.7	29.52	749.8	14	—10.0	64	N	6	2.7		2k	0	W		Inap.	Inap.	Clear	
Savannah, Ga.			29.97	761.2	45	7.2	84	E	10	4.5			10n		SE	0.47	11.9	Light rain	
Shreveport, La.			29.97	761.2	34	1.1	89	NE	4	1.8			10s		NE	0.07	1.8	Cloudy	
Smithville, N. C.			30.08	764.0	34	1.1	95	N	10	4.5			10n		N	0.10	2.5	Light rain	
Springfield, Mass.			30.22	767.6	7	—13.9	76	Calm	0	0		8ck	2s, fg	S		0	0	Cloudy	
St. Louis, Mo.			30.11	764.8	20	— 6.7	85	NE	8	3.6			10s			0.04	1.0	Cloudy	
St. Marks, Fla.			29.90	759.4	48	8.9	100	SE	4	1.8			10n			0.75	19.1	Light rain	
St. Paul, Minn.			30.16	766.1	4	—15.6	74	SE	4	1.8			10s			0	0	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.15	765.8	19	— 7.2	54	W	16	7.2		5c	0	W		0	0	Fair	
Toledo, Ohio			30.16	766.1	16	— 8.9	100	Calm	0	0			10n			0.03	0.8	Light snow	
Tucson, Arizona	27.58	700.5	30.13	765.3	29	— 1.7		SE				2c	0	N		0	0	Fair	
Tybee Island, Ga.			29.98	761.5	43	6.1	100	E	16	7.2			10n			0.24	6.1	Light rain	
Vicksburg, Miss.			29.94	760.5	34	1.1	100	NE	4	1.8		10k,hz	Sm'e		NE	0.15	3.8	Cloudy	
Virginia City, M. T.	24.12	612.6	29.60	751.8	5	—15.0	88	Calm	0	0			10ks		N	Inap.	Inap.	Cloudy	
Washington, D. C.			30.25	768.3	20.5	— 6.4	85	NW	4	1.8			10s		W	0	0	Smoky	
Wilmington, N. C.			30.11	764.8	33	0.6	89	N	8	3.6			10n		N	0.42	10.7	Heavy rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass			30.20	767.1	21	— 6.1	56	NW	10	4.5			10s			0.03	0.8	Cloudy	
Yankton, Dakota	28.82	732.0	30.26	768.6	5	—15.0	75	W	11	4.9		1cs	0	NW		Inap.	Inap.	Clear	
Yuma, Arizona			30.06	763.5	49	9.4		NE				0	2s		N	0	0	Fair	
SUB-SERIES.																			
Kingston, Jamaica, W. I.			30.12	765.0	79	26.1	70	E	14	6.3		2c	2s	E	E	0	0		James Gall.
Navassa, W. I.					80	26.7		E			4							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.22	691.4	30.02	762.5	65	18.3	94	E	3.0	1.3		0	8k			0	0	Dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.01	762.2	80	26.7	87	E			1	7ks?	7ks	E		0.620	15.75	Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	763.9			79.7	26.5		E								0.039	1.00		Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6			65.5	18.6	84	N			1	0	8ks			0.02	0.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.25	768.3	—10.0	—23.3	78	NW	4	1.8		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			29.97	761.2	75	23.9		SE			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.10	764.5	66	18.9	68	Calm			0	0	4k			0	0	Misty	F. L. Clarke.

MARINE SERIES.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, off Rip Lightship.	W	4	Smooth		Cloudy	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the SECRETARY OF THE NAVY.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv^t Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 29, 1876.

7:35 A. M. WASHINGTON mean time.

0:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.27	768.9	63.5	17.5	57	Calm			0		2			0	0	Clear	Charnot.
Algiers			30.28	769.1	61.5	16.4	87	N			2		0			0	0	Clear	Peter.
La Calle			30.29	769.3	61.2	16.2	69	N			2		0			0	0	Clear	Didier.
Tunis			30.32	770.1	57.2	14.0		W			3		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.36	771.1	61.5	16.4	30	S			2		4			0	0	Fair	Millot.
Tebessa			30.31	769.9	59.9	15.5		SW			1		0			0	0	Clear	Bourgeois.
Geriville			30.33	770.3	54.0	12.2	80	SSE			1		2			0	0	Clear	Lemaillot.
Laghouat			30.41	772.3	61.7	16.5	41	N			1		0			0	0	Clear	Guyot.
Biskra			30.38	771.6	65.7	18.7	41	NW			1		0			0	0	Clear	Kuntz.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.17	766.2	32.9	0.5	68	SW			1		4			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.95	760.6	32.2	0.1	98	W			2		10			0	0		Dr. Wierzbiski.
Eperies			30.15	765.8	20.8	— 6.2	79	S			5		10			0	0		Julius Mikolik.
Gratz	28.85	732.8	30.19	766.7	27.1	— 2.7	83	S			2		1			0	0		Andreas Rospini.
Hermannstadt	28.71	729.2	30.23	767.8	25.9	— 3.4	80	ESE			1		9			0	0		Prof. Reissenberger.
Kremsmünster	28.74	730.1	30.17	766.2	28.4	— 2.0	84	WSW			3		8			0	0		Prof. C. Wagner.
Lemberg			29.91	759.8	25.9	— 3.4	95	S			2		10			0.004	0.1		Dr. T. Stanecki.
Nyiregyhaza																			Habasuda Daniel.
Pola			30.22	767.6	42.3	5.7	86	WNW			1		10s			0	0		I.R. Hydrographic Office.
Szegedin			30.19	766.7	27.9	— 2.3	69	SE			1		5			0	0		Karl Stancel.
Trieste			30.23	767.8	40.3	4.6	84	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			30.16	766.0	25.3	— 3.7	89	SSW			1		4			0.047	1.2		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.87	758.7	50.2	10.1	93	SW			1		10		SW	0.494	12.55	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.62	752.3	40.0	4.4		SW	7	3.1			6			0	0	*D. clouds	William Boswell.
Ardrossan			29.58	751.3	44	6.7		SE			2		8					Misty	William McNeil.
Armagh, Observatory			29.45	748.0	45.0	7.2		ESE	10	4.5			10					Raining	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.30	744.2	51.5	10.8		SE			1–2		10					Drizzling	J. Dreyer.
Bradford			29.68	753.9	45.3	7.4		SW			1		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.96	761.0	82.0	27.8		NE			1		7					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.75	755.6	49.8	9.9		S			1		10					Overcast	H. Todd. [H.C.
Cardington			29.73	755.1	49.6	9.8		S			1		10					Foggy	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.77	756.1	53.4	11.9		SW			2		10					Threatening	Capt. Fellowes, R. E.
Dartmoor	28.14	714.7	29.73	755.1	49.8	9.9		SW			8		10					Heavy rain	R. E. Power.
Davos Platz, (Switzerland)	24.97	634.2			40.5	4.7	61	Calm			0		0			0	0	Blue sky	Francis Redford, M. A.
Donaghadee			29.50	749.3	47	8.3		SSE			3		10					Raining	J. Mac Gowan.
Dover			29.80	756.9	51	10.6		S			3		8					Gloomy	J. Costello.
Eccles, (near Manchester)			29.64	752.8	44.7	7.1		SE	1.6	0.7			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.50	749.3	54.0	12.2		SSE			7		10					Raining	The Staff.
Fort Napier, (Natal)	27.71	703.8	29.95	760.7	61.3	16.3		E			2		10					Drizzling	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.95	760.7	86.0	30.0		Calm			0		3					*D. clouds	
Galway, Queen's College			29.28	743.7	44	6.7		SE			3		4					*D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.26	768.6	62.5	16.9		NW			2		2					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.59	751.6	41.5	5.3		NE			1		10					Misty	Lewis Stuart.
Great Yarmouth			29.76	755.9	47	8.3		SW			2		3					Hazy	G. T. Watson.
Greenwich, Royal Obs'y			29.75	755.6	53.3	11.8		SSW			1		10			Blank	Blank	Overcast	The Staff, for G. B. Airy.
Guernsey			29.72	754.9	54	12.2		SE			5		10					Drizzling	Dr. S. E. Hoskins.
Helston			29.58	751.3	54	12.2		SW			7		10n			0.25	6.3	Raining	M. P. Moyle.
Holyhead			29.44	747.8	49	9.4		SE			3		10					Misty	John Tilston.
Kew, Observatory			29.75	755.6	53.8	12.1		S	15	6.7			10					Gloomy	The Staff.
Kingstown			29.43	747.5	48	8.9		SE			5		10					Raining	George Mitchell.
Leicester Museum			29.69	754.1	46.6	8.1		SE			1		10					Gloomy	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.26	768.6	63.8	17.7		NW			2		4n					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.57	751.1	38	3.3		W			1		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			29.99	761.7	76.5	24.7		SE			3		3n						Surg. Maj. Henry.
Nottingham, Observatory			29.69	754.1	43.2	6.2		SE			1		10s,1			0.28	7.16	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.65	753.1	43.1	6.2		E			2		10			Blank	Blank	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.69	754.1	53	11.7		S			1		10					Misty	J. Lucas.
Plymouth			29.62	752.3	52.5	11.4		S			5		10					Raining	John Merrifield.
Roche's Point			29.28	743.7	51	10.6		SSE			7		10					Raining	W. Kennedy.
Saint Ann's Head			29.51	749.5	51	10.6		SE			5		10					Raining	John C. Walker.
Saint Helier, (Jersey)			29.77	756.1	53.8	12.1		SSW			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.56	750.8	35.3	1.8		WNW	4	1.8			1					*D. clouds	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.14	765.5	38.0	3.3		NNE			2		9					Drizzling	Sergt. W. H. Lyne.
Sheffield			29.63	752.6	44.0	6.7		SSE			1		10			0.42	10.75	Overcast	W. F. Cooper.
Silloth Rectory			29.62	752.3	46.2	7.9	92	Calm			0		8			0.34	8.77	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.65	753.1	43.0	6.1		SE			0		10s					Misty	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.50	749.3	36	3.3		W			1		10					Gloomy	John Smith.
Stratfield Turgiss			29.76	755.9	53.3	11.8		SW			3		10					Raining	Rev. Charles H. Griffith.
Thurso			29.53	750.0	37	2.8		SSW			1		7					Showery	John Trotter.
Truro, Royal Institution			29.41	747.0	55	12.8		S			10		10					Raining	W. Newcombe.
Valencia, Observatory			29.26	743.2	51.2	10.7		SW	16	7.2			10					Drizzling	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					50	10.0		S			3		10			0.10	2.5		Henry Mercer.
Cape Good Hope, Obs'y			30.07	763.8	74.6	23.7	50	SW	6	2.7		7	8						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.14	765.5	64.0	17.8	94	S			1		10kn			0.08	2.0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.63	752.6	42.0	5.6		E			1		10s			0.05	1.3	Overcast	Andrew Gibb.
Mauritius, Observatory			29.95	760.7				E	11.5	5.1						0.04	1.0		C. Meldrum.
Melbourne, Observatory			30.15	765.8	58.6	14.8	84	SSE	4	1.8			3			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.50	749.3	46	7.8		ESE			4		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.50	749.3	44	6.7		NE			3	4	3	S					Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.6? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

San José																			

DANISH SERIES.

Furnished by the coöperation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen			29.50	749.2	39.6	4.2	93	WSW			2		8					Foggy	
Fanöe			29.63	752.6	38.1	3.4	97	WSW			4		9						
Godthaab, (Greenland)			29.75	755.6	18.0	— 7.8	92	Calm			0		0						
Stykkisholm, (Iceland)			29.77	756.2	28.2	— 2.1	85	NE			6		8						
Thorshavn, (Faröe)			29.58	751.2	37.4	3.0	78	NNE			2		9						
Vestervig			29.50	749.2	36.5	2.5	96	SW			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.97	761.2	44.6	7	100	SW			2		10kn		SW	0.16	4.	Covered	Normal School.
Amiens			29.85	758.3	54.0	12.2	87	SW			1		8			0.039	1.0	Very cloudy	Normal School.
Avignon			30.19	766.9	54.0	12.2	72	N			1		0			0	0	Very clear	Normal School.
Bar-sur-Seine			30.06	763.4	54.9	12.7	74	SSW			1		8n			0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.82	757.3	55.6	13.1	68	S	16.1	7.2					SW	0.008	0.2		Beaumette Observ'tory.
Beauvais			29.95	760.7	54.1	12.3	82	SW			3		8		WSW	0.059	1.50	Very cloudy	Normal School.
Besançon			30.16	766.0	55.4	13	66	S			3		5		SW	0	0	Cloudy	Normal School.
Bourg en Bresse			30.21	767.4	54.5	12.5	68	S			1	2c		W		0	0	Slightly cl'dy	Normal School.
Bourges			30.12	765.1	50.0	10	86	S			2		2		SE	0	0	Slightly cl'dy	Normal School.
Brest			29.65	753.1	53.4	11.9	93	SW			7		10		SW	0.207	5.25	Misty	Naval Observatory.
Carcassonne			30.17	766.4	51.8	11	75	E			2		2		W	0	0	Slightly cl'dy	Normal School.
Caen																			Normal School.
Chartres			29.95	760.6	51.8	11	100	SSW			2		8		NE	0	0		Normal School.
Châlons-sur-Marne			30.02	762.4	54.3	12.4	76	SW			3		10n		E	0	0	Covered	Normal School.
Clermont			30.11	764.7	58.5	14.7	55	S			2		8			0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			30.04	763.0	50.0	10	86	WSW			4		8		E	0	0	Very cloudy	Normal School.
Commune de Gréasque*			30.21	767.4	56.3	13.5	66	NW			2		2		NW	0	0		M. Kina.
Grenoble			30.23	767.8	34.2	1.2	78	NE			2		5sn		NE	0	0	Cloudy	Normal School.
La Roche-sur-Yon			29.95	760.6	52.3	11.3	78	SSE			2		10			0	0	Covered	Normal School.
Le Mans			29.97	761.1	52.3	11.3	77	SW			4		8		SW	0.008	0.2	Very cloudy	Normal School.
Lons-Le-Saulnier			30.17	766.2	55.2	12.9	72	SW			1		2		NE	0	0	Slightly cl'dy	Normal School.
Lorient			29.83	757.6	57.2	14.0	76	S			6		10			0.094	2.4	Raining	Naval Observatory.
Mâcon			30.23	767.8	49.1	9.5	89	Calm			0		5		S	0	0	Cloudy	Normal School.
Metz			30.11	764.7	48.2	9.0	83	SW			4		8			0	0		M. Schuster.
Mirecourt			30.10	764.6	47.8	8.8	81	SSW			4		2		NNE	0	0	Slightly cl'dy	Normal School.
Nismes			30.12	765.0	58.3	14.6	67	SE			2		2		S	0	0	Slightly cl'dy	Normal School.
Orleans			30.00	762.1	53.2	11.8	76	SW			3		0			0	0	Clear	Normal School.
Paris, Observatory			29.97	761.2	53.1	11.7	85	SW			3		10			0.012	0.30	Misty	National Observatory.
Parthenay																			Normal School.
Privas			30.21	767.2	52.7	11.5		NW			2		2		NW	0	0	Slightly cl'dy	Normal School.
Rochefort, Observatory			30.01	762.2	52.5	11.4	78	S			4		10		N	0	0	Covered	Naval Observatory.
Rouen			29.91	759.7	55.8	13.2	84	SSE			2		8		SE	0.130	3.3	Very cloudy	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.22	767.6	53.2	11.8	91	SE			1		8		NW	0	0	Very cloudy	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchésl.
Marseilles			30.16	766.0	59.5	15.3	74	SW					2			0	0		Marseilles Observatory.
Mont-Louis	25.01	635.3	30.40	772.1	47.8	8.8	57	SW	13.0	5.83			4		SW	0	0		—. Falguère.
Montsouris, Paris			29.96	761.0	52.9	11.6	84	S			3		10		SSW	0.004	0.1		Montsouris Observatory
Perpignan			30.18	766.5	55.4	13.0	78	E	7.4	3.33			1		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.63	574.8			44.2	6.8		SW			3		6			0	0	Fair	General de Nansouty.
Saint Maur, (near Paris)			29.97	761.3	53.8	12.1	84	SSW			2		10			0	0	Covered	E. Renou.
Toulouse			30.17	766.2	55.0	12.8	88	SSE			2		6			0	0		Toulouse Observatory.
Tours			29.98	761.6	53.8	12.1	72	SW			1		7		W	0	0		C. Marquet.
Versailles, (near Paris)			29.97	761.2	53.2	11.8	87	SW			1		10			0.008	0.21	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.37	771.4	39.2	4.0	93	N	3.8	1.7			0			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1.010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.95	760.8	37.4	3.0	100	S			2		10			0.157	4.0	Rain & fog	Prof. T. Hoh.
Berlin			29.85	758.2	44.2	6.8	89	SW			3		9			0.594	15.1		Prof. Arndt.
Breslau			29.91	759.7	37.6	3.1	100	WSW			4		10	W		0.142	3.6		Royal University Obs'y
Carlsruhe			30.03	762.8	48.6	9.2	75	SW			3		10			0	0	Foggy	A. Senz.
Cassel			29.97	761.2	43.5	6.4	91	SSW			2		6	W		0.406	10.3		Dr. H. Möhl.
Crefeld			29.91	759.6	49.6	9.8	97	SW			2		10			0.35	9.	Foggy	Director Lose.
Emden			29.87	758.7	41.0	5.0	98	WSW			1		0			0.055	1.4		Prof. Prestel.
Frankfort on the Main			30.03	762.7	43.7	6.5	92	SSW			1		9			0.039	1.0		Physical Society.
Friedrichshafen	28.72	729.6	30.21	767.2	42.6	5.9	91	WSW			2		4			0	0		M. Wilhelm.
Hamburg			29.77	756.2	43.5	6.4	91	WSW			5		8k,s	W		0.795	20.2		Captain F. Hegemann.
Kiel			29.69	754.0	41.0	5.0	94	SW			4		10			0.264	6.7		Prof. G. Karsten.
Königsberg, (Prussia.)			29.55	750.5	36.1	2.3	100	W			7		10			0.287	7.3		Prof. E. Luther.
Köslin			29.65	753.2	37.4	3.0		SW			4		4			0.248	6.3		H. Müller.
Leipsic			29.93	760.2	43.2	6.2	88	SW			4		8	WSW		0.693	17.6		Prof. Bruhns.
Memel			29.46	748.2	35.6	2.0	96	SW			6		Fog			0.280	7.1		Reinbrecht & Skalweit.
Münster			29.93	760.2	48.2	9.0	97	SW			2		10			0.268	6.8		Prof. E. Heis.
Neufahrwasser			29.56	750.9	39.0	3.9	90	WNW			6		9			0.244	6.2		A Lothe.
Posen			29.74	755.4	37.6	3.1	93	W			5		10			0.098	2.5		Dr. Magener.
Strassburg, (in Alsace)			30.11	764.7	49.5	9.7	76	SW			2		10	SW		0.094	2.4		Dr. Schur.
Stuttgart			30.07	763.6	52.5	11.4	55	W			2		6			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.95	760.7	49.6	9.8	82	W			4		10			0.008	0.2		Prof. Flesch.
Weissenburg, (Bavaria,)	28.55	725.1	30.07	763.8	48.4	9.1	68	WSW			1		8	W		0	0		Dr. von Bebber.
Wustrow, Naval School			29.71	754.5	37.2	2.9	96	SW			4		10			0	0		E. F. Schütz.
German Naval Series.																			

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356 9 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

Furnished by the coöperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.12	765.0	45.5	7.5		NE										Half clear	

Note.—The originals give the barometer corrected, but not reduced to sea-level; occasionally the kind of clouds; the weather as published. They omit the humidity, wind-force, amount of cloudiness and rain-fall.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.	Observer.
Udine			30.20	767.1	36.7	2.6	72	Calm	0	0			9			0	0		Prof. Giovanni Clodig
Padua			30.21	767.3	32.5	0.3	83	N	1.8	0.8			5			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.22	767.5	34.7	1.5	78	E	0	0			1			0	0		Alm. Da Schio.
Verona			30.22	767.5	33.8	1.0	80	E			1		0			0	0		Dott. B. Bertoncelli.
Bergamo	28.81	731.7	30.18	766.5	37.0	2.8	75	SSW			1		9			0	0		Prof Trionfini Carlo.
Domodossola			30.21	767.4	40.6	4.8	62	Calm			0		1			0	0		Prof. Giuseppe Calza.
Milan			30.22	767.6	36.3	2.4	100	W			2		10			0	0		Ab. Gio. Capelli.
Pavia			30.22	767.6	34.9	1.6	80	SW			2		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.26	768.7	30.2	— 1.0	94	ENE	2.5	1.1			6	SW		0	0		Prof. P. F. Denza.
Mondovi	28.25	717.6	30.24	768.1	36.5	2.5	55	SE			2		1	W		0	0		Prof. C. Bruno.
Porto Maurizio			30.21	767.4	54.9	12.7	91	SW			2		4	W		0	0		Prof. L. Vassallo.
Genoa			30.20	767.1	52.0	11.1	92	SE	4.9	2.2			10	SE		0.319	8.1	Raining	Prof. Garibaldi.
Piacenza			30.24	768.1	34.0	1.1	91	WNW	3.8	1.7			10			0	0		Dott. G. Manzi.
Parma			30.25	768.3	34.2	1.2	89	NW			2		10			0	0		Prof. P. Pigorini.
Bologna			30.26	768.5	39.0	3.9	42	W			1		7	N		0	0		Prof. A. Palagi.
Florence			30.22	767.6	41.9	5.5	92	NW			2		10			0.055	1.4	Drizzling	Cav. F. Meucci.
Leghorn			30.23	767.7	54.5	12.5	77	SSE	5.0	2.5			8	NW		0.047	1.2		Prof. P. Monte.
Siena	28.98	736.2	30.22	767.6	48.6	9.2	87	SE	0	0			9	W		0	0		Prof. L. Toscani.
Urbino	28.64	727.5	30.24	768.1	46.0	7.8	82	S			2		10			0	0		Prof. P. Serpieri.
Pesaro			30.24	768.1	40.5	4.7	89	N	0	0			10	NW		0	0		Prof. Luigi Guidi.
Ancona			30.26	768.6	45.0	7.2	77	SE			2		0			0	0		Prof. F. De—Bosis.
Grosseto			30.24	768.1	55.2	12.9	76	SSE			2		8	NW		0	0		Avv. P. Ponticelli.
Rome			30.27	768.8	50.4	10.2	67	Calm	0	0			6	NW		0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U			30.26	768.5	55.8	13.2	60	SE			2		3	WSW		0	0		Prof. L. Palmieri.
Lecce			30.20	767.0	53.2	11.8	81	N	15.0	6.7			8			0	0		Prof. C. De—Giorgi.
Cosenza			30.26	768.5	50.0	10.0	74	WNW	4.9	2.2			0			0	0		Prof. F. D. Conti.
Ripposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.24	768.2	57.2	14.0	68	NNW	1.3	0.6			10			0	0		Prof. G. Cacciatore.
Caltanissetta	28.26	717.7	30.25	768.3	49.6	9.8	87	NNW			4		0			0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.27	768.9	52.3	11.3	63	SW	0.7	0.3			0			0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally he weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

Tokei

By authority of the Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

Mexico	Mariano Barcena.
	Vicente Reyes.
	Miguel Perez.
	(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.
Flushing			29.86	758.5	49.3	9.6		SSW			4					0.071	1.8	
Groningen			29.75	755.6	41.7	5.4		SW			3					0.039	1.0	
Helder			29.81	757.1	45.3	7.4		SW			4					0.236	6.0	
Utrecht			29.81	757.1	48.7	9.3	95	SW			3					0.063	1.6	Hazy

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall. Inches.	Millimeters.	Weather.
Bergen			29.32	744.8	36.3	2.4	89	Calm	0	0			5			0	0	
Brönö			29.27	743.5	25.9	— 3.4	87	Calm	0	0			4			0	0	
Christiania			29.39	746.4	19.8	— 6.8	94	N	0	0			5			0.27	6.9	
Tromsö			28.99	736.3	23.2	— 4.9	71	SW	18	8			10			0.197	5.0	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.17	741.0	51.4	10.8	73	W	21.0	9.4			8			0.638	16.2	Raining	Dr. J. A. Sampaio.
Campo Major			30.17	766.4	55.0	12.8	70	E	6.9	3.1			9	SW		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			30.09	762.1	68.0	20.0	70	W	6.9	3.1			10			0	0		Capt. D. A. de Cunha.
Lisbon			30.10	764.4	63.5	17.5	62	SSE	22.4	10.0			9	SSW		0	0		The Observatory.
Ponta Delgada, (Azores)			29.29	744.0	56.1	13.4	58	W	26.6	11.9			2			0.843	21.4		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.75	755.7	34.7	— 1.5	94	WSW	22	10			10					Raining	Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			29.34	745.3	17.1	— 8.3	92	S	13	6			10					Light snow	Physical Cabinet.
St. Petersburg			29.56	750.8	12.6	—10.8	80	SSE	31	14			10					Snowing	Central Physical Obs.
Kuopio			29.41	746.9	12.2	—11.0	100	ESE	27	12			10					Snowing	Ch. Forsten.
Kieff			30.11	764.9	2.3	—16.5	100	SSE	9	4			10						Physical Cabinet.
Nikolaiev			30.29	769.3	10.9	—11.7	75	Calm	0	0			0						Kurdakof.
Kertch			30.23	767.9	25.5	— 3.6	89	N	9	4			10						Lagorio.
Moscow			30.19	766.7	6.8	—14.0	83	W	9	4			10					Light snow	Meteorological Obs.
Lugan			30.16	766.0	9.3	—12.6	73	WNW	7	3			0						Meteorological Obs.
Archangel			29.93	760.1	—22.0	—30.0	88	SE	7	3			2						Ogorodnikof.
Tiflis	28.61	726.6	30.03	762.8	53.6	12.0	58	N	13	6			6						Physical Observatory.
Astrakhan			30.04	762.9	19.0	— 7.2	95	NW	7	3			10			Blank	Blan		Sebastianof.
Kasan			30.03	762.7	— 8.0	—22.2	97	Calm	0	0			0						Physical Cabinet.
Orenburg			30.24	768.0	22.1	— 5.5	87	S	11	5			10						Tschernischef.
Ekaterinburg	29.01	736.8	30.07	763.6	— 2.2	—19.0	51	SE	4	2			10					Lunar corona	Meteorological Obs.
Nukuss			29.91	759.6	47.1	8.4	73	SSE	4	2			3						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.89	784.5	—28.3	—33.5	84	Calm	0	0			0						Meteorological Obs.
Yeniseisk			30.60	777.1	—36.4	—38.0	74	Calm	0	0			1						Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.34	770.6	27.5	— 2.5	68	SW	4	2			0						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					13.6	—10.2		Calm	0	0			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.30	769.6	51.1	10.6	63	E	2.2	1.00		0	6			0	0	Cloudy	Royal Observatory.
San Fernando			30.25	768.4	64.4	18.0	63	ESE	6.5	2.9		0	8		W	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.39	746.6	14.7	— 9.6	91	SE			4		10			0	0		
Umea			29.31	744.4	14.7	— 9.6	100	SSE			2		10			0	0		
Hernosand			29.22	742.1	24.4	— 4.2	95	NW			2		9			0.177	4.5	Snowing	
Stockholm			29.16	740.6	28.9	— 1.7	94	NW			2		10			0.244	6.2		
Wisby			29.28	743.6	36.3	2.4	96	NNW			6		10			0.153	3.9		
Sub-Series.																			
Upsala			29.19	741.4	28.2	— 2.1	95	NW	11.6	5.2			10			0.134	3.40	Snowing	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, and Upsala also velocity in meters per second; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.75	730.3	30.18	766.5	54.0	12.2	55	Calm			0		4			0	0	Vapory	The Observatory.
Zurich	28.54	724.9	30.21	767.4	44.2	6.8	80	E			1		4			0	0	Bright	The Observatory.

NOTE.—For Geneva the corresponding departures from the normal values are: Barometer, +2.6 mm; Thermometer, +10.7 cent.; Relative Humidity, —25 per cent.

NOTE.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			30.19	766.8	36.1	2.3	95	N	9	4.0			10		NE	0	0		
Fao, (Persian Gulf)																			
Salonica			30.23	767.7	59.4	15.2		N			1		0						
Valona			30.09	764.2	51.8	11.0		N			2		2						
Varna			30.32	770.0	32.0	0.0		N			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.84	758.0	57.7	14.3	87	SW			1		10n		SW			Raining	Prof. C. V. A. Van Dyck

NOTE.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B			29.97	761.2	1.0	—17.2	88	SW	2	0.9			0					Clear	Hon. J. Ferguson.
Brockville, Ontario			30.08	764.0	7	—13.9		NE	1	0.4		Haze	2s	NE	NE	0	0	Fair	W. R. Bigg.
*Chatham, N. B			30.06	763.5	0	—17.8	100	W	2	0.9		0	0			0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island			30.05	763.3	18	— 7.8	84	Calm	0	0			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario			30.08	764.0	— 5.2	—20.7	100	SW			1	0	3s			0	0	Foggy	James Smith, M. A.
Dalhousie, N. B			30.09	764.3				W			1					0	0	Clear	H. A. Johnson.
Esquimault, B. C			30.10	764.5	45.3	7.4	84	SW				6ck	0			0.19	4.8	Cloudy	W. H. Bevis.
Fredericton, N. B			30.15	765.8	— 5.9	—21.1	100	Calm	0	0		0	0			1.120	28.45	Fair	Prof. Harrison.
*Fort Garry, Manitoba			30.46	773.7	—20	—28.9	93	N	4	1.8		0	0			0	0	Clear	James Stewart.
Goderich, Ontario			29.92	760.0	18.6	— 7.4	94	Calm			0		10n			Inap.	Inap.	Threatening	H. J. Strang, M. A.
Granton, Ontario	28.70	729.0	29.87	758.7	20.3	— 6.5		NE			1		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			30.07	763.8	10	—12.2	77	NW	6	2.7		0	2ks			0	0	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.09	764.3	12	—11.1	89	NE	3	1.3			10s			0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.96	761.0	22.5	— 5.3		NW	4	1.8			10n			0	0	Overcast	C. H. Rigby.
*Montreal, Quebec			30.11	764.8	6	—14.4	95	E	8	3.6		0	Sm'a.			0	0	Clear	C. H. McLeod, C. E.
*Ottawa, Ontario			30.10	764.5	— 2	—18.9	90	Calm	0	0		2cs	0	W		0	0	Clear	J. B. Haney.
*Parry Sound, Ontario			30.06	763.5	1	—17.2	87	NE	10	4.5		0	0			0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario			29.87	758.7	20	— 6.7	90	NE	9	4.0			10n		NE	0.05	1.3	Threatening	H. Morgan.
Port Hastings, N. S			30.05	763.3	21	— 6.1		NW	3	1.3						0	0	Fine	Peter Grant.
Port Stanley, Ontario			29.86	758.4	21	— 6.1	85	E	12	5.4			10n		E	0.06	1.5	Cloudy	M. Payne.
*Quebec, Quebec			30.15	765.8	14	—10.0	82	Calm	0	0		0	0			0	0	Clear	Capt. Ashe, R. N.
St. John, N. B			30.15	765.8	10	—12.2	89	NW	2	0.9		0	0			Blank	Blank	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			29.95	760.7	18	— 7.8	84	Calm	0	0			10n			0.03	0.8	Cloudy	K. Stewart.
Stayner, Ontario			30.01	762.2	7	—13.9	98	Calm	0	0		0	0			0	0	Clear	R. J. Cole.
Stratford, Ontario	28.51	724.1	29.87	758.7	19.0	— 7.2	86	E	10	4.5			10s			0.15	3.8	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			30.00	762.0	23	— 5.0	73	W	8	3.6			10ks		NW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.93	760.2	22	— 5.6	87	NE	12	5.4			10n			0.11	2.8	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.86	758.4	20.7	— 6.3	94	E	12	5.4			10s			0.030	0.76	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.78	756.4	22.0	— 5.6		Calm				10	10			0.02	0.5	Fair	John Delany.

NOTE.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters	Weather.	Observer.
Albany, N. Y.			30.03	762.7	9	—12.8	78	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			30.03	762.7	17	— 8.3	83	NE	8	3.6			10s		NE	0.01	0.3	Cloudy	
Atlantic City, N. J.			29.80	756.9	36	2.2	90	E	25	11.2			10n		E	0.05	1.3	Light rain	
Augusta, Ga.			29.63	752.6	37	2.8	100	Calm	0	0			10n			0.88	22.4	Light rain	
Baltimore, Md.			29.80	756.9	27	— 2.8	88	NE	11	4.9			10n			0.03	0.8	Heavy snow	
Barnegat, N. J.			29.85	758.2	36	2.2	95	E	27	12.1			10n		E	0.03	0.8	Sleeting	
Bismarck, Dakota	28.44	722.4	30.41	772.4	—23	—30.6	58	NW	4	1.8		0	0			0.02	0.5	Clear	
Boston, Mass.			30.06	763.5	22	— 5.6	72	N	4	1.8			10s		E	0	0	Cloudy	
Breckenridge, Minn.			30.40	772.1	—11	—23.9	76	NW	12	5.4			10s		N	0	0	Cloudy	
Buffalo, N. Y.			29.84	757.9	20	— 6.7	85	E	12	5.4			10s			0.01	0.3	Cloudy	
Burlington, Vt.			30.11	764.8	9	—12.8	78	Calm	0	0			8s			0	0	Cloudy	
Cairo, Ill.			29.85	758.2	16	— 8.9	100	NW	16	7.2			10n			0.21	5.3	Light snow	
Cape Hatteras, N. C.			29.56	750.8	51	10.6	100	SE	13	5.8			10n		SW	1.34	34.0	Light rain	
Cape Henry, Va.			29.60	751.8	42	5.6	96	E					10s, fg			0.49	12.4	Cloudy	
Cape Lookout, N. C.			29.59	751.6	48	8.9	100	E	22	9.8			10n			1.63	41.4	Light rain	
Cape May, N. J.			29.76	755.9	36	2.2	100	E	20	8.9			10n			0.10	2.5	Light rain	
Charleston, S. C.			29.63	752.6	47	8.3	85	SW	2	0.9			Fog			1.36	34.5	Foggy	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	— 4	—20.0	100	W	4	1.8			10s			0	0	Cloudy	
Chicago, Ill.			29.85	758.2	26	— 4.4	76	N	12	5.4			10s			0.01	0.3	Cloudy	
Cincinnati, Ohio			29.47	748.5	21	— 6.1	85	N	13	5.8			10n			0.22	5.6	Light snow	
Cleveland, Ohio			29.69	754.1	21.5	— 5.8	93	N	13	5.8			10n		NE	0.06	1.5	Light snow	
Corsicana, Tex.			30.44	773.2	16	— 8.9	66	NW	12	5.4		0	0			0.41	10.4	Clear	
Davenport, Iowa			30.08	764.0	7	—13.9	88	NW	5	2.2			10s			0	0	Cloudy	
Denison, Tex.			30.46	773.7	8	—13.3	100	NW	12	5.4		0	0			0.49	12.4	Clear	
Denver, Col.	24.77	629.2	29.99	761.7	— 5	—20.6	81	S	5	2.2		0	5s			0	0	Fair	
Detroit, Mich.			29.78	756.4	22	— 5.6	72	NE	14	6.3			10s			0.06	1.5	Cloudy	
Dodge City, Kan.	27.62	701.5	30.30	769.6	—13	—25.0	74	NW	16	7.2		0	0			0.02	0.5	Clear	
Dubuque, Iowa			30.13	765.3	— 3	—19.4	66	Calm	0	0			10s			0	0	Cloudy	
Duluth, Minn.			30.14	765.5	11	—11.7	79	NW	12	5.4			10s			0	0	Cloudy	
Eastport, Me.			30.12	765.0	14	—10.0	63	NW	7	3.1		2c	2s			0	0	Fair	
Erie, Pa.			29.78	756.4	22	— 5.6	85	E	12	5.4			10n			0.02	0.5	Light snow	
Escanaba, Mich.			30.04	763.0	18	— 7.8	84	N	3	1.3			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			30.34	770.6	4	—15.6	61	NW	12	5.4		0	0			0.06	1.5	Light snow	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	29.17	740.9	30.42	772.7	7	—13.9	41	N	11	4.9		0	0			0.23	5.8	Clear	
Fort Sully, Dakota	28.59	726.2	30.56	776.2	—17	—27.2	69	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Florence, Arizona	28.60	726.4	30.17	766.3	44	6.7		SW				0	0			0	0	Clear	
Galveston, Tex.			30.34	770.6	28	— 2.2	67	NW	24	10.7		0	5s		NW	0.35	8.9	Fair	
Grand Haven, Mich.			29.94	760.5	17	— 8.3	92	NE	7	3.1			10s			0.01	0.3	Cloudy	
Indianapolis, Ind.			29.66	753.4	18	— 7.8	84	N	12	5.4			10n			0.08	2.0	Sleet & snow	
Indianola, Tex.			30.40	772.1	27	— 2.8	67	N	32	14.3		0	0			Inap.	Inap.	Clear	
Jacksonville, Fla.			29.75	755.6	60	15.6	81	SW	4	1.8		5k	0	SW		1.57	39.9	Fair	
Keokuk, Iowa			30.05	763.3	10	—12.2	79	N	12	5.4			10s		N	0	0	Cloudy	
Key West, Fla.			29.94	760.5	74	23.3	90	SW	8	3.6		0	8ks			0.04	1.0	Cloudy	
Kittyhawk, N. C.			29.61	752.1	46	7.8	100	E	12	5.4			Fog			0.98	24.9	Dense fog	
Knoxville, Tenn.			29.44	747.8	33	0.6	89	S	1	0.4			10n			0.13	3.3	Light snow	
La Crosse, Wis.			30.17	766.3	— 5	—20.6	63	Calm	0	0		Haze	0			0	0	Hazy	
Leavenworth, Kan.			30.32	770.1	— 3	—19.4	83	NW	12	5.4		0	0			0.07	1.8	Clear	
Louisville, Ky.			29.54	750.3	20	— 6.7	85	NW	26	11.6			10n			0.64	16.3	Heavy snow	
Lynchburg, Va.			29.67	753.6	27	— 2.8	94	NE	3	1.3			10n			0.50	12.7	Light snow	
Malone, N. Y.			30.03	762.7	10	—12.2	79	SE	6	2.7		0	2s			0	0	Fair	
Marquette, Mich.			30.02	762.5	24	— 4.4	61	W	4	1.8			10s			0	0	Cloudy	
Memphis, Tenn.			29.97	761.2	20	— 6.7	85	W	17	7.6			10s			0.99	25.1	Cloudy	
Milwaukee, Wis.			29.99	761.7	16	— 8.9	83	N	10	4.5			10n			0.07	1.8	Light snow	
Mobile, Ala.			29.98	761.5	36	1.7	70	NW	18	8.0			10ks		NW	0.15	3.8	Cloudy	
Montgomery, Ala.			29.84	757.9	33	0.6	79	W	26	11.6			10s		W	0.21	5.3	Cloudy	
Morgantown, W. Va.	28.48	723.4	29.55	750.6	26	— 3.3	87	E	6	2.7			10s		SE	0.28	7.1	Threatening	
Mt. Washington, N. H.	23.54	597.9	29.90	759.4	7	—13.9	77	Calm	0	0		0	0			0	0	Clear	
Nashville, Tenn.			29.63	752.6	22	— 5.6	100	W	12	5.4			10n			0.32	8.1	Light snow	
New Haven, Conn.			29.95	760.7	19	— 7.2	70	NE	18	8.0		Haze	0			0	0	Fair	
New London, Conn.			30.02	762.5	24	— 4.4	74	N	9	4.0			10s		W	0	0	Cloudy	
New Orleans, La.			30.07	763.8	37	2.8	53	NW	20	8.9		4k	4ks	NW	NW	0.03	0.8	Clearing	
Newport, R. I.			30.02	762.5	24	— 4.4	72	N	6	2.7			10ks		E	0	0	Threatening	
New York, N. Y.			29.92	760.0	26	— 3.3	88	NE	22	9.8			10n			Inap.	Inap.	Light snow	
Norfolk, Va.			29.62	752.3	42.5	5.8	96	E	10	4.5			10n			0.27	6.9	Light rain	
North Platte, Neb.	27.23	691.6	30.19	766.8	—12.0	—24.4	100	NW	17	7.6		0	0			0	0	Clear	
Omaha, Neb.	29.10	739.1	30.32	770.1	— 2	—18.9	86	NW	12	5.4		0	0			0.01	0.3	Clear	
Oswego, N. Y.			29.97	761.2	21.5	— 6.0	72	SE	2	0.9			10s		SE	Inap.	Inap.	Cloudy	
Pembina, Dakota			30.44	773.2	—31	—35.0		NW	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa.			29.86	758.4	24	— 4.4	100	E	23	10.3			10n		E	0.03	0.8	Heavy snow	
Pike's Peak, Col.	17.31	439.7	29.52	749.8	— 6	—21.1	81	NW	80	35.8		1cs	0			0.08	2.0	Clear	
Pittsburgh, Pa.			29.63	752.6	24	— 4.4	100	E	10	4.5			10n			0.06	1.5	Heavy snow	
Port Huron, Mich.			29.83	757.7	22	— 5.6	86	NE	20	8.9			10s			0.09	2.3	Threatening	
Portland, Me.			30.11	764.8	13	—10.6	80	W	4	1.8		1ck	Haze	W		0	0	Clear	
Portland, Oregon			30.19	766.8	49	9.4	93	SW	8	3.6			10s			0	0	Cloudy	
Punta Rassa, Fla.			29.92	760.0	66.5	19.2	100	NW	20	8.9			10n			0.29	7.4	Light rain	
Rochester, N. Y.			29.90	759.4	20	— 6.7	70	SE	10	4.5			10s			0	0	Cloudy	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	35	1.7	80	NE	2	0.9			10s			0.02	0.5	Cloudy	
Sandy Hook, N. J.			29.87	758.7	27	— 2.8	88	NE	38	17.0			10s		NE	0	0	Cloudy	
San Diego, Cal.			30.14	765.5	54	12.2	86	NE	3	1.3			10s		NE	0	0	Cloudy	
San Francisco, Cal.			30.18	766.6	50	10.0	93	W	2	0.9			Fog			0	0	Foggy	
Santa Fé, N. M.	23.19	589.0	29.73	755.1	19	— 7.2	69	N	10	4.5		0	0			0	0	Clear	
Savannah, Ga.			29.66	753.4	49	9.4	93	SW	7	3.1			Fog		SW	0.93	23.6	Foggy	
Shreveport, La.			30.33	770.4	19	— 7.2	84	NW	16	7.2		0	1s		NW	0.29	7.4	Clear	
Smithville, N. C.			29.58	751.3	47	8.3	100	NE	3	1.3			10s		SW	1.74	44.2	Cloudy	
Springfield, Mass.			30.05	763.3	19	— 7.2	76	N	4	1.8			10ks			0	0	Cloudy	
St. Louis, Mo.			29.95	760.7	14	—10.0	82	N	20	8.9			10s			0.03	0.8	Cloudy	
St. Marks, Fla.			29.79	756.7	51	10.6	79	W	16	7.2		Haze	2s		W	1.01	25.7	Fair	
St. Paul, Minn.			30.15	765.8	8	—13.3	78	SW	1	0.4			10s			0.01	0.3	Cloudy	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			30.07	763.8	31	— 0.6	68	NE	16	7.2		5c, s	5s	W	E	0	0	Cloudy	
Toledo, Ohio			29.72	754.9	21	— 6.1	85	NE	24	10.7			10n		NE	0.11	2.8	Light snow	
Tucson, Arizona	27.68	703.1	30.23	767.8	28	— 2.2		SE				0	0			0	0	Clear	
Tybee Island, Ga.			29.65	753.1	47	8.3	100	SW	6	2.7			Fog			1.37	34.8	Foggy	
Vicksburg, Miss.			30.12	765.0	27	— 2.8	88	W	24	10.7			10n		W	0.44	11.2	Light snow	
Virginia City, M. T.	24.16	613.6	29.64	752.8	21	— 6.1	93	Calm	0	0			10ks		NW	0.03	0.8	Cloudy	
Washington, D. C.			29.76	755.9	25	— 3.9	94	NE	12	5.4			10n			0.14	3.6	Sleet, snow	
Wilmington, N. C.			29.58	751.3	44	6.7	100	E	8	3.6			10s		SW	1.42	36.1	Foggy	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			30.03	762.7	32	0.0	79	N	6	2.7			10s		NE	0	0	Cloudy	
Yankton, Dakota	29.00	736.6	30.49	774.4	— 8	—22.2	58	NW	16	7.2		0	1s		NW	0	0	Clear	
Yuma, Arizona			30.17	766.3	47	8.3		NE				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.18	766.6	78	25.6	74	E	12	5.4		8c	2s	E	E	0	0		James Gall.
Navassa, W. I.					79	26.1		E			4							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	67	19.4	90	E	1.0	0.4		8c	0	E		0	0	Fine	C. Partridge.
Paramaribo, D. Guiana, S.A			30.00	762.0	79	26.1	91	E			2	5ks?	5ks	E		0.270	6.86	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	763.9			81.0	27.2		E								0.266	6.75		Dr. H. Groot.
Medellin, Colombia, S. A.	25.27	641.8			66.0	18.9	77	NE			2	4cs	1ks			0	0	Fair	Thomas Herran.
York Factory, B. A.			30.30	769.6	—20.0	—28.9		NW	16	7.2		0	0			0	0	Clear	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.02	762.5	75	23.9		S			2					0	0	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.04	763.0	68	20.0	79	Calm			0	0	0			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	State of ocean.	Direction of swell from —	Weather.	Observer.
Schooner Addie Fuller, Tarpaulin Cove.			30.00	762.0	33	0.6	80	E	10	4.5			10s					Threatening	Capt. James Jorgensen.

NOTE.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

NOTE.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv^t Assg^t.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 30, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.

1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.13	765.3	63.1	17.3	50	Calm			0		3			0	0	Fair	Charnot.
Algiers			30.16	766.0	66.6	19.2	79	NW			1		0			0	0	Clear	Peter.
La Calle			30.17	766.3	63.3	17.4	80	NE			2		1			0	0	Clear	Didier.
Tunis			30.24	768.2	60.8	16.0		W			2		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.26	768.6	66.2	19.0	23	S			2		4			0	0	Fair	Millot.
Tebessa			30.26	768.6	62.1	16.7		SW			1		0			0	0	Clear	Bourgeois.
Gertville			30.24	768.1	45.5	7.5	57	S			6		4			0	0	Fair	Lemaillot.
Laghouat			30.33	770.3	65.3	18.5	39	SW			1		1			0	0	Clear	Guyot.
Biskra			30.34	770.7	66.4	19.1	39	N			1		0			0	0	Clear	Kunts.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			30.00	762.0	37.2	2.9	87	SW			2		5			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.80	756.9	22.3	— 5.4	72	W			3		10			0.016	0.4		Dr. Wierzbiski.
Eperies			29.97	761.1	26.2	— 3.2	82	S			2		10			0	0		Julius Mikolik.
Gratz	28.70	728.9	30.00	761.9	35.2	1.8	74	S			1		8			0	0		Andreas Rospini.
Hermannstadt	28.57	725.6	30.05	763.3	34.0	1.1	72	SE			1		5			0	0		Prof. Reissenberger.
Kremsmünster	28.58	725.9	29.95	760.7	40.3	4.6	81	WSW			3		5			0	0		Prof. C. Wagner.
Lemberg			29.73	755.2	36.5	2.5	77	SW			3		9			0.083	2.1		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.13	765.4	46.2	7.9	85	ESE			1		10s			0	0		I.R.Hydrographic Of'ce.
Szegedin			30.00	761.9	31.6	— 0.2		Calm			0		0			0	0		Karl Stancel.
Trieste			30.15	765.9	44.8	7.1	77	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.99	761.8	30.6	— 0.8	88	SW			1		7			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.62	752.4	52.3	11.3	81	S			5		10ks		SW	0.091	0.80		Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the coöperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			29.25	742.9	43.4	6.3		SE	20	8.9			10			0.180	4.57	Overcast	William Boswell.
Ardrossan			29.13	739.9	44	6.7		ESE			2		10					Raining	William McNeil.
Armagh, Observatory			29.04	737.6	46.9	8.3		SSE	6	2.7			10					Gloomy	S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			29.01	736.8	52.0	11.1		S			1		8					*D. clouds	J. Dreyer.
Bradford			29.24	742.7	47.7	8.7		Calm			0		10			0.48	12.2	Overcast	J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	81.5	27.5		NE			2		8					Overcast	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.42	747.3	51.8	11.0		S			1		10					Raining	H. Todd. [H.C.
Cardington			29.42	747.3	51.6	10.9		S			1		10					Raining	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.47	748.5	53.7	12.1		W			2		4					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.90	708.6	29.39	746.5	47.0	8.3		SW			6		10					Heavy rain	R. E. Power.
Davos Platz, (Switzerland)	24.86	631.4			35.0	1.7	.70	Calm			0		4			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			29.02	737.1	48	8.9		SSW			5		8					*D. clouds	J. Mac Gowan.
Dover			29.50	749.3	51	10.6		SW			4		8					Overcast	J. Costello.
Eccles, (near Manchester)			29.21	741.9	51.0	10.6		S	8 4	3.8			10					Raining	Thomas Mackereth.
Falmouth, Observatory			29.29	744.0	53.0	11.7		SSW			6		1\					Drizzling	The Staff.
Fort Napier, (Natal)	27.59	700.8	29.83	757.7	76.2	24.6		NE			3		3					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			29.95	760.7	85.0	29.4		Calm			0		3					*D. clouds	
Galway, Queen's College			29.03	737.3	42	5.6		SE			2		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			30.12	765.0	62.0	16.7		NE			2		2					*D. clouds	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			29.16	740.7	44.0	6.7		E			1		10					Raining	Lewis Stuart.
Great Yarmouth			29.47	748.5	49	9.4		SSW			3		8					Drizzling	G. T. Watson.
Greenwich, Royal Obs'y			29.46	748.3	54.5	12.5		SSW			4		8					*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.45	748.0	54	12.2		SSW			7		10					Squally	Dr. S. E. Hoskins.
Helston			29.33	745.0	54	12.2		SW			6		10n			0.45	11.4	Showery	M. P. Moyle.
Holyhead			29.12	739.6	51	10.6		SSW			5		10					Misty	John Tilston.
Kew, Observatory			29.46	748.3	53.3	11.8		SSW	23	10.3			9					Raining	The Staff.
Kingstown			29.09	738.9	52	11.1		SW			2		9					Overcast	George Mitchell.
Leicester Museum			29.32	744.7	51.7	10.9		S			2		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.26	767.1	62.6	17.0		NW			1		2k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			29.17	740.9	40	4.4		E			1		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.11	764.8	67.0	19.4		NW			7		5						Surg. Maj. Henry.
Nottingham, Observatory			29.30	744.2	51.4	10.8		S			6		10d		SSW	0.304	7.72	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.28	743.7	49.7	9.8		S			6		10					Raining	Rev. Stephen Whitty.
Oxford, Radcliff Obs'y			29.38	746.2	52	11.1		SSW			6		10					Raining	J. Lucas.
Plymouth			29.32	744.7	51.7	10.9		SW			5		10					Raining	John Merrifield.
Roche's Point			29.68	753.9	52	11.1		SSW			7		10					Overcast	W. Kennedy.
Saint Ann's Head			29.19	741.4	52	11.1		SW			5		10					Squally	John C. Walker.
Saint Helier, (Jersey)			29.48	748.8	55.0	12.8		SW			6		10					Overcast	A. P. Amy.
Sandwick Manse, (Orkneys)			29.34	745.2	38.6	3.7		E	17	7.6			10					Misty	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.05	763.3	45.6	7.6		NE			1		8					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.36	745.7	50.2	10.1		S			1		10			0.40	10.24	Raining	W. F. Cooper.
Silloth Rectory			29.21	741.9	48.9	9.4	93	SW			6		8			0.62	15.75	*D. clouds	Rev. Francis Redford
Stonyhurst, Observatory			29.20	741.7	48.7	9.3		S			5		10n					Raining	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)			29.15	740.4	42	5.6		E			1		10					Gloomy	John Smith.
Stratfield Turgiss			29.43	747.5	51.8	11.0		S			4		10					Raining	Rev. Charles H. Griffith
Thurso			29.27	743.4	40	4.4		ESE			2		10					Raining	John Trotter.
Truro, Royal Institution			29.33	745.0	56	13.3		SW			7		10					Raining	W. Newcombe.
Valencia, Observatory			28.95	735.3	52.6	11.4		S	41	18.3			10					Overcast	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					50	10.0		S			6		10			1.00	25.4		Henry Mercer.
Cape Good Hope, Obs'y			29.99	761.7	76.0	24.4	49	WNW	17	7.6		8	6						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			30.12	765.0	65.0	18.3	94	S			1		7k			0	0	Hazy	Francis Abbott, F.R.A.S.
Leith, Restdrig Park			29.21	741.9	42.0	5.6		E			2		10n			0.29	7.4	Raining	Andrew Gibb.
Mauritius, Observatory			29.93	760.2				ENE	14.0	6.3						0.23	5.8		C. Meldrum.
Melbourne, Observatory			30.06	763.5	68.0	20.0	33	E	3	1.3			2			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.08	738.6	46	7.8		ENE			4		10			0.2	5.1		J. Youngclause.
North Unst, (Shetland Is.)			29.21	741.9	40	4.4		S			6		10						Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornowny by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

San José																			

DANISH SERIES.

Furnished by the coöperation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen			29.60	751.7	34.9	1.6	96	ESE			2		10					Foggy	
Fanöe			29.49	749.1	35.4	1.9	100	Calm			0		10					Foggy	
Godthaab, (Greenland)			29.95	760.8	23.0	— 5.0	88	NE			2		10						
Stykkisholm, (Iceland)			29.82	757.3	26.4	— 3.1	94	NE			8		8						
Thorshavn, (Faröe)			29.48	748.7	37.0	2.8	66	ENE			4		0						
Vestervig			29.47	748.5	33.4	0.8	100	E			2		10					Foggy	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna system 0 to 8; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon			29.74	755.5	47.3	8.5	86	SSW			1		10			0.020	0.5	Covered	Normal School.
Amiens			29.61	752.0	52.9	11.6	78	WSW			6		10			0	0	Covered	Normal School.
Avignon			30.11	764.8	48.2	9	89	N			1		10			0	0	Misty.	Normal School.
Bar-sur-Seine			29.79	756.6	52.7	11.5	64	S			1		10n			0	0	Covered	C. Saillard.
Beaumette, (near Angers)			29.67	753.6	57.6	14.2	60	SW	42.3	18.9					W	0	0		Beaumette Observ'tory.
Beauvais			29.67	753.7	52.5	11.4	68	ESE			2		10		SW	0	0	Covered	Normal School.
Besançon			29.96	761.0	47.5	8.6	81	SSE			2		5		W	0	0	Cloudy	Normal School.
Bourg en Bresse			29.97	761.2	52.0	11.1	73	SE			1		10ks		NW	0	0	Covered	Normal School.
Bourges			29.91	759.8	53.6	12	87	S			2		2		SE	0	0	Slightly cl'dy	Normal School.
Brest			29.45	748.0	53.4	11.9	85	SW			7		9		SW	0.256	6.50	Raining	Naval Observatory.
Carcassonne			30.02	762.6	51.8	11	84	E			3		5		W	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.75	755.7	51.3	10.7	95	S			2		10		SE	0	0	Covered	Normal School.
Châlons-sur-Marne			29.81	757.2	51.8	11.0	63	SSE			2		10k		NE	0	0	Covered	Normal School.
Clermont			29.82	757.3	57.9	14.4	57	SE			2		8			0	0	Very cloudy	Puy de Dome Obs'y.
Commercy			29.91	759.6	49.6	9.8	71	SE			2		5		SE	0	0	Cloudy	Normal School.
Commune de Gréasque*			30.12	765.1	52.7	11.5	78	E			2		8		E	0	0		M. Kina.
Grenoble			30.13	765.4	38.1	3.4	73	ENE			1		5s		NE	0	0	Cloudy	Normal School.
La Roche-sur-Yon			29.73	755.1	57.4	14.1	65	SE			2		5		NW	0	0	Cloudy	Normal School.
Le Mans			29.69	754.2	54.7	12.6	59	SW			2		5		SW	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.89	759.3	54.9	12.7	59	SW			1					0	0		Normal School.
Lorient			29.58	751.2	57.9	14.4	65	SW			6		0			0.063	1.6	Clear	Naval Observatory.
Mâcon			30.03	762.8	46.8	8.2	89	Calm			0		5		S	0	0	Cloudy	Normal School.
Metz			29.92	759.9	47.8	8.8	90	SE			2		10			0	0		M. Schuster.
Mirecourt			30.10	764.4	47.8	8.8	81	SSW			4		5		NNE	0	0	Partly cl'dy.	Normal School.
Nismes			30.06	763.4	51.8	11	59	E			2		10		S	0	0	Covered	Normal School.
Orleans			29.95	760.7	52.9	11.6	75	SW			3		0			0	0	Clear	Normal School.
Paris, Observatory			29.70	754.3	53.1	11.7	61	SSE			3		10			Inap.	Inap.	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.07	763.8	51.4	10.8		SW			2		5		SW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.78	756.4	53.8	12.1	64	S			5		10		N	0	0	Covered	Naval Observatory.
Rouen			29.64	752.8	54.5	12.5	68	S			1		10		S	0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.07	763.8	43.7	6.5	80	SE			2		10			0	0	Covered	Normal School.
SUB-SERIES.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			30.05	763.3	57.0	13.9	72	SE			2		9					Rainy	Marseilles Observatory.
Mont-Louis	24.90	632.5	30.26	768.6	48.2	9.0	41	SSW	22.4	10.06			7		SW	0	0		—. Falguère.
Montsouris, Paris			29.69	754.1	53.2	11.8	62	S			3		10			0.004	0.1		Montsouris Observatory
Perpignan			30.04	763.0	54.3	12.4	80	NE	1.9	0.83			10		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.48	571.1			40.3	4.6		W			6–8		8			0	0	Cloudy	General de Nansouty.
Saint Maur, (near Paris)			29.70	754.3	55.0	12.8	54	S			2		10			0	0	Cloudy	E. Renou.
Toulouse			29.96	761.0	52.9	11.6	80	SSE			3		9			0	0		Toulouse Observatory.
Tours			29.74	755.5	54.7	12.6	57	SSW			4		10		W	0	0		C. Marquet.
Versailles, (near Paris)			29.70	754.3	57.2	14.0	45	S			2		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.35	771.0	39.6	4.2	85	E	6.5	2.9			2			0	0		Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg			29.89	759.1	50.0	10.0	75	SW			3		9	W		0	0		Prof. T. Hoh.
Berlin			29.72	755.0	46.2	7.9	95	S			5		10			0.220	5.6	Raining	Prof. Arndt.
Breslau			29.76	755.9	46.9	8.3	75	W			5		9	NW		Inap.	Inap.	Light rain	Royal University Obs'y.
Carlsruhe			29.87	758.7	51.1	10.6	78	Calm			0		10			0	0	Foggy	A. Senz.
Cassel			29.83	757.7	45.5	7.5	88	SW			2		8	W		0	0		Dr. H. Möhl.
Crefeld			29.72	754.8	50.0	10.0	84	SE			2		9			0.12	3.		Director Lose.
Emden			29.70	754.3	42.8	6.0	96	W			3		10			0.268	6.8		Prof. Prestel.
Frankfort on the Main			29.86	758.5	47.5	8.6	88	SSW			1		9			0	0		Physical Society.
Friedrichshafen	28.56	725.4	30.02	762.5	45.0	7.2	70	N			2		8			0	0		M. Wilhelm.
Hamburg			29.64	752.9	45.0	7.2	94	WSW			3		10			0.319	8.1	Cloudy	Captain F. Hegemann.
Kiel			29.56	750.7	41.5	5.3	92	W			3		10			0.441	11.2		Prof. G. Karsten.
Königsberg, (Prussia.)			29.65	753.0	34.7	1.5	96	SE			2		10			0.091	2.3		Prof. E. Luther.
Köslin			29.65	753.2	36.7	2.6		Calm			0		8			0	0		H. Müller.
Leipsic			29.81	757.2	46.7	8.3	79	SW			3		9	W		0	0		Prof. Bruhns.
Memel			29.65	753.0	31.6	— 0.2	85	NNE			1		10ks			0.094	2.4		Reinbrecht & Skalweit.
Münster			29.90	759.4	50.9	10.5	81	SW			2		10			0.055	1.4		Prof. E. Heis.
Neufahrwasser			29.64	752.8	35.2	1.8	96	Calm			0		10			0.043	1.1	Dense fog	A Lothe.
Posen			29.57	751.1	43.7	6.5	97	W			6		10			0.185	4.7		Dr. Magener.
Strassburg, (in Alsace)			29.91	759.6	50.2	10.1	72	SW			1		10			0	0		Dr. Schür.
Stuttgart			29.89	759.2	52.2	11.2	59	W			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.78	756.4	50.5	10.3	78	SW			5		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria,)	28.40	721.4	29.92	759.9	47.8	8.8	67	SW			3		9	SW		0	0		Dr. von Bebber.
Wustrow, Naval School			29.66	753.3	36.3	2.4	98	SSW			2		10			0.291	7.4	Foggy	E. F. Schütz.
GERMAN NAVAL SERIES.																			

NOTE.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

Furnished by the coöperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.08	764.0	56.3	13.5		S										Clear	

Note.—The originals give the barometer corrected, but not reduced to sea-level; occasionally the kind of clouds; the weather as published. They omit the humidity, wind-force, amount of cloudiness and rain-fall.

ITALIAN SERIES.

Furnished by the cooperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			30.10	764.5	38.7	3.7	83	N	0.7	0.3			10			0	0		Prof. Giovanni Clodig.
Padua			30.12	765.1	35.2	1.8	80	NW	3.1	1.4			5			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.13	765.3	37.9	3.3	80	NNE	0.7	0.3			6	E		0	0		Alm. Da Schio.
Verona			30.14	765.6	37.4	3.0	72	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo	28.73	729.8	30.10	764.6	41.7	5.4	81	SW			1		9			0	0		Prof. Trionfini Carlo.
Domodossola			30.12	765.0	39.9	4.4	88	Calm			0		4			0	0		Prof. Giuseppe Colza.
Milan			30.15	765.7	41.7	5.4	86	W			1		8			0	0		Ab. Gio. Capelli.
Pavia			30.13	765.3	37.4	3.0	78	WSW			1		10			0	0		Prof. Gio. Cantoni.
Moncalieri			30.15	765.8	34.3	1.3	85	ENE	0	0			10			0	0		Prof. P. F. Denza.
Mondovi	28.15	715.1	30.14	765.6	39.6	4.2	77	ENE			4		4	W		0	0		Prof. C. Bruno.
Porto Maurizio			30.15	765.9	54.7	12.6	78	SW			2		9	SW		0	0		Prof. L. Vassallo.
Genoa			30.12	765.1	53.2	11.8	82	SE	4.3	1.9			10	SE		0.150	3.8		Prof. Garibaldi.
Piacenza			30.13	765.4	37.2	2.9	89	WNW	6.3	2.8			10			0	0		Dott. G. Manzi.
Parma			30.14	765.6	42.1	5.6	75	E			4		10			0	0		Prof. P. Pigorini.
Bologna			30.17	766.3	44.2	6.8	33	W			1		6	E		0	0		Prof. A. Palagi.
Florence			30.15	765.9	50.0	10.0	94	E			4		10			0.102	2.6	Raining	Cav. F. Meucci.
Leghorn			30.13	765.3	55.9	13.3	85	S	9.8	4.4			6	W		0	0		Prof. P. Monte.
Siena	28.91	734.3	30.15	765.7	52.5	11.4	86	SW	0.7	0.3			10	W		0	0		Prof. L. Toscani.
Urbino	28.57	725.6	30.17	766.2	49.6	9.8	80	SW			2		10			0	0		Prof. P. Serpieri.
Pesaro			30.15	765.8	44.4	6.9	87	NW	6.3	2.8			10	W		0	0		Prof. Luigi Guidi.
Ancona			30.14	765.6	46.5	8.2	86	W			2		10			0	0		Prof. F. De—Bosis.
Grosseto			30.14	765.6	56.8	13.8	77	SW			2		8	NE		0	0		Avv. P. Ponticelli.
Rome			30.18	766.5	53.2	11.8	83	NNE	1.3	0.6			7			0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U.			30.19	766.9	56.1	13.4	62	N			2		10	W		0	0		Prof. L. Palmieri.
Lecce			30.17	766.4	55.0	12.8	66	NW	11.2	5.0			5	NE		0	0		Prof. C. De—Giorgi.
Cosenza			30.21	767.2	55.0	12.8	72	ENE	4.3	1.9			5			0	0		Prof. F. D. Conti.
Ripposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.14	765.5	58.3	14.6	67	NE	1.8	0.8			2			0	0		Prof. G. Cacciatore.
Caltanissetta	2[illegible]	715.9	30.17	766.4	49.5	9.7	69	NW			2		0			0	0		Prof. Antonio Aloi.
Sub-Series.																			
Naples, S. R.			30.20	767.1	51.6	10.9	80	NE	1.3	0.6			10			0	0		Prof. F. Brioschi

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 553 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Tokei																			

By authority of the
Secretary of Public Works.

MEXICAN SERIES.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena.
																			Vicente Reyes.
																			Miguel Perez.
																			(Engineers in charge.)

Note.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			29.58	751.4	49.6	9.8		S			5					0.071	1.8		
Groningen			29.57	751.0	43.7	6.5		SSW			4					0.201	5.1		
Helder			29.57	751.0	48.0	8.9		SSW			4					0.039	1.0		
Utrecht			29.60	751.9	48.7	9.3	86	S			2		8			0	0	Very cloudy	

Note.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			29.51	749.6	32.7	0.4	89	Calm	0	0			3			0	0		
Brönö			29.36	745.8	33.8	1.0	81	WNW	25	11			7			0	0		
Christiania			29.68	753.8	9.9	—12.3	93	Calm	0	0			8				0		
Tromsö			29.21	742.0	22.6	— 5.2	48	NE	7	3			10			0.67	2.0		

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.39	746.5	52.2	11.2	77	W	8.1	3.6			5			0.197	5.0		Dr. J. A. Sampaio.
Campo Major			30.00	761.9	56.5	13.6	75	SSW	11.2	5.0			10	SSW		0.181	4.6	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.83	757.6	64.9	18.3	92	SW	13.0	5.8			10			1.213	30.8	Raining	Capt. D. A. de Cunha.
Lisbon			29.88	758.9	60.3	15.7	93	S	27.3	12.2			10			0.583	14.8	Light rain	The Observatory.
Ponta Delgada, (Azores)			29.46	748.3	56.5	13.6	60	WNW	8.7	3.9			3			0.417	10.6		

Note.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.62	752.3	36.9	2.7	98	SW	11	5			10					Light rain	Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			29.59	751.6	17.8	— 7.9	93	W	4	2			10			Blank	Blank		Physical Cabinet.
St. Petersburg			29.45	748.1	8.2	—13.2	93	W	9	4			10						Central Physical Obs.
Knopio			29.31	744.5	14.7	— 9.6	100	W	13	6			10						Ch. Forsten.
Kieff			29.72	755.0	34.5	1.4	93	W	9	4			10						Physical Cabinet.
Nikolaiev			29.98	761.4	32.9	0.5	82	SW	7	3			8						Kurdakof.
Kertch			30.00	762.0	36.9	2.7	87	Calm	0	0			10						Lagorio.
Moscow			29.50	749.3	12.6	—10.8	86	SSW	7	3			10						Meteorological Obs.
Lugan			29.80	757.0	23.0	— 5.0	84	SW	22	10			10			Blank	Blank		Meteorological Obs.
Archangel			29.20	741.7	6.1	—14.4	94	S	13	6			3						Ogorodnikof.
Tiflis	28.66	728.0	30.12	765.0	42.4	5.8	85	Calm	0	0			10						Physical Observatory.
Astrakhan			30.11	764.8	15.8	— 9.0	97	SSW	2	1			10			lank	Blank		Sebastianof.
Kasan			29.93	760.2	— 9.0	—22.8	96	S	11	5			10						Physical Cabinet.
Orenburg			30.20	767.0	13.6	—10.2	83	E	13	6			8						Tschernischef.
Ekaterinburg	28.92	734.5	29.99	761.8	—11.7	—24.3	73	Calm	0	0			0						Meteorogical Obs.
Nukuss			30.17	766.3	28.0	— 2.2	87	WNW	2	1			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			29.94	760.5	—12.3	—24.6	83	NE	0	0			10						Meteorological Obs.
Yeniseisk			30.23	767.7	—16.2	—26.8	78	Calm	0	0			0					Lunar corona	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.49	774.4	30.2	— 1.0	61	SE	4	2			9						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					31.6	— 0.2		Calm	0	0			10						

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			30.11	764.8	53.1	11.7	61	S	9.7	4.34		2	4	SW		0	0	Light clouds	Royal Observatory.
San Fernando			30.11	764.9	65.7	18.7	48	S	9.2	4.1		2	8	WSW	SSE	0	0		Naval Observatory.

Note.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.32	744.7	3.6	—15.8	71	NW			2		0			0.118	3.0		
Umea			29.45	748.1	9.0	—12.8	92	NNW			2		5			0.024	0.6		
Hernosand			29.49	749.0	13.6	—10.2	97	Calm			0		0			0.051	1.3		
Stockholm			29.58	751.4	10.4	—12.0	93	WNW			2		3			0.114	2.9		
Wisby			29.65	753.2	30.2	— 1.0	88	N			2		3			0	0		
Sub-Series.																			
Upsala			29.60	751.8	5.9	—14.5	100	SSW	4.9	2.2			1	NW		0.003	0.07		Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, and Upsala also velocity in meters per second; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Geneva	28.56	725.5	30.01	762.3	46.2	7.9	85	NE			1		8			0	0	Foggy	The Observatory.
Zurich	28.35	720.2	30.02	762.5	45.9	7.7	70	SE			1		8			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —2.2 mm; Thermometer, +6.5 cent.; Relative Humidity, +5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Constantinople			30.11	764.7	42.4	5.8	70	E	6	2.5			9		NE	0	0		
Fao, (Persian Gulf)																			
Salonica			30.10	764.4	43.2	6.2		SE			1		0						
Valona			30.09	764.2	62.1	16.7		N			2		2						
Varna			29.92	760.0	32.0	0		E			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			29.78	756.3	52.0	11.1	85	S			4		10n		SW	1.76	44.7	Raining	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bathurst, N. B			29.28	743.7	25.7	— 3.5	96	E	5	2.2			10					Snowing	Hon. J. Ferguson.
Brockville, Ontario			29.29	744.0	7	—13.9		NW	6	2.7		10s		NW	1.8	47.0	Light snow	W. R. Bigg.
*Chatham, N. B			29.25	742.9	23	— 5.0	100	E	20	8.9		10n		E	0.55	14.0	Heavy snow	G. A. Blair.
Charlottetown, P. E. Island			29.38	746.2	26	— 3.3	91	E	13	5.8		10n			0.050	1.27	Hailing	H. J. Cundall, C. E.
Cornwall, Ontario			30 15?	765.8?	15.7	— 9.1	88	NW			4	10s			1.00	25.4	Stormy	James Smith, M. A.
Dalhousie, N. B			29.20	741.7				E			6				0.20	5.1	Snowing	H. A. Johnson.
Esquimault, B. C			30.24	768.1	43.3	6.3	90	NW				3ck	0		0	0	Clear	W. H. Bevis.
Fredericton, N. B			29.14	740.1	21.3	— 5.9	93	NE	14	6.3			10n		0.040	1.02	Snowing	Prof. Harrison.
*Fort Garry, Manitoba			30.18	766.6	—24	—31.1	91	S	7	3.1		2c	2s	S	S	0	0	Fair	James Stewart.
Goderich, Ontario			29.75	755.6	20.0	— 6.7	92	NW			3		10n			0.05	1.3	Light snow	H. J. Strang, M. A.
Granton, Ontario	28.55	725.2	29.72	754.9	17.4	— 8.1		N			2		10n			0.200	5.08	Snowing	James Grant.
*Halifax, N. S			29.21	741.9	33	0.6	99	E	12	5.4			10n			0.050	1.27	Heavy snow	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			29.37	746.0	12	—11.1	74	NW	17	7.6		10cs	0			1.13	28.7	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S			29.47	748.5	29.5	— 1.4		SE	10	4.5			10n			Inap	Inap.	Hailing	C. H. Rigby.
*Montreal, Quebec			29.02	737.1	17	— 8.3	97	NE	20	8.9			10n			1.23	31.2	Heavy snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.19	741.4	15	— 9.4	73	NW	14	6.3			10n		NW	1.70	43.2	Threatening	J. B. Huney.
*Parry Sound, Ontario			29.62	752.3	8	—16.1	86	N	12	5.4		5k	2ks	N	N	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			29.66	753.4	13	—10.6	90	NW	14	6.3		5k	0	NW		0.63	16.0	Fair	H. Morgan.
Port Hastings, N. S			29.35	745.5	31.9	— 0.1		SE	20	8.9						0	0	Stormy	Peter Grant.
Port Stanley, Ontario			29.71	754.6	19	— 7.2	90	NW	20	8.9			10n		NW	0.60	15.2	Cloudy	M. Payne.
*Quebec, Quebec			28.99	736.3	16	— 8.9	100	NE	40	17.9			10n		NE	1.30	33.0	Heavy snow	Capt. Ashe, R. N.
St. John, N. B			29.09	738.9	29	— 1.7	94	SE	10	4.5			10n			1.210	30.73	Heavy snow	G. Murdoch, C. E.
*Saugeen, Ontario			29.03	754.1	14	—10.0	72	N	9	4.0			10s			0.02	0.5	Heavy snow	K. Stewart.
Stayner, Ontario			29.60	751.8	15	— 9.4	96	NW	20	8.9			10n		NW	0.09	2.3	Light snow	R. J. Cole.
Stratford, Ontario	28.32	719.3	29.68	753.9	15.2	— 9.3	95	NW	21	9.4			10s			0.20	5.1	Stormy	C. J. MacGregor, M. A.
*Sydney, C. B			29.60	751.8	27	— 2.8	88	SE	21	9.4			10n		SE	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario			29.54	750.3	15	— 9.4	94	NW	21	9.4			10s		W	1.00	25.4	Cloudy	Magnetic Observatory.
Woodstock, Ontario			29.65	753.1	15.4	— 9.2	94	NW	1	0.4		1ck	4s			0.20	5.1	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.87	758.7	34.0	1.1		Calm				10	10			0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, N. Y.			29.15	740.4	19	— 7.2	85	NW	15	6.7			10s			0.54	13.7	Cloudy	
Alpena, Mich.			29.80	756.9	4	—15.6	87	NW	14	6.3			10s		NW	0.13	3.3	Cloudy	
Atlantic City, N. J.			29.48	748.8	29	— 1.7	67	W	20	8.9			10s		W	0.67	17.0	Cloudy	
Augusta, Ga.			30.10	764.5	25	— 3.9	79	NW	8	3.6		0	0			0.01	0.3	Clear	
Baltimore, Md.			29.56	750.8	27	— 2.8	66	W	13	5.8		2ck	2s	NW	NW	0.41	10.4	Fair	
Barnegat, N. J.			29.45	748.0	26	— 3.3	76	W	32	14.3		5k	0	NW		1.62	41.1	Fair	
Bismarck, Dakota	28.08	713.2	29.94	760.5	—12	—24.4	74	SE	6	2.7			10s			0.03	0.8	Threatening	
Boston, Mass.			28.99	736.3	32	0.0	79	SW	22	9.8			10s		SW	1.13	28.7	Cloudy	
Breckenridge, Minn.			30.16	766.1	-27	—32.8	49	NE	6	2.7		2c	0			0	0	Clear	
Buffalo, N. Y.			29.53	750.0	14	—10.0	81	W	12	5.4			10s		NW	0.74	18.8	Cloudy	
Burlington, Vt.			29.05	737.9	18	— 7.8	100	NW	8	3.6			10n			0.46	11.7	Light snow	
Cairo, Ill.			30.27	768.8	3	—16.1	73	SW	7	3.1		0	0			0.20	5.1	Clear	
Cape Hatteras, N. C.			29.77	756.1	30	— 1.1	78	W	24	10.7		0	0			1.11	28.2	Clear	
Cape Henry, Va.			29.70	754.4	27	— 2.8	76	W	20	8.9		0	0			0.23	5.8	Clear	
Cape Lookout, N. C.			29.91	759.7	31	— 0.6	79	W	41	18.3		0	0			0.03	0.8	Clear	
Cape May, N. J.			29.53	750.0	29	— 1.7	78	W	44	19.7		0	5s	W		1.24	31.5	Fair	
Charleston, S. C.			30.06	763.5	29	— 1.7	46	W	15	6.7		0	0			0	0	Clear	
Cheyenne, Wyoming	23.72	602.5	29.66	753.4	19	— 7.2	85	NW	8	3.6		8c	2s			Inap.	Inap.	Cloudy	
Chicago, Ill.			29.97	761.2	20	— 6.7	85	W	8	3.6			10s		W	0.02	0.5	Cloudy	
Cincinnati, Ohio			29.98	761.5	17	— 8.3	83	W	7	3.1		0	2s		W	0.26	6.6	Fair	
Cleveland, Ohio			29.83	757.7	15	— 9.4	82	W	17	7.6			10n			0.75	19.1	Light snow	
Corsicana, Tex.			30.33	770.4	16	— 8.9	83	E	4	1.8		0	0			0	0	Clear	
Davenport, Iowa			30.18	766.6	— 4	—20.0	82	W	6	2.7		Haze	0			0	0	Fair	
Denison, Tex.			30.29	769.4	10	—12.2	79	SE	3	1.3		0	0			0	0	Clear	
Denver, Col.	24.53	623.0	29.75	755.6	22	— 5.6	59	S	5	2.2		0	0			0	0	Clear	
Detroit, Mich.			29.83	757.7	8	—13.3	78	NW	7	3.1		10cs	0			0.54	13.7	Cloudy	
Dodge City, Kan.	27.29	693.2	29.81	757.2	1	—17.2	72	SW	14	6.3		2ck	2s	SW	SW	0	0	Fair	
Dubuque, Iowa			30.14	765.5	— 2	—18.9	67	Calm	0	0		0	5s			0	0	Fair	
Duluth, Minn.			30.09	764.3	— 3	—19.4	83	NW	12	5.4		0	0			0.05	1.3	Clear	
Eastport, Me.			29.02	737.1	36	2.2	90	S	13	5.8			10s		S	1.00	25.4	Clearing	
Erie, Pa.			29.67	753.6	21	— 6.1	85	W	32	14.3			10ks		W	Inap.	Inap.	Cloudy	
Escanaba, Mich.			29.87	758.7	15	— 9.4	82	NW	16	7.2			10s		NW	Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter.			30.29	769.4	— 5	—20.6	45	E	4	1.8		2c	0	NW		Inap.	Inap	Clear	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.86	733.0	30.09	764.3	7	—13.9	41	W	3	1.3		5cs	0	W		0	0	Fair	
Fort Sully, Dakota	28.10	713.7	29.92	760.0	0	—17.8	100	E	6	2.7			10s			0.03	0.8	Cloudy	
Florence, Arizona	28.42	721.9	29.96	761.0	46	7.8		SW				0	0			0	0	Clear	
Galveston, Tex.			30.36	771.1	29	— 1.7	68	NE	14	6.3		2c	0	W		0	0	Fair	
Grand Haven, Mich.			29.87	758.7	25	— 3.9	81	NW	15	6.7			10s		NW	0.02	0.5	Cloudy	
Indianapolis, Ind.			30.07	763.8	12	—11.1	80	Calm	0	0			10s			0.32	8.1	Cloudy	
Indianola, Tex.			30.33	770.4	32	0.0	32	E	12	5.4			10s			0	0	Cloudy	
Jacksonville, Fla.			30.21	767.3	30	— 1.1	59	NW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			30.16	766.1	0	—17.8	69	W	5	2.2		0	0			0	0	Clear	
Key West, Fla.			30.18	766.6	60	15.6	81	N	16	7.2		0	5ks			0.06	1.5	Fair	
Kittyhawk, N. C.			29.81	757.2	28	— 2.2	77	W	30	13.4		0	0			0.04	1.0	Clear	
Knoxville, Tenn.			30.15	765.8	17	— 8.3	67	S	10	4.5		0	10s			0.39	9.9	Cloudy	
La Crosse, Wis.			30.11	764.8	— 1	—18.3	68	SW	4	1.8		0	0			Inap.	Inap.	Clear	
Leavenworth, Kan.			30.12	765.0	— 3	—19.4	83	S	6	2.7		0	0			0	0	Clear	
Louisville, Ky.			30.12	765.0	14	—10.0	63	SW	8	3.6			10s		SW	0.30	7.6	Cloudy	
Lynchburg, Va.			29.77	756.1	26	— 3.3	63	NW	3	1.3		2k	0	W		0.13	3.3	Clear	
Malone, N. Y.			29.06	738.1	17	— 8.3	100	NW	11	4.9			10n		NW	1.60	40.6	Heavy snow	
Marquette, Mich.			29.92	760.0	17	— 8.3	67	W	8	3.6			10s			0.20	5.1	Cloudy	
Memphis, Tenn.			30.36	771.1	5	—15.0	75	W	4	1.8		0	Sm'k			Inap.	Inap.	Clear	
Milwaukee, Wis.			30.00	762.0	11	—11.7	79	NW	15	6.7		0	5s			0.01	0.3	Fair	
Mobile, Ala.			30.35	770.9	22	— 5.6	72	NW	7	3.1		0	0			0	0	Clear	
Montgomery, Ala.			30.30	769.6	23	— 5.0	79	NW	7	3.1		0	0			Inap.	Inap.	Clear	
Morgantown, W. Va.	28.70	729.0	29.80	756.9	22	— 5.6	72	W	17	7.6			10n			0.19	4.8	Light snow	
Mt. Washington, N. H.	22.55	572.8	28.91	734.3	7	—13.9	100	W	24	10.7			Fog			0.74	18.8	Foggy	
Nashville, Tenn.			30.24	768.1	10	—12.2	79	W	4	1.8		0	Fog			0.03	0.8	Clear	
New Haven, Conn.			29.22	742.2	28	— 2.2	77	W	28	12.5		2ck	2s	W	W	0.60	15.2	Fair	
New London, Conn.			29.16	740.7	26	— 3.3	64	W	36	16.1		0	2ks		W	0.80	20.3	Clearing	
New Orleans, La.			30.35	770.9	28.5	— 1.9	67	N	8	3.6		1cs	0	W		0	0	Clear	
Newport, R. I.			29.13	739.9	29	— 1.7	77	SW	32	14.3		0	8ks		W	1.14	29.0	Cloudy	
New York, N. Y.			29.34	745.2	22	— 5.6	68	W	32	14.3		0	0			0.59	15.0	Clear	
Norfolk, Va.			29.74	755.4	28	— 2.2	67	SW	18	8.0		0	0			0.14	3.6	Clear	
North Platte, Neb.	26.83	681.5	29.59	751.6	6.0	—14.4	88	Calm	0	0			10ks			0	0	Cloudy	
Omaha, Neb.	28.94	735.1	30.17	766.3	— 7	—21.7	100	S	4	1.8		2cs	0			0	0	Clear	
Oswego, N. Y.			29.35	745.5	17.8	7.9	83	NW	20	8.9			10n			0.11	2.8	Light snow	
Pembina, Dakota			30.13	765.3	—28	—33.3	44	SE	2	0.9		0	2s			0	0	Clear	
Philadelphia, Pa.			29.48	748.8	25	— 3.9	75	NW	20	8.9		Haze	5s		W	0.20	5.1	Cloudy	
Pike's Peak, Col.	17.33	440.2	29.54	750.3	— 2	—18.9	100	W	24	10.7		5c	0	NW		0.04	1.0	Fair	
Pittsburgh, Pa.			29.74	755.4	19	— 7.2	92	NW	20	8.9			10n		NW	0.19	4.8	Light snow	
Port Huron, Mich.			29.78	756.4	11	—11.7	70	NW	6	2.7			10n			0.99	25.1	Light snow	
Portland, Me.			28.90	734.0	33	0.6	69	SW	13	5.8			10s			0.95	24.1	Cloudy	
Portland, Oregon			30.25	768.3	44	6.7	91	W	1	0.4			10s			0.04	1.0	Cloudy	
Punta Rassa, Fla.			30.21	767.3	49.0	9.4	56	N	13	5.8		2k	8ks	SW		0.06	1.5	Cloudy	
Rochester, N. Y.			29.42	747.3	15	— 9.4	91	NW	16	7.2			10n			0.44	11.2	Heavy snow	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	33	0.6	89	E	4	1.8			10s			0	0	Cloudy	
Sandy Hook, N. J.			29.30	744.2	25	— 3.9	75	W	59	26.4		0	0			1.02	25.9	Clear	
San Diego, Cal.			30.07	763.8	57	13.9	76	Calm	0	0			10s			0	0	Cloudy	
San Francisco, Cal.			30.17	766.3	47	8.3	85	Calm	0	0		0	0			0	0	Clear	
Santa Fé, N. M.	23.05	585.5	29.59	751.6	18	— 7.8	68	SE	1	0.4		5ck	0			0	0	Fair	
Savannah, Ga.			30.15	765.8	30	— 1.1	68	W	10	4.5		0	0			0	0	Clear	
Shreveport, La.			30.40	772.1	17	— 8.3	83	Calm	0	0		0	0			0	0	Clear	
Smithville, N. C.			29.98	761.5	26	— 3.3	77	NW	7	3.1		0	0			0	0	Clear	
Springfield, Mass.			29.08	738.6	28	— 2.2	66	SW	20	8.9		1ck	5s	W	W	1.08	27.4	Cloudy	
St. Louis, Mo.			30.22	767.6	5	—15.0	75	NW	8	3.6		0	0			0.01	0.3	Clear	
St. Marks, Fla.			30.28	769.1	23	— 5.0	86	NW	4	1.8		0	0			0	0	Clear	
St. Paul, Minn.			30.13	765.3	—15	—26.1	70	SW	8	3.6		0	0			0	0	Clear	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			28.99	736.3	31	— 0.6	79	SW	36	16.1			10s		SW	0.52	13.2	Cloudy	
Toledo, Ohio			29.84	757.9	18	— 7.8	68	W	10	4.5		8cs	0	W		1.05	26.7	Fair	
Tucson, Arizona	27.53	699.2	30.08	764.0	29	— 1.7		S				0	0			0	0	Clear	
Tybee Island, Ga.			30.11	764.8	26	— 3.3	67	NW	16	7.2		1k	0	NW		0	0	Clear	
Vicksburg, Miss.			30.42	772.7	15	— 9.4	83	N	2	0.9		0	0			Inap.	Inap.	Clear	
Virginia City, M. T.	24.06	611.1	29.54	750.3	16	— 8.9	83	Calm	0	0		8c	0	NW		Inap.	Inap.	Cloudy	
Washington, D. C.			29.61	752.1	27	— 2.8	77	W	22	9.8		0	2ks		NW	0.48	12.2	Fair	
Wilmington, N. C.			29.96	761.0	26	— 3.3	52	NW	14	6.3		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.14	740.1	31	— 0.6	89	SW	26	11.6			10s		SW	0.88	22.4	Cloudy	
Yankton, Dakota	28.88	733.5	30.15	765.8	—11	—23.9	75	E	5	2.2		8cs	0	NW		0	0	Fair	
Yuma, Arizona			30.02	762.5	46	7.8		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.22	767.6	76	24.4	90	Calm	0	0			10n		E	2.60	66.0		James Gall.
Navassa, W. I.					80	26.7		E			3							Cloudy	F. M. Everett.
Clifton, Ja., W. I.	27.24	691.9	30.04	763.0	66	18.9	94	NE	1.0	0.4			10k			2.15	54.6	Raining	C. Partridge.
Paramaribo, D. Guiana, S.A			29.99	761.7	81	27.2	91	E			3	6k	6k	E		0.180	4.57	Fair	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	763.9			80.2	26.8		E								0.620	15.75		Dr. H. Groot.
Medellin, Colombia, S. A.	25.27	641.8			63.2	17.3	79	Calm			0	1cs	2ks			0.02	0.5	Fair	Thomas Herran.
York Factory, B. A.			30.19	766.8	—12.0	—24.4	75	SW	20	8.9		4k	3s	W		0	0	Gloomy	J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.04	763.0	73	22.8		N			1					0.28	7.1	Overcast	Daniel Smith.
Makawao, Maui, H. I.			30.06	763.5	67	19.4	80	Calm			0	0	0			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.														State of ocean.	Direction of swell from —		
Schooner Addie Fuller, Tarpaulin Cove.			29.09	738.9	31	— 0.6	89	W	32	14.3			8ks		W			Squally	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.: Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv^t Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON DECEMBER 31, 1876.

7:35 A. M. WASHINGTON mean time.

6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General d'Eudeville, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			30.02	762.6	68.4	20.2	49	NW			3		2			0	0	Clear	Charnot.
Algiers			30.05	763.3	70.5	21.4	67	Calm			0		0			0	0	Clear	Peter.
La Calle			30.10	764.5	63.7	17.6	76	E			1		1			0	0	Clear	Didier.
Tunis			30.20	767.0	62.6	17.0		S			2		1			0	0	Clear	Jacques.
Sfax																			Chauvey.
Saida			30.18	766.5	65.5	18.6	18	S			5		2			0	0	Clear	Millot.
Tebessa			30.24	768.1	64.2	17.9		SW			1		0			0	0	Clear	Bourgeois.
Geriville			30.22	767.5	45.1	7.3	51	SSE			2		0			0	0	Clear	Lemaillot.
Laghouat			30.25	768.3	65.5	18.6	36	NE			1		0			0	0	Clear	Guyot.
Biskra			30.31	769.9	66.0	18.9	39	NE			1		0			0	0	Clear	Kunts.

NOTE.—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Ferdinand Osnaghi, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram			29.95	760.6	52.2	11.2	63	SW			3		3			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory			29.82	757.3	40.3	4.6	74	W			2		10			0	0		Dr. Wierzbiski.
Eperies			30.00	762.0	25.2	— 3.8	89	Calm			0		7cs,s			0	0		Julius Mikolik.
Gratz	28.61	726.8	29.91	759.7	37.8	3.2	85	S			1		5			0	0		Andreas Rospini.
Hermannstadt	28.53	724.6	30.00	762.0	37.8	3.2	78	SE			1		2			0	0		Prof. Reissenberger.
Kremsmünster	28.43	722.1	29.80	757.0	38.1	3.4	83	NW			1		8			0	0		Prof. C. Wagner.
Lemberg			29.79	756.7	39.2	4.0	77	SW			2		3			0	0		Dr. T. Stanecki.
Nyiregyhaza																			Habzsuda Daniel.
Pola			30.12	765.0	50.7	10.4	85	W			1		9cs			0	0		I.R. Hydrographic Office.
Szegedin			29.97	761.2	37.4	3.0	91	Calm			0		10			0	0		Karl Stancel.
Trieste			30.13	765.3	44.6	7.0	87	Calm			0		10			0	0	Foggy	Prof. V. Farolfi.
Vienna			29.90	759.5	32.9	0.5	87	Calm			0		10			0	0		I. R. Central Met. Obs'y.

NOTE.—The originals give, occasionally, the weather by the Vienna symbols. The distinction between upper and lower clouds is not made. It is not always certain that the weather remarks refer to the exact moment of observation. At Lemberg the rain-fall is measured at 7 p. m., local time. The elevation of Gratz is 343.5 meters, or 1,126.9 feet; Hermannstadt, 407.8 meters, or 1,337.9 feet; Kremsmünster, 383.6 meters, or 1,258.5 feet.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Brussels			29.46	748.2	52.2	11.2	75	SW			4		10ks		SW	0.028	0.70	Covered	Royal Observatory.

NOTE.—In the originals, the weather is occasionally given in general notes.

BRITISH SERIES

Furnished by the cooperation of Robert H. Scott, Esq., Director of the Meteorological Office, London, Alexander Buchan, Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen			28.70	729.0	45.9	7.7		S	13	5.8			7			0.556	13.97	*D. clouds	William Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			28.75	730.2	49.3	9.6		SSW	21	9.4									S. Call, for Dr. Robinson.
Birr Castle, (Parsonstown)			28.80	731.5	51.1	10.6		SW			1		10					Misty	J. Dreyer.
Bradford																0.77	19.6		J. McLandsborough.
Bridgetown, (Barbados)			29.93	760.2	82.2	27.9		NE			2		5					*D. clouds	Sergt. J. F. Halanen, A.
Cambridge, Observatory			29.21	741.9	53.2	11.8		SW			3		7					*D. clouds	H. Todd. [H.C.
Cardington			29.60?	751.8?	53.0	11.7		SW			6		6					*D. clouds	John McLaren.
Carlisle																			T. Bell, for J. Cartmell.
Chatham, School M. E.			29.29	744.0	54.2	12.3		W			3		4					*D. clouds	Capt. Fellowes, R. E.
Dartmoor	27.86	707.6	29.34	745.2	47.0	8.3		SW			7		10					Overcast	R. E. Power.
Davos Platz, (Switzerland)	24.74	628.4			42.0	5.6	64	S			1		3			0	0	*D. clouds	Francis Redford, M. A.
Donaghadee			28.73	729.7	49	9.4		WSW			5		5					*D. clouds	J. Mac Gowan.
Dover			29.35	745.5	52	11.1		SW			5		5					Threatening	J. Costello.
Eccles, (near Manchester)			29.00	736.6	51.0	10.6		S	7.6	3.4			10					Showery	Thomas Mackereth.
Falmouth, Observatory			29.22	742.2	53.5	11.9		SW			6		9					Squally	The Staff.
Fort Napier, (Natal)	27.46	697.5	29.69	754.1	85.8	29.9		E			2		1					*D. clouds	P'vt. G. Salmon, A. H. C
Free Town, (Sierra Leone)			30.00	762.0	85.0	29.4		Calm			0		4					*D. clouds	
Galway, Queen's College			28.81	731.8	43	6.1		S			3		10					Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)			29.96	761.0	61.8	16.6		NE			4		9					Overcast	Corpl. C. Aitken, A.H.C.
Glasgow, Observatory			28.70	729.0	46.7	8.2		SW			2		10					Raining	Lewis Stuart.
Great Yarmouth			29.20	741.7	54	12.2		SW			6		6					Squally	G. T. Watson.
Greenwich, Royal Obs'y			29.29	744.0	54.6	12.6		SW			5		7			Blank	Blank	*D. clouds	The Staff, for G. B. Airy.
Guernsey			29.37	746.0	55	12.8		SSW			5		4					*D. clouds	Dr. S. E. Hoskins.
Helston			29.22	742.2	55	12.8		S			7		4ck			0	0	Fine	M. P. Moyle.
Holyhead			28.91	734.3	52	11.1		SW			8		10					Misty	John Tilston.
Kew, Observatory			29.27	743.4	54.8	12.7		SW	30	13.4			7					Threatening	The Staff.
Kingstown			28.81	731.8	51	10.6		WSW			5		5					*D. clouds	George Mitchell.
Leicester Museum			29.12	739.6	51.8	11.0		SW			7		7			4.81	†122.2	*D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)			30.19	766.8	63.8	17.7		NW			2		2k					*D. clouds	Corp'l. P. Bravis, A.H.C.
Nairn			28.66	728.0	41	5.0		Calm			0		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.17	766.3	65.0	18.3		N			5		5					*D. clouds	Surg. Maj. Henry.
Nottingham, Observatory			29.10	739.1	51.7	10.9		SSW			6		10k,c		SW	0.07	1.88	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College			29.07	738.4	49.7	9.8		SSW			7		9					*D. clouds	Rev. Stephen Whitty.
Oxford, Radcliff Obs'y			29.22	742.2	53	11.7		SW			6		10cs					Overcast	J. Lucas.
Plymouth			29.26	743.2	53	11.7		SW			6		10					Gloomy	John Merrifield.
Roche's Point			28.87	733.3	51	10.6		SW			7		8					Showery	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Saint Helier, (Jersey)			29.41	747.0	54.5	12.5		SSW			5		8					¾ clouded	A. P. Amy.
Sandwick Manse, (Orkneys)			28.83	732.3	36.0	2.2		ENE	49	21.9			10					Raining	Rev. C. Clouston, LL. D.
Scarborough																			F. Shaw.
Scutari Cemetery, (Turkey)			30.07	763.8	47.4	8.6		SW			2		5					*D. clouds	Sergt. W. H. Lyne.
Sheffield			29.02	737.1	51.0	10.6		SW			6		9					Showery	W. F. Cooper.
Silloth Rectory			28.79	731.3	51.8	11.0	94	SW			6		8			0.356	8.89	*D. clouds	Rev. Francis Redford.
Stonyhurst, Observatory			28.96	735.6	49.9	9.9		SW			5		6c					Hazy	Rev. S. J. Perry.
Stornoway, Lewis Co., (Hebr.)			28.70	729.0	43	6.1		NE			6		10					Raining	John Smith.
Strathfield Turgiss			29.27	743.4	53.9	12.2		SW			3		4					Squally	Rev. Charles H. Griffith.
Thurso			28.73	729.7	41	5.0		ENE			7		10					Raining	John Trotter.
Truro, Royal Institution			29.22	742.2	55	12.8		SW			7		8					Raining	W. Newcombe.
Valencia, Observatory			28.76	730.5	51.8	11.0		SSW	45	20.1			9					*D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)					51	10.6		S			7		10			0.60	15.2		Henry Mercer.
Cape Good Hope, Obs'y			29.91	759.7	76.4	24.7	60	WNW	15	6.7		8	10						The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.73	755.1	72.0	22.2	83	S			1		6			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			28.74	730.0	49.0	9.4		W			2		10kc			0.37	9.4	Cloudy	Andrew Gibb.
Mauritius, Observatory			29.94	760.5				NNE	10.0	4.5						0.03	0.8		C. Meldrum.
Melbourne, Observatory			29.79	756.7	74.4	23.6	52	E	7	3.1			0			0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.72	729.5	44	6.7		NE			6		10			0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.11	739.4	40	4.4		NE			8		10					Snowing	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall, or distinction between upper and lower clouds. The originals give the wind direction to 32 points and weather by the Beaufort notation. The originals give the barometer for Aberdeen, Cardington, Galway, Oxford, St. Helier, Sandwick, Scarborough, Stonyhurst, Leith, Monach and North Unst as read off and the cloudiness for Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Davos Platz, 5,105? feet, or 1,556.0? meters; Fort Napier, 2,200 feet, or 670.6 meters. *Detached clouds. † Precipitation during the month.

By authority of the
MINISTER OF FOREIGN AFFAIRS.

COSTA RICA SERIES.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

San José																			

DANISH SERIES.

Furnished by the coöperation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen			29.28	743.8	38.1	3.4	98	SSW			2		10					Foggy	
Fanöe			29.13	739.9	39.2	4.0	100	SW			4		9						
Godthaab, (Greenland)			29.99	761.7	10.6	—11.9	96	Calm			0		2						
Stykkisholm, (Iceland)			29.85	758.2	17.8	— 7.9	80	NE			7		5						
Thorshavn, (Faröe)			29.32	744.7	30.9	— 0.6	64	NE			4		7						
Vestervig			29.00	736.5	39.6	4.2	100	SSW			7		10					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co operation of His Excellency, U. J. Le Verrier, Director of the Paris Observatory, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Alençon			29.51	749.5	49.1	9.5	94	W			1		10ks		W	0	0	Covered	Normal School.
Amiens			29.49	749.0	53.6	12.0	76	SW			3		5			0	0	Cloudy	Normal School.
Avignon			30.02	762.4	52.9	11.6	80	NE			1		10			0	0	Covered	Normal School.
Bar-sur-Seine			29.69	754.1	58.8	14.9	56	SSW			3		8n			0	0	Very cloudy	C. Saillard.
Beaumette, (near Angers)			29.54	750.2	55.9	13.3	70	SSW	30.4	13.6					SSW	0	0		Beaumette Observ'tory.
Beauvais			29.55	750.5	52.5	11.4	71	SSW			2		10		SW	0	0	Covered	Normal School.
Besançon			29.82	757.5	55.6	13.1	58	S			2		5		W	0	0	Cloudy	Normal School.
Bourg en Bresse			29.91	759.7	55.0	12.8	59	SE			2		5ck		N	0	0	Cloudy	Normal School.
Bourges			29.81	757.1	49.6	9.8	88	S			2		5		S	0	0	Cloudy	Normal School.
Brest			29.34	745.2	54.9	12.7	83	SW			4		10		SW	0.236	6.00	Misty	Naval Observatory.
Carcassonne			29.90	759.5	50.9	10.5	87	E			3		5		W	0	0	Cloudy	Normal School.
Caen																			Normal School.
Chartres			29.76	755.8	51.6	10.9	95	S			2		10		SE	0	0	Covered	Normal School.
Châlons-sur-Marne			29.64	752.8	57.2	14.0	63	W			3		10		E	0	0	Covered	Normal School.
Clermont			29.69	754.1	63.9	17.7	40	S			3		5			0	0	Cloudy	Puy de Dome Obs'y.
Commercy			29.76	755.8	52.3	11.3	73	SW			4		5		SW	0	0	Cloudy	Normal School.
Commune de Gréasque*			30.11	764.7	57.0	13.9	77	E			2		5		S	0	0		M. Kina.
Grenoble			29.94	760.4	42.4	5.8	72	NE			2		10n,k		E	0	0	Covered	Normal School.
La Roche-sur-Yon			29.57	751.0	56.1	13.4	79	SE			2		10			0	0	Covered	Normal School.
Le Mans			29.58	751.3	54.9	12.7	70	SW			2		5		SW	0	0	Cloudy	Normal School.
Lons-Le-Saulnier			29.82	757.4	57.9	14.4	44	SW			6		2		E	0	0	Slightly cl'dy	Normal School.
Lorient			29.48	748.9	56.8	13.8	78	SW			6		10			0.102	2.6	Raining	Naval Observatory.
Mâcon			29.87	758.8	55.5	13.2	83	S			4		5		SW	0	0	Cloudy	Normal School.
Metz			29.76	756.0	50.0	10.0	87	SSW			2		10			0	0		M. Schuster.
Mirecourt			30.10	764.6	44.2	6.8	88	SSW			4		5		NNE	0	0	Partly cl'dy.	Normal School.
Nismes			30.00	761.9	50.7	10.4	61	N			4		2		N	0	0	Slightly cl'dy	Normal School.
Orleans			29.71	754.5	53.6	12	80	SW			4		8			0	0	Very cloudy	Normal School.
Paris, Observatory			29.59	751.6	55.6	13.1	58	SSW			3		10ck		WSW	0	0	Covered	National Observatory.
Parthenay																			Normal School.
Privas			30.03	762.7	54.0	12.2		SW			2		5		SW	0	0	Cloudy	Normal School.
Rochefort, Observatory			29.63	752.7	57.6	14.2	53	SW			4		8		N	0	0	¾ covered	Naval Observatory.
Rouen			29.50	749.2	57.9	14.4	68	S			2		10		SW	0	0	Covered	Normal School.
Saint Lo																			Normal School.
Tarbes																			Normal School.
Villefranche			30.09	764.3	52.7	11.5	93	SE			4		10			0	0	Covered	Normal School.
Sub-Series.																			
Fort de France, Martinique																			L'Abbé Marchési.
Marseilles			30.01	762.3	62.2	16.8	63	S			2		7			0	0	Covered	Marseilles Observatory.
Mont-Louis	24.82	630.4	30.17	766.4	46.6	8.1	48	SSW	29.8	13.33			5		SW	0	0		—. Falguère.
Montsouris, Paris			29.58	751.4	56.3	13.5	54	SSW			3–4		10			0	0		Montsouris Observatory
Perpignan			29.91	759.8	54.3	12.4	85	NE	3.7	1.67			2		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.35	567.8			41.5	5.3		NW			6–8		4			0	0		General de Nansouty.
Saint Maur, (near Paris)			29.60	751.7	55.4	13.0	59	SSW			3		10			0	0	Covered	E. Renou.
Toulouse			29.84	757.8	55.0	12.8	78	SSE			8		8			0	0		Toulouse Observatory.
Tours			29.62	752.3	56.1	13.4	64	SW			2		7		W	0	0		C. Marquet.
Versailles, (near Paris)			29.60	751.7	55.0	12.8	64	SW			3		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)			30.23	767.7	43.9	6.6	79	E	7.4	3.3			2			0	0		Marc Dechevrens, S. J.

Note.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., local time; at Clermont, 9 a. m. of the following day; the weather in general terms as published. The elevation of Mont-Louis is 1,586.40 meters, or 5,204.8 feet; Clermont, 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 meters, or 1,056.4 feet; Pic du Midi, (Summit,) 2,877 meters, or 9,439.1 feet; Pic du Midi, (Plantade,) 2,366 meters, or 7,762.6 feet; Tarbes, 308 meters, or 1,010 feet. In correcting the Mont-Louis barometric observations for altitude, the constant 135. millimeters has been added. *Bouches-du-Rhône

GERMAN SERIES.

Furnished by the coöperation of Professor Geo. Neumayer, Superintendent Imperial Hydrographic Office, Berlin.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bamberg			29.78	756.3	43.7	6.5	71	SW			3		10	S		0	0		Prof. T. Hoh.
Berlin			29.57	751.0	45.3	7.4	80	S			6		10			0.028	0.7	Raining	Prof. Arndt.
Breslau			29.73	755.2	45.5	7.5	74	S			3		10			0	0		Royal University Obs'y.
Carlsruhe			29.71	754.7	47.8	8.8	78	S			1		10			0	0	Foggy	A. Senz.
Cassel			29.61	752.1	48.2	9.0	71	SW			2		7	WSW		0.071	1.8		Dr. H. Möhl.
Crefeld			29.46	748.2	55.4	13.0	59	SW			5		9			0	0		Director Lose.
Emden			29.40	746.7	46.0	7.8	88	SW			3		10			0.087	2.2		Prof. Prestel.
Frankfort on the Main			29.67	753.6	46.9	8.3	76	SSW			1		9			0	0		Physical Society.
Friedrichshafen	28.41	721.6	29.87	758.7	43.9	6.6	83	S			1		4			0	0		M. Wilhelm.
Hamburg			29.39	746.5	48.2	9.0	76	SSW			3		10n			0.169	4.3	Light rain	Captain F. Hegemann.
Kiel			29.39	746.4	44.1	6.7	92	SW			5		10			0.264	6.7		Prof. G. Karsten.
Königsberg, (Prussia.)			29.52	749.8	38.1	3.4	98	SW			5		10			0.449	11.4		Prof. E. Luther.
Köslin			29.54	750.4	41.5	5.3		S			4		4			0.484	12.3		H. Müller.
Leipsic			29.65	753.0	45.5	7.5	76	S			2		9	SW		0.079	2.0	Light rain	Prof. Bruhns.
Memel			29.41	747.1	36.0	2.2	98	WSW			3		Fog			0.205	5.2	Rain & fog	Reinbrecht & Skalweit.
Münster			29.46	748.2	54.5	12.5	65	SW			5		10			0	0		Prof. E. Heis.
Neufahrwasser			29.54	750.4	40.5	4.7	89	SW			2		10			0.181	4.6		A Lothe.
Posen			29.68	753.9	43.7	6.5	87	SW			2		10			0	0		Dr. Magener.
Strassburg, (in Alsace)			29.76	755.9	50.9	10.5	60	SW			2		10			0	0		Dr. Schur.
Stuttgart			29.72	754.8	54.7	12.6	46	W			1		10			0	0		Prof. Schoder.
Thorn																			Dr. Hasenbalg.
Treves, (Trier)			29.58	751.4	53.4	11.9	63	SW			5		10			0.016	0.4		Prof. Flesch.
Weissenburg, (Bavaria,)	28.24	717.2	29.74	755.4	50.5	10.3	50	SW			3		9	SW		0	0		Dr. von Bebber.
Wustrow, Naval School			29.47	748.6	42.6	5.9	92	S			2		10			0.327	8.3		E. F. Schütz.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.4 meters, or 1,356.3 feet; Weissenburg, 431 meters, or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made. It is not always certain that the remarks in the weather column refer to the moment of observation.

GREEK SERIES.

Furnished by the coöperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens			30.12	765.0	57.2	14.0		SW										Clear	

NOTE.—The originals give the barometer corrected, but not reduced to sea-level; occasionally the kind of clouds; the weather as published. They omit the humidity, wind-force, amount of cloudiness and rain-fall.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Agriculture, Industry and Commerce, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Udine			30.07	763.7	40.2	4.6	86	SW	0.7	0.3			9			0.004	0.1	Dense fog	Prof. Giovanni Clodig.
Padua			30.11	764.7	41.2	5.1	78	NW	1.3	0.6			10			0	0		Prof. Dott. Lorenzoni.
Vicenza			30.10	764.5	42.6	5.9	78	SW	1.3	0.6			7	W		0	0		Alm. Da Schio.
Verona			30.15	765.7	37.0	2.8	70	E			1		10			0	0		Dott. B. Bertoncelli.
Bergamo																			Prof Trionfini Carlo.
Domodossola			30.13	765.2	41.9	5.5	79	Calm			0		10			0	0		Prof. Giuseppe Calza.
Milan			30.15	765.7	40.5	4.7	95	W			1		10			0	0		Ab. Gio. Capelli.
Pavia			30.13	765.2	37.6	3.1	91	SW			1		10			0.197	5.0	Raining	Prof. Gio. Cantoni.
Moncalieri			30.17	766.2	37.5	3.2	93	ENE	0.7	0.3			10	E		0	0		Prof. P. F. Denza.
Mondovi	28.17	715.6	30.16	766.1	44.1	6.7	68	SE			2		10			0	0		Prof. C. Bruno.
Porto Maurizio			30.14	765.6	57.4	14.1	78	SW			2		8			0.043	1.1		Prof. L. Vassallo.
Genoa			30.13	765.4	55.6	13.1	84	SE	7.4	3.3			8	S		0	0		Prof. Garibaldi.
Piacenza			30.14	765.5	39.7	4.3	92	NW	3.1	1.4			10			0	0	Dense fog	Dott. G. Manzi.
Parma			30.14	765.6	44.1	6.7	71	NNW			2		10			0	0		Prof. P. Pigorini.
Bologna			30.17	766.2	39.2	4.0	50	W			1		10			0	0		Prof. A. Palagi.
Florence			30.18	766.6	54.5	12.5	90	S			2		6	W		0	0		Cav. F. Meucci.
Leghorn			30.15	765.8	57.7	14.3	74	S	7.4	3.3			4	S		0	0		Prof. P. Monte.
Siena	28.94	735.0	30.17	766.4	51.3	10.7	86	SW	0	0			6	W		0	0		Prof. L. Toscani.
Urbino	28.58	725.8	30.17	766.4	50.4	10.2	77	W			4		3			0	0		Prof. P. Serpieri.
Pesaro			30.13	765.4	41.5	5.3	98	NNE	6.3	2.8			10	N		0	0	Dense fog	Prof. Luigi Guidi.
Ancona			30.14	765.5	48.2	9.0	81	ENE			2		2			0	0		Prof. F. De— Bosis.
Grosseto			30.18	766.6	55.6	13.1	80	S			2		8	SW		0	0		Avv. P. Ponticelli.
Rome			30.20	767.0	57.0	13.9	68	N	0.7	0.3			9			0	0		Prof's. P. Secchi & L. Respighi.
Naples, O. U.			30.20	767.1	60.1	15.6	61	W			2		8	SSW		0	0		Prof. L. Palmieri.
Lecce			30.20	767.1	54.7	12.6	77	WNW	11.2	5.0			9			0	0		Prof. C. De—Giorgi.
Cosenza			30.21	767.2	51.8	11.0	71	WSW	2.5	1.1			3			0	0		Prof. F. D. Conti.
Riposto, (Sicily)																			Prof. F. Cafiero.
Palermo			30.15	765.7	58.5	14.7	69	NE	2.5	1.1			0			0	0		Prof. G. Cacciatore.
Caltanissetta	28.[illegible]	716.7	30.21	767.3	52.0	11.1	73	NW			2		2	S		0	0		Prof. Antonio Aloi.
SUB-SERIES.																			
Naples, S. R.			30.24	768.0	55.9	13.3	70	SW	0	0			6	W		0	0		Prof. F. Brioschi

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; generally, no distinction between upper and lower clouds; occasionally the weather in general terms. The elevation of Bergamo is 379.6 meters, or 1,245.3 feet; Mondovi, 556 meters, or 1,824.2 feet; Urbino, 451 meters, or 1,479.7 feet; Siena, 348.5 meters or 1,143.3 feet; Caltanissetta, 570.3 meters, or 1,871.0 feet.

JAPANESE SERIES.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Tokei																			

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the City of Mexico.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Mexico																			Mariano Barcena. Vicente Reyes. Miguel Perez. (Engineers in charge.)

NOTE.—The elevation of Mexico is 2,290 meters, or 7,512.9 feet. The rain-fall is measured at 6 a. m., local time.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Flushing			29.42	747.3	50.7	10.4		SW			5					0.068	0.2		
Groningen			29.26	742.3	48.6	9.2		SSW								0.055	1.4		
Helder			29.26	743.3	48.2	9.0		SSW			5					0	0		
Utrecht			29.35	745.5	52.5	11.4	73	SSW			5		8			0.004	0.1	Very cloudy.	

NOTE.—The originals give the wind-pressure in kilograms per square meter; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds. It is assumed that the barometer readings have been reduced to sea-level.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Millimeters.	Temperature. Fahrenheit.	Temperature. Centigrade.	Relative Humidity.	Wind. Direction.	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Bergen			29.00	736.5	32.7	0.4	89	Calm	0	0			10			0	0		
Brönö			29.20	741.7	21.9	— 5.6	82	Calm	0	0			8			0.58	14.8		
Christiania			29.15	740.4	24.6	— 4.1	84	ENE	2.5	1.1			10			0.17	4.5		
Tromsö			29.17	740.8	17.6	— 8.0	59	SW	11	5			3			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 m.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upner. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Angra, (Azores,)			29.67	753.6	50.9	10.5	75	NW	7.4	3.3			5			0.197	5.0		Dr. J. A. Sampaio.
Campo Major			29.72	754.8	62.6	17.0	41	ESE	20.6	9.2			10	SW		0.083	2.1		Dr. A. M. R. dos Santos.
Funchal, (Madeira,)			29.64	752.9	60.8	16.0	69	W	12.5	5.6			8			3.335	84.7	Raining	Capt. D. A. de Cunha.
Lisbon			29.48	748.9	66.2	19.0	51	S	42.3	18.9			10			0.972	24.7	Rainy	The Observatory.
Ponta Delgada, (Azores)			29.67	753.6	54.0	12.2	65	NW	6.9	3.1			5	S		0.291	7.4		

NOTE.—The originals give the wind-velocity in kilometers per hour; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds; the barometer corrected but not reduced to sea-level. The rain-fall at Libson is measured at noon, instead of 0 h. 6 m., p. m.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upner. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Warsaw			29.70	754.3	40.5	4.7	87	WSW	13	6			10						Astronomical Obs.
Wilna																			Astronomical Obs.
Dorpat			29.47	748.5	23.2	— 4.9	89	ESE	9	4			10			Blank	Blank		Physical Cabinet.
St. Petersburg			29.55	750.6	22.1	— 5.5	90	SW	11	5			10						Central Physical Obs.
Kuopio			29.41	746.9	15.1	— 9.4	100	SE	13	6			10					Snowing	Ch. Forsten.
Kieff			29.70	754.3	34.5	1.4	100	W	7	3			10					Foggy	Physical Cabinet.
Nikolaiev			29.94	760.4	38.7	3.7	85	SSW	13	6			8						Kurdakof.
Kertch			30.02	762.5	43.3	6.3	81	S	4	2			8						Lagorio.
Moscow			29.86	758.5	14.7	— 9.6	81	SSW	9	4			10						Meteorological Obs.
Lugan			29.77	756.2	34.2	1.2	87	SSW	27	12			10			Blank	Blank		Meteorological Obs.
Archangel			29.18	741.2	10.8	—11.8	100	WSW	22	10			10						Ogorodnikof.
Tiflis	28.56	725.4	29.99	761.8	50.0	10.0	57	NW	9	4			7						Physical Observatory.
Astrakhan			29 99	761.8	32.4	0.2	92	SW	2	1			10						Sebastianof.
Kasan			29.72	755.0	8.8	—12.9	100	Calm	0	0			10						Physical Cabinet.
Orenburg			30.48	774.1	— 4.4	—20.2	68	E	16	7			0						Tschernischef.
Ekaterinburg	28.76	730.6	29.82	757.4	— 5.3	—20.7	75	E	4	2			3						Meteorogical Obs.
Nukuss			29.93	760.3	31.6	— 0.2	85	NNE	9	4			10						
Kasaly																			Bobrof.
Tashkend																			Michelson.
Barnaul			30.19	766.9	— 8.5	—22.5	76	SW	9	4			10					Snowing	Meteorological Obs.
Yeniseisk			29.63	752.5	1.0	—17.2	85	SE	9	4			10					Snowing	Marks.
Irkutsk																			Usolzef.
Oorga																			Mossin.
Peking, (China)			30.30	769.5	21.9	— 5.6	96	Calm	0	0			10			Blank	Blank		Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor					28.0	— 2.2		Calm	0	0			10						

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Ekaterinburg, 306.4? m., or 1,005.2? ft.; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft.; Oorga, 1,281.0? m., or 4,202.6? ft.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and of Don Cecilio Pujazon, Captain R. N. Director of the Naval Observatory at San Fernando.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upner. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Madrid			29.88	758.9	53.4	11.9	50	S	17.9	8.00		0	10			0	0	Covered	Royal Observatory.
San Fernando			29.90	759.5	63.0	17.2	62	SE	14.8	6.6		0	10		SE	0	0		Naval Observatory.

NOTE.—The originals give the weather in general terms, as published; rain-fall for San Fernando from preceding to following midnight; wind-velocity for Madrid in kilometers per hour.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Chief of the Meteorological Division of the Upsala Observatory.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upner. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda			29.43	747.6	—22.0	—30.0		Calm			0		0			0	0		
Umea			29.35	745.5	13.6	—10.2	93	N			2		10			0	0		
Hernosand			29.27	743.5	18.3	— 7.6	100	NE			2		10					Snowing	
Stockholm			29.16	740.7	30.6	— 0.8	96	E			4		10			0.004	0.1	Snowing	
Wisby			29.21	741.8	38.5	3.6	90	SW			6		10			0.079	2.0		
SUB-SERIES.																			
Upsala			29.19	741.5	28.2	— 2.1	96	ENE	5.6	2.5			10			0.344	8.72	Snowing	Dr. Hildebrandsson.

NOTE.—The originals give the wind-force by the scale 0 to 6, and Upsala also velocity in meters per second; occasionally, the weather by the Vienna symbols, or in general erms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.47	723.0	29.90	759.4	52.2	11.2	57	W			2		9			0	0	Covered	The Observatory.
Zurich	28.22	716.8	29.89	759.1	45.9	7.7	76	SE			1		8			0	0	Cloudy	The Observatory.

Note.—For Geneva the corresponding departures from the normal values are: Barometer, —4.7 mm; Thermometer, +9.8 cent.; Relative Humidity, —23 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m., on the following day. The originals give the barometer corrected but not reduced to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 meters, or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Constantinople			30.11	764.7	46.0	7.8	83	SW	7	3.0			6		SW	0	0		
Fao, (Persian Gulf)																			
Salonica			30.13	765.2	58.6	14.8		E			1		0						
Valona			30.11	764.7	55.4	13.0		N			2		0						
Varna			30.00	762 0	33.8	1.0		NE			2		0						
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y			30.00	762.1	61.0	16.1	74	N			2		5ck			0.70	17.8	*D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut, by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed that the barometer is reduced to sea-level. * Detached clouds.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Bathurst, N. B																			Hon. J. Ferguson.
Brockville, Ontario			29.91	759.7	7	—13.9		W	1	0.4			10s		W	0.05	1.3	Cloudy	W. R. Bigg.
*Chatham, N. B			29.19	741.4	14	—10.0	88	SW	18	8.0		5k	5ks	SW	SW	0.14	3.6	Fair	G. A. Blair.
Charlottetown, P. E. Island			29.26	743.2	16	— 8.9	76	W	10	4.5		0	0			0.080	2.03	Clear	H. J. Cundall, C. E.
Cornwall, Ontario			29.86	758.4	8.7	—12.9	78	W			4		10s			0	0	Dull	James Smith, M. A.
Dalhousie, N. B								W			4					0.70	17.8	Overcast	H. A. Johnson.
Esquimault, B. C			30.36	771.1	44.3	6.8	100	Calm				10cs	0			0.02	0.5	Cloudy	W. H. Bevis.
Fredericton, N. B			29.43	747.5	12.4	—10.9	73	W	18	8.0		0	1ks			0	0	Clear	Prof. Harrison.
*Fort Garry, Manitoba			30.09	764.3	—14	—25.6	89	NW	8	3.6		0	0			0.032	0.81	Clear	James Stewart.
Goderich, Ontario			30.18	766.6	19.7	— 6.8	95	NW			2		10n			0.05	1.3	Light snow	H. J. Strang, M. A.
Granton, Ontario	28.90	734.0	30.09	764.3	16.4	— 8.7		NW			2		10n			0	0	Cloudy	James Grant.
*Halifax, N. S			29.52	749.8	21	— 6.1	86	W	20	8.9			5ks			0.010	0.25	Fair	F. Allison, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario			30.00	762.0	9	—12.8	83	W	2	0.9		8cs	0			0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S																			C. H. Rigby.
*Montreal, Quebec			29.77	756.1	9	—12.8	78	W	24	10.7			10n			0.02	0.5	Light snow	C. H. McLeod, C. E.
*Ottawa, Ontario			29.84	757.9	8	—13.3	75	W	22	9.8			10s		W	0	0	Threatening	J. B. Hiney.
*Parry Sound, Ontario			30.03	762.7	7	—13.9	73	N	9	4.0		2cs	9ks	NW	NW	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario			30.10	764.5	18	— 7.8	84	W	11	4.9			10n		W	Inap.	Inap.	Light snow	H. Morgan.
Port Hastings, N. S																			Peter Grant.
Port Stanley, Ontario			30.14	765.5	18	— 7.8	84	NW	10	4.5			10n		NW	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec			29.58	751.3	8	—13.3	100	W	6	2.7		5c	5ks	W	W	0.50	12 7	Fair	Capt. Ashe, R. N.
St. John, N. B			29.50	749.3	14	—10.0	63	W	17	7.6		1k	0			0	0	Clear	G. Murdoch, C. E.
*Saugeen, Ontario			30.03	762.7	19	— 7.2	77	NW	10	4.5			10n			0.20	5.1	Light snow	K. Stewart.
Stayner, Ontario																0.08	2.0		R. J. Cole.
Stratford, Ontario	28.73	729.7	30.11	764.8	16.0	— 8.9	95	NW	13	5.8			10s			0.15	3.8	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B			29.22	742.2	26	— 3.3	75	SW	17	7.6			10s			0.34	8.6	Cloudy	T. C. Hill.
*Toronto, Ontario			30.06	763.5	15	— 9.4	100	NW	6	2.7			8n			0.07	1.8	Heavy snow	Magnetic Observatory.
Woodstock, Ontario			30.06	763.5	17.6	— 8.0	88	NW	6	2.7			10s			0	0	Cloudy	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland			29.36	745.7	32	0.0		S				10	10			0.15	3.8	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Johns, N. F., Stayner and those telegraphed, give the cloudiness by the scale 0 to 4. The elevation of Granton is 1,015 feet, or 309.4 m.; Stratford, 1,182 feet, or 360.3 m.

UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, N. Y.			29.93	760.2	21	— 6.1	85	Calm	0	0			10s			0	0	Cloudy	
Alpena, Mich.			30.11	764.8	14	—10.0	63	NW	16	7.2			10s		NW	0	0	Cloudy	
Atlantic City, N. J.			30.11	764.8	21	— 6.1	71	W	8	3.6		0	0			0	0	Clear	
Augusta, Ga.			30.36	771.1	23	— 5.0	86	NW	2	0.9		0	0			0	0	Clear	
Baltimore, Md.			30.18	766.6	22	— 5.6	72	W	7	3.1		0	Haze			0	0	Clear	
Barnegat, N. J.			30.06	763.5	20	— 6.7	78	W	19	8.5		0	0			0	0	Clear	
Bismarck, Dakota	28.23	717.0	30.10	764.5	—11	—11.7	75	NW	2	0.9			10s			0.08	2.0	Cloudy	
Boston, Mass.			29.79	756.7	19	— 7.2	84	W	8	3.6		0	1s		W	0	0	Clear	
Breckenridge, Minn.			30.12	765.0	— 9	—22.8	35	W	8	3.6		0	2s			0	0	Clear	
Buffalo, N. Y.			30.05	763.3	18	— 7.8	68	W	24	10.7			10s		W	Inap.	Inap.	Cloudy	
Burlington, Vt.			29.83	757.7	15	— 9.4	81	NW	8	3.6		0	8s			0.05	1.3	Cloudy	
Cairo, Ill.			30.36	771.1	13	—10.6	64	SW	4	1.8			10s			0	0	Cloudy	
Cape Hatteras, N. C.			30.20	767.1	27	— 2.8	66	NW	13	5.8		0	0			0	0	Clear	
Cape Henry, Va.			30.25	768.3	24	— 4.4	74	W	8	3.6		0	0			0	0	Clear	
Cape Lookout, N. C.			30.31	769.9	27	— 2.8	67	NW	14	6.3		0	0			0	0	Clear	
Cape May, N. J.			30.14	765.5	24	— 4.4	74	NW	40	17.9		0	0			0	0	Clear	
Charleston, S. C.			30.34	770.6	29	— 1.7	59	NW	4	1.8		0	0			0	0	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	21	— 6.1	72	NW	20	8.9		8k	0	NW		0.03	0.8	Fair	
Chicago, Ill.			30.22	767.6	9	—12.8	78	SW	3	1.3			10s		W	0	0	Cloudy	
Cincinnati, Ohio			30.35	770.9	1	—17.2	72	S	1	0.4		0	0			0	0	Clear	
Cleveland, Ohio			30.24	768.1	14	—10.0	81	SW	10	4.5			10s		SW	0.03	0.8	Cloudy	
Corsicana, Tex.			30.05	763.3	29	— 1.7	100	N	12	5.4			10n			0.08	2.0	Light snow	
Davenport, Iowa			30.18	766.6	15	— 9.4	91	Calm	0	0			10n			Inap.	Inap.	Light snow	
Denison, Tex.			30.17	766.3	25	— 3.9	100	N	8	3.6			10n			0.65	16.5	Heavy snow	
Denver, Col.	24.83	630.7	30.05	763.3	14	—10.0	81	S	7	3.1		5c	0			0.50	12.7	Fair	
Detroit, Mich.			30.18	766.6	15	— 9.4	82	W	6	2.7			10s			0.01	0.3	Cloudy	
Dodge City, Kan.	27.53	699.2	30.04	763.0	10	—12.2	68	NW	2	0.9		0	2s		NW	0	0	Clear	
Dubuque, Iowa			30.20	767.1	— 3	—19.4	66	Calm	0	0			10n			0.05	1.3	Light snow.	
Duluth, Minn.			30.10	764.5	4	—15.6	87	Calm	0	0			10s			0	0	Cloudy	
Eastport, Me.			30.51	774.9	14	—10.0	63	SW	12	5.4		0	0			0.14	3.6	Clear	
Erie, Pa.			30.14	765.5	17	— 8.3	83	W	20	8.9			10n			0.11	2.8	Light snow.	
Escanaba, Mich.			30.16	766.1	11	—11.7	79	NW	5	2.2			10s			0	0	Cloudy	
Fort Gibson, Indian Ter.			30.23	767.8	23	— 5.0	86	NE	6	2.7		2c	2s	W	SW	Inap.	Inap.	Fair	
Ft. St. Michael, Alaska																			
Fort Sill, Indian Ter.	28.94	735.1	30.14	765.5	23	— 5.0	38	N	8	3.6		8cs	0			0	0	Cloudy	
Fort Sully, Dakota	28.39	721.1	30.27	768.8	— 5	—20.6	100	SE	2	0.9			10s			0.01	0.3	Cloudy	
Florence, Arizona	28.53	724.6	30.06	763.5	48	8.9		NE				0	0			0	0	Clear	
Galveston, Tex.			29.72	754.9	54	12.2	93	E	16	7.2			Fog		E	0.09	2.3	Foggy	
Grand Haven, Mich.			30.14	765.5	24	— 4.4	80	W	11	4.9			10s			0.04	1.0	Cloudy	
Indianapolis, Ind.			30.36	771.1	3	—16.1	86	Calm	0	0		8ck	Fog	W		0	0	Fair	
Indianola, Tex.			29.76	755.9	57	13.9	93	W	24	10.7			10n			0.45	11.4	Light rain	
Jacksonville, Fla.			30.34	770.6	30	— 1.1	67	NW	4	1.8		0	0			0	0	Clear	
Keokuk, Iowa			30.13	765.3	20	— 6.7	70	S	8	3.6			10s		S	0	0	Cloudy	
Key West, Fla.			30.21	767.3	55	12.8	87	N	12	5.4		0	5ks			0	0	Fair	
Kittyhawk, N. C.			30.28	769.1	25	— 3.9	75	NW	12	5.4		0	0			0	0	Clear	
Knoxville, Tenn.			30.45	773.4	10	—12.2	79	Calm	0	0		0	0			0	0	Clear	
La Crosse, Wis.			30.19	766.8	— 4	—20.0	64	S	1	0.4		0	0			0	0	Clear	
Leavenworth, Kan.			30.20	767.1	21	— 6.1	86	NW	4	1.8		0	5s		NW	0	0	Fair	
Louisville, Ky.			30.38	771.6	2	—18.9	71	Calm	0	0		0	Haze			0	0	Clear	
Lynchburg, Va.			30.32	770.1	19	— 7.2	85	SW	2	0.9		0	0			0	0	Clear	
Malone, N. Y.			29.81	757.2	10	—12.2	79	W	12	5.4			10s		W	0.40	10.2	Cloudy	
Marquette, Mich.			30.10	764.5	14	—10.0	64	W	12	5.4			10s			0	0	Cloudy	
Memphis, Tenn.			30.37	771.4	15	— 9.4	83	NE	4	1.8			10s			0	0	Cloudy	
Milwaukee, Wis.			30.27	768.8	1	—17.2	72	W	6	2.7			10s			0	0	Cloudy	
Mobile, Ala.			30.26	768.6	29	— 1.7	77	E	10	4.5		2c	2ks			0	0	Fair	
Montgomery, Ala.			30.35	770.9	22.5	— 5.3	86	NE	3	1.3		0	Haze			0	0	Clear	
Morgantown, W. Va.	29.17	740.9	30.34	770.6	11.5	—11.4	90	SW	7	3.1			10n		SW	0.01	0.3	Light snow	
Mt. Washington, N. H.	22.85	580.4	29.21	741.9	—11	—23.9	100	NW	80	35.8			Fog			0	0	Foggy	
Nashville, Tenn.			30.40	772.1	0	—17.8	69	Calm	0	0		0	8s			0	0	Cloudy	
New Haven, Conn.			29.92	760.0	21	— 6.1	72	Calm	0	0		Haze	Fog			0	0	Fair	
New London, Conn.			29.90	759.4	20	— 6.7	65	W	8	3.6		0	0			0	0	Clear	
New Orleans, La.			30.14	765.5	41	5.0	74	E	18	8.0			10n		W	Inap.	Inap.	Light rain	
Newport, R. I.			29.88	758.9	21	— 6.1	85	SW	16	7.2		0	0			0	0	Clear	
New York, N. Y.			30.02	762.5	19	— 7.2	69	W	12	5.4		5k	5ks	NW	NW	0	0	Cloudy	
Norfolk, Va.			30.27	768.8	23.5	— 4.7	86	NW	6	2.7		0	0			0	0	Clear	
North Platte, Neb.	27.08	687.8	29.90	759.4	5.0	—15.0	100	W	10	4.5			10s			0	0	Cloudy	
Omaha, Neb.	28.96	735.6	30.13	765.3	14	—10.0	81	NW	8	3.6		5cs	0			0	0	Fair	
Oswego, N. Y.			29.96	761.0	21	— 6.1	85	NW	20	8.9			10n			Inap.	Inap.	Heavy snow	
Pembina, Dakota			30.09	764.3	—17	—27.2	68	NW	14	6.3		0	0			Inap.	Inap.	Clear	
Philadelphia, Pa.			30.10	764.5	18	— 7.8	84	W	6	2.7		2cs	Haze	W		0	0	Fair	
Pike's Peak, Col.	17.46	443.5	29.66	753.4	—11	—23.9	100	N	12	5.4		0	0			0.22	5.6	Clear	
Pittsburgh, Pa.			30.24	768.1	15	— 9.4	82	W	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Port Huron, Mich.			30.14	765.5	18	— 7.8	68	W	10	4.5			10s			0.01	0.3	Cloudy	
Portland, Me.			29.87	758.6	18	— 7.8	84	W	13	5.8		1c	0	W		0	0	Clear	
Portland, Oregon			30.36	771.1	38	3.3	90	Calm	0	0			Fog			0	0	Foggy	
Punta Rassa, Fla.			30.28	769.1	40.5	4.7	81	N	12	5.4		0	Haze			0	0	Clear	
Rochester, N. Y.			29.99	761.7	18	— 7.8	76	W	20	8.9			10s		W	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.92	658.4	30.25	768.3	21	— 6.1	85	SE	6	2.7		0	0			0.04	1.0	Clear	
Sandy Hook, N. J.			29.98	761.5	22	— 5.6	72	W	22	9.8			10ks		W	0	0	Cloudy	
San Diego, Cal.			30.19	766.8	48	8.9	92	Calm	0	0		0	0			0	0	Clear	
San Francisco, Cal.			30.20	767.1	49	9.4	77	NW	3	1.3		0	0			0	0	Clear	
Santa Fé, N. M.	23.24	590.3	29.78	756.4	18	— 7.8	68	NE	12	5.4		5k	0	W		0.11	2.8	Fair	
Savannah, Ga.			30.36	771.1	28	— 2.2	77	N	5	2.2		0	0			0	0	Clear	
Shreveport, La.			30.20	767.1	27	— 2.8	88	NE	14	6.3			10n			0.02	0.5	Light snow	
Smithville, N. C.			30.33	770.4	23	— 5.0	85	N	4	1.8		0	0			0	0	Clear	
Springfield, Mass.			29.87	758.7	26	— 3.3	63	W	8	3.6		0	8ks		N	0	0	Cloudy	
St. Louis, Mo.			30.26	768.6	19	— 7.2	69	S	12	5.4			10s			0	0	Cloudy	
St. Marks, Fla.			30.33	770.4	25	— 3.9	94	NE	4	1.8		0	2s			0	0	Fair	
St. Paul, Minn.			30.07	763.8	2	—16.7	72	E	5	2.2			10n			0.01	0.3	Light snow	
St. Paul's Island, Alaska																			
Thatcher's Island, Mass.			29.79	756.7	21	— 6.1	57	W	16	7.2		1k	0	W		0	0	Clear	
Toledo, Ohio			30.21	767.3	17	— 8.3	83	SW	10	4.5			10s		SW	0.04	1.0	Cloudy	
Tucson, Arizona	27.72	704.1	30.27	768.8	30	— 1.1		NW				5c	0	NW		0	0	Fair	
Tybee Island, Ga.			30.34	770.6	28	— 2.2	50	N	16	7.2		0	0			0	0	Clear	
Vicksburg, Miss.			30.27	768.8	27	— 2.8	88	NE	4	1.8			10n			0.01	0.3	Sleeting	
Virginia City, M. T.	24.33	618.0	29.81	757.2	23	— 5.0	73	Calm	0	0		10k	0	NW		0	0	Cloudy	
Washington, D. C.			30.22	767.6	20	— 6.7	72	NW	8	3.6		0	0			0	0	Clear	
Wilmington, N. C.			30.33	770.4	24	— 4.4	61	N	4	1.8		0	0			0	0	Clear	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Wood's Holl, Mass.			29.85	758.2	23	— 5.0	60	NW	22	9.8		0	0			0	0	Clear	
Yankton, Dakota	28.83	732.3	30.28	769.1	— 1	—18.3	68	NW	16	7.2		0	0			0.05	1.3	Clear	
Yuma, Arizona			30.36	771.1	52	11.1		N				0	0			0	0	Clear	
Sub-Series.																			
Kingston, Jamaica, W. I.			30.22	767.6	75	23.9	90	Calm	0	0		8c	8n		SE	0.48	12.2		James Gall.
Navassa, W. I.					80	26.7		NE			2							Clear	F. M. Everett.
Clifton, Ja., W. I.	27.23	691.6	30.03	762.7	65	18.3	94	E	2.0	0.9			10k			2.36	59.9	Very dull	C. Partridge.
Paramaribo, D. Guiana, S.A			30.06	763.5	76	24.4	95	NE			3	10n?	10n	E		4.56	115.57	Heavy rain	C. J. Hering.
Batavia, Dutch Guiana, S.A.	30.08	764.0			74.8	23.8		N								0.699	17.75		Dr. H. Groot.
Medellin, Colombia, S. A.	25.26	641.6			63.8	17.7	85	SW			1	3cs	4ks			0.10	2.5	Cloudy	Thomas Herran.
York Factory, B. A.			30.09	764.3	— 8.0	—22.2	79	SW	4	1.8		3c	2s	SW		Inap.	Inap.		J. Fortescue, W. Wood.
Honolulu, Oahu, H. I.			30.07	763.8	73	22.8		NE			3					0.27	6.9	Clear	Daniel Smith.
Makawao, Maui, H. I.			30.08	764.0	62	16.7	77	NE			2	0	2k			0	0		F. L. Clarke.

Marine Series.	True course towards.	Hourly rate in knots.	State of ocean.	Direction of swell from—
Schooner Addie Fuller, Tarpaulin Cove.				

Marine Series.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Schooner Addie Fuller, Tarpaulin Cove.			29.81	757.2	24	— 4.4	87	WNW	20	3.9		0	0					Clear	Capt. James Jorgensen.

Note.—The originals give the cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,677 feet, or 511.1 meters; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Clifton, about 2,892 ft., or 881.5 m.; Denver, 5,135 ft., or 1,565.2 m.; Dodge City, 2,478.8 ft., or 755.5 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Fort Sully, 1,678 (?) ft., or 511.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Makawao, 2,205 ft., or 672.1 m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Tucson, 2,513 (?) ft., or 772.1 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Cheyenne, 5.94 inches; Denver, 5.22 in.; Makawao, 2.170 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Tucson, 2.59 in.; Virginia City, 5.48 in. The elevation of Batavia is about 6 feet; the barometric readings need the addition of 0.2 mm. or 0.01 in. for reduction to sea-level.

UNITED STATES (NAVAL) SERIES.

By authority of the Secretary of the Navy.

Furnished by the coöperation of the Navy Department, through Commodore Daniel Ammen, U. S. N., Chief of Bureau of Navigation.

Note.—Reports commenced by order of the Secretary of the Navy, General Order No. 220, dated Navy Department, December 25, 1876.

Collated at the Office of the CHIEF SIGNAL OFFICER OF THE ARMY, Washington, D. C.

The records which appear in this Bulletin are copied from the regular exchanges of this office, made in each instance in compliance with an especial request, and are published for the uses of the coöperating observers. The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. The "weather" is generally published as given.

When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters or their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bv't Assg'd.) Chief Signal Officer, U. S. A.